Northern Sierra Nevada Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Auburn Ravine and Coon Creek drainage	0.07	Adult Immigration and Holding	0.40	Passage Impediments/Barriers	0.850	Impediments/Barriers in the Auburn Ravine and Coon Creek drainage	0.990	2.356	3	**7.07**	**VH**
Deer Creek	0.13	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.250	Agricultural Diversion Dam(s) in Deer Creek	0.600	0.49	5	**2.44**	**VH**
Mill Creek	0.13	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.250	Agricultural Diversion Dam(s) in Mill Creek	0.600	0.49	5	**2.44**	**VH**
Antelope Creek	0.12	Adult Immigration and Holding	**0.25**	Water Temperature	0.275	Antelope Creek	0.700	0.58	4	**2.31**	**VH**
Bear River	0.06	Adult Immigration and Holding	0.20	Water Temperature	0.500	Bear River	0.950	0.570	4	**2.28**	**VH**
Deer Creek	0.13	Adult Immigration and Holding	**0.25**	Water Temperature	0.250	Deer Creek	0.700	0.57	4	**2.28**	**VH**
Mill Creek	0.13	Adult Immigration and Holding	**0.25**	Water Temperature	0.250	Mill Creek	0.700	0.57	4	**2.28**	**VH**
Antelope Creek	0.12	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.250	Agricultural Diversion Dam(s) in Antelope Creek	0.600	0.45	5	**2.25**	**VH**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.150	Individual or Terminal Diversions and loss of channel connectivity in Antelope Creek	0.500	0.32	7	**2.21**	**VH**
Yuba River	0.11	Adult Immigration and Holding	0.15	Passage Impediments/Barriers	0.400	Englebright Dam	0.650	0.43	5	**2.15**	**VH**
Feather River	0.10	Adult Immigration and Holding	0.150	Passage Impediments/Barriers	0.400	Fish Barrier/Oroville Dam	0.850	0.51	4	**2.04**	**VH**
Big Chico Creek	0.08	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.250	Iron Canyon, City of Chico Swimming Holes and Associated Dams	0.750	0.38	5	**1.88**	**VH**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Flow Conditions	0.300	Flow Dependent Habitat Availability in the Bear River	0.550	0.297	6	**1.78**	**VH**
Dry Creek drainage (Sacramento Region)	0.07	Adult Immigration and Holding	0.20	Passage Impediments/Barriers	0.450	Impediments/Barriers in the Dry Creek drainage	0.900	0.567	3	**1.70**	**VH**
Big Chico Creek	0.08	Adult Immigration and Holding	**0.25**	Water Temperature	0.300	Big Chico Creek	0.700	0.42	4	**1.68**	**VH**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Water Temperature	0.250	Bear River	0.850	0.383	4	**1.53**	**VH**
Bear River	0.06	Adult Immigration and Holding	0.20	Flow Conditions	0.450	Low Flows - attraction, migratory cues in the Bear River	0.850	0.459	3	**1.38**	**VH**
Mill Creek	0.13	Embryo Incubation	**0.15**	Water Quality	0.665	Turbidity and sedimentation in Mill Creek	1.000	1.30	1.00	**1.30**	**VH**
Deer Creek	0.13	Embryo Incubation	**0.15**	Water Quality	0.665	Turbidity, sedimentation, hazardous spills (HWY 32) in Deer Creek	1.000	1.30	1.00	**1.30**	**VH**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Water Quality	0.200	Ag, Urban in the Dry Creek drainage	0.700	0.294	4	**1.18**	**VH**
Butte Creek	0.07	Adult Immigration and Holding	**0.25**	Water Temperature	0.275	Butte Creek	0.800	0.39	3	**1.16**	**VH**
American River	0.06	Spawning	0.40	Barrier	0.450	Historical spawning habitat blocked	1.000	1.080	1	**1.08**	**VH**

Northern Sierra Nevada Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Antelope Creek	0.12	Adult Immigration and Holding	**0.25**	Flow Conditions	0.200	Low Flows - attraction, migratory cues in Antelope Creek	0.600	0.36	3	**1.08**	**VH**
Feather River	0.10	Spawning	0.350	Barrier	0.300	Fish Barrier Dam/Oroville Dam - Redd superimposition, competition for habitat, hybridization/genetic integrity	1.000	1.05	1	**1.05**	**VH**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Floodplain Habitat	0.160	Lower Sacramento River	0.350	0.25	4	**1.02**	**VH**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Floodplain Habitat	0.160	Lower Sacramento River	0.350	0.25	4	**1.02**	**VH**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Natural River Morphology	0.160	Lower Sacramento River	0.350	0.25	4	**1.02**	**VH**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Natural River Morphology	0.160	Lower Sacramento River	0.350	0.25	4	**1.02**	**VH**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Natural River Morphology	0.160	Middle Sacramento River	0.350	0.25	4	**1.02**	**VH**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Natural River Morphology	0.160	Middle Sacramento River	0.350	0.25	4	**1.02**	**VH**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Riparian Habitat and Instream Cover	0.160	Lower Sacramento River	0.350	0.25	4	**1.02**	**VH**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Riparian Habitat and Instream Cover	0.160	Lower Sacramento River	0.350	0.25	4	**1.02**	**VH**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Riparian Habitat and Instream Cover	0.160	Middle Sacramento River	0.350	0.25	4	**1.02**	**VH**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Riparian Habitat and Instream Cover	0.160	Middle Sacramento River	0.350	0.25	4	**1.02**	**VH**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Loss of Natural River Morphology	0.150	Yuba River	0.350	0.25	4	**0.98**	**VH**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Loss of Riparian Habitat and Instream Cover	0.150	Yuba River	0.350	0.25	4	**0.98**	**VH**
Deer Creek	0.13	Adult Immigration and Holding	**0.25**	Water Quality	0.150	Deer Creek	0.400	0.20	5	**0.98**	**VH**
Butte Creek	0.07	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.150	Butte Creek Diversion Dams and Weirs	0.600	0.16	6	**0.95**	**VH**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Loss of Floodplain Habitat	0.160	Lower Sacramento River	0.350	0.24	4	**0.94**	**VH**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Loss of Natural River Morphology	0.160	Lower Sacramento River	0.350	0.24	4	**0.94**	**VH**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Loss of Riparian Habitat and Instream Cover	0.160	Lower Sacramento River	0.350	0.24	4	**0.94**	**VH**
Yuba River	0.11	Spawning	0.275	Barrier	0.300	Englebright Dam - Redd superimposition, competition for habitat, hybridization/genetic integrity	1.000	0.91	1	**0.91**	**VH**
Deer Creek	0.13	Spawning	**0.25**	Hatchery Effects	0.275	Put-and-take rainbow trout fishery in upper Deer Creek, Genetic Integrity	1.000	0.89	1	**0.89**	**VH**

Northern Sierra Nevada Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Mill Creek	0.13	Spawning	**0.25**	Hatchery Effects	0.275	Stocked trout fishery in upper Mill Creek drainage competition for habitat, Genetic Integrity	1.000	0.89	1	**0.89**	**VH**
Mill Creek	0.13	Spawning	**0.25**	Water Quality	0.275	Turbidity and Sedimentation in Mill Creek	1.000	0.89	1	**0.89**	**VH**
American River	0.06	Adult Immigration and Holding	0.10	Passage Impediments/Barriers	0.500	Nimbus/Folsom Dams	0.980	0.294	3	**0.88**	**VH**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Water Temperature	0.200	American River	0.700	0.294	3	**0.88**	**VH**
Deer Creek	0.13	Adult Immigration and Holding	**0.25**	Flow Conditions	0.150	Low Flows - attraction, migratory cues in Deer Creek	0.600	0.29	3	**0.88**	**VH**
Mill Creek	0.13	Adult Immigration and Holding	**0.25**	Flow Conditions	0.150	Low Flows - attraction, migratory cues in Mill Creek	0.600	0.29	3	**0.88**	**VH**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Loss of Floodplain Habitat	0.125	Delta	0.375	0.22	4	**0.88**	**VH**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Predation	0.125	Non-site specific and structure related in the Delta	0.300	0.18	5	**0.88**	**VH**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Floodplain Habitat	0.160	Delta	0.300	0.22	4	**0.87**	**VH**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Floodplain Habitat	0.160	Delta	0.300	0.22	4	**0.87**	**VH**
Yuba River	0.11	Embryo Incubation	0.15	Flow Conditions	0.525	Flow Fluctuations, Flood Events	1.000	0.87	1.00	**0.87**	**VH**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Predation	0.125	Non-site specific and structure related in the Delta	0.300	0.17	5	**0.85**	**VH**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Predation	0.125	Non-site specific and structure related in the Delta	0.300	0.17	5	**0.85**	**VH**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Predation	0.125	Non-site specific and structure related in the lower Sacramento River	0.300	0.17	5	**0.85**	**VH**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Predation	0.125	Non-site specific and structure related in the lower Sacramento River	0.300	0.17	5	**0.85**	**VH**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Loss of Riparian Habitat and Instream Cover	0.150	Delta	0.300	0.21	4	**0.84**	**VH**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Loss of Floodplain Habitat	0.160	Delta	0.300	0.20	4	**0.81**	**VH**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Loss of Natural River Morphology	0.160	Antelope Creek	0.300	0.20	4	**0.81**	**VH**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Loss of Riparian Habitat and Instream Cover	0.160	Delta	0.300	0.20	4	**0.81**	**VH**
Big Chico Creek	0.08	Spawning	**0.25**	Spawning Habitat Availability	0.400	Habitat Suitability	1.000	0.80	1	**0.80**	**VH**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Predation	0.125	Non-site specific and structure related in the Delta	0.300	0.16	5	**0.79**	**VH**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Predation	0.125	Non-site specific and structure related in the lower Sacramento River	0.300	0.16	5	**0.79**	**VH**
Mill Creek	0.13	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Ocean	0.400	0.13	6	**0.78**	**VH**

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Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Deer Creek	0.13	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Ocean	0.400	0.13	6	**0.78**	**VH**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Water Temperature	0.150	Dry Creek drainage	0.800	0.252	3	**0.76**	**VH**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Predation	0.150	Non-site specific and structure related in the American River	0.600	0.189	4	**0.76**	**VH**
Auburn Ravine and Coon Creek drainage	0.07	Spawning	0.30	Passage Impediments/Barriers	0.350	Impediments/Barriers in the Auburn Ravine and Coon Creek drainage	1.000	0.735	1	**0.74**	**VH**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Predation	0.125	Non-site specific and structure related in the Yuba River	0.250	0.15	5	**0.73**	**VH**
Antelope Creek	0.12	Embryo Incubation	**0.15**	Water Quality	0.400	Turbidity, sedimentation in Antelope Creek	1.000	0.72	1.00	**0.72**	**VH**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Predation	0.125	Non-site specific and structure related in the middle Sacramento River	0.250	0.14	5	**0.71**	**VH**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Predation	0.125	Non-site specific and structure related in the middle Sacramento River	0.250	0.14	5	**0.71**	**VH**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Loss of Riparian Habitat and Instream Cover	0.150	American River	0.750	0.236	3	**0.71**	**VH**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Loss of Natural River Morphology	0.150	Delta	0.250	0.18	4	**0.70**	**VH**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Loss of Natural River Morphology	0.150	Lower Sacramento River	0.250	0.18	4	**0.70**	**VH**
Feather River	0.10	Spawning	0.350	Hatchery Effects	0.200	Redd superimposition, competition for habitat, Genetic Integrity	1.000	0.70	1	**0.70**	**VH**
Feather River	0.10	Spawning	0.350	Physical Habitat Alteration	0.200	Limited Instream Gravel Supply	1.000	0.70	1	**0.70**	**VH**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.050	Ag, Urban, Hazardous Spills (Hwy 32) in Deer Creek	0.600	0.14	5	**0.68**	**VH**
Antelope Creek	0.12	Spawning	**0.25**	Hatchery Effects	0.225	Stocked trout fishery in upper Antelope drainage - competition for habitat, genetic integrity	1.000	0.68	1	**0.68**	**VH**
Yuba River	0.11	Adult Immigration and Holding	0.15	Passage Impediments/Barriers	0.400	Daguerre Point Dam	0.200	0.13	5	**0.66**	**VH**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Predation	0.125	Non-site specific and structure related in the middle Sacramento River	0.250	0.13	5	**0.66**	**VH**
Deer Creek	0.13	Spawning	**0.25**	Spawning Habitat Availability	0.200	Habitat Availability	1.000	0.65	1	**0.65**	**VH**
Deer Creek	0.13	Spawning	**0.25**	Water Quality	0.200	Turbidity, Sedimentation, Hazardous Spills (Hwy 32) in Deer Creek	1.000	0.65	1	**0.65**	**VH**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Entrainment	0.200	Individual Diversions in the Auburn Ravine and Coon Creek drainage	0.450	0.126	5	**0.63**	**VH**

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Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Flow Conditions	0.150	Flow Dependent Habitat Availability in the Auburn Ravine and Coon Creek drainage	0.600	0.126	5	**0.63**	**VH**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Flow Conditions	0.100	Flow Dependent Habitat Availability in the Dry Creek drainage	0.600	0.126	5	**0.63**	**VH**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Loss of Riparian Habitat and Instream Cover	0.150	Delta	0.400	0.21	3	**0.63**	**VH**
Bear River	0.06	Spawning	0.30	Flow Conditions	0.350	Flow Fluctuations	1.000	0.630	1	**0.63**	**VH**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.050	Ag, Urban in Antelope Creek	0.600	0.13	5	**0.63**	**VH**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.075	Diversion into Central Delta	0.300	0.10	6	**0.61**	**VH**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.075	Diversion into Central Delta	0.300	0.10	6	**0.61**	**VH**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Entrainment	0.075	Individual Diversions in the Yuba River and DPD	0.250	0.09	7	**0.61**	**VH**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Predation	0.125	Non-site specific and structure related in the Delta	0.350	0.15	4	**0.61**	**VH**
Yuba River	0.11	Spawning	0.275	Hatchery Effects	0.200	Redd superimposition, competition for habitat, genetic integrity	1.000	0.61	1	**0.61**	**VH**
Yuba River	0.11	Spawning	0.275	Physical Habitat Alteration	0.200	Limited Instream Gravel Supply	1.000	0.61	1	**0.61**	**VH**
Antelope Creek	0.12	Spawning	**0.25**	Physical Habitat Alteration	0.200	Gravel embeddedness and fines	1.000	0.60	1	**0.60**	**VH**
Antelope Creek	0.12	Spawning	**0.25**	Water Quality	0.200	Turbidity, Sedimentation in Antelope Creek	1.000	0.60	1	**0.60**	**VH**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Entrainment	0.050	Individual Diversions in the Bear River	0.950	0.086	7	**0.60**	**VH**
Yuba River	0.11	Adult Immigration and Holding	0.15	Harvest/Angling Impacts	0.150	Ocean	0.400	0.10	6	**0.59**	**VH**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Loss of Riparian Habitat and Instream Cover	0.150	Lower Sacramento River	0.350	0.15	4	**0.59**	**VH**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Loss of Riparian Habitat and Instream Cover	0.150	Middle Sacramento River	0.350	0.15	4	**0.59**	**VH**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Predation	0.125	Non-site specific and structure related in the Feather River	0.200	0.12	5	**0.58**	**VH**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Predation	0.125	Non-site specific and structure related in the lower Sacramento River	0.200	0.12	5	**0.58**	**VH**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Loss of Floodplain Habitat	0.125	Lower Sacramento River	0.250	0.15	4	**0.58**	**VH**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Floodplain Habitat	0.160	Middle Sacramento River	0.200	0.15	4	**0.58**	**VH**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Floodplain Habitat	0.160	Middle Sacramento River	0.200	0.15	4	**0.58**	**VH**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Natural River Morphology	0.160	Delta	0.200	0.15	4	**0.58**	**VH**

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Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Natural River Morphology	0.160	Delta	0.200	0.15	4	**0.58**	**VH**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Riparian Habitat and Instream Cover	0.160	Delta	0.200	0.15	4	**0.58**	**VH**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Riparian Habitat and Instream Cover	0.160	Delta	0.200	0.15	4	**0.58**	**VH**
Mill Creek	0.13	Spawning	**0.25**	Physical Habitat Alteration	0.175	Gravel embeddedness and fines	1.000	0.57	1	**0.57**	**VH**
Deer Creek	0.13	Spawning	**0.25**	Physical Habitat Alteration	0.175	Gravel embeddedness and fines	1.000	0.57	1	**0.57**	**VH**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.075	Diversion into Central Delta	0.300	0.09	6	**0.57**	**VH**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Loss of Riparian Habitat and Instream Cover	0.150	Lower Sacramento River	0.200	0.14	4	**0.56**	**VH**
Dry Creek drainage (Sacramento Region)	0.07	Spawning	0.40	Barrier	0.200	Redd superimposition, competition for habitat, hybridization/genetic integrity	1.000	0.560	1	**0.56**	**VH**
Dry Creek drainage (Sacramento Region)	0.07	Spawning	0.40	Spawning Habitat Availability	0.200	Habitat Suitability	1.000	0.560	1	**0.56**	**VH**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Loss of Floodplain Habitat	0.125	Delta	0.425	0.19	3	**0.56**	**VH**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Loss of Natural River Morphology	0.150	Delta	0.350	0.18	3	**0.55**	**VH**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Loss of Natural River Morphology	0.150	Lower Sacramento River	0.350	0.18	3	**0.55**	**VH**
Antelope Creek	0.12	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Ocean	0.300	0.09	6	**0.54**	**VH**
Bear River	0.06	Embryo Incubation	0.20	Water Temperature	0.450	Water Temperature in the Bear River	1.000	0.540	1	**0.54**	**VH**
Antelope Creek	0.12	Embryo Incubation	**0.15**	Short-term Inwater Construction	0.300	Sedimentation, turbidity, physical disturbance	1.000	0.54	1.00	**0.54**	**VH**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Loss of Floodplain Habitat	0.160	Middle Sacramento River	0.200	0.13	4	**0.54**	**VH**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Loss of Natural River Morphology	0.160	Delta	0.200	0.13	4	**0.54**	**VH**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Loss of Riparian Habitat and Instream Cover	0.160	Antelope Creek	0.200	0.13	4	**0.54**	**VH**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Loss of Floodplain Habitat	0.100	American River	0.500	0.105	5	**0.53**	**VH**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Predation	0.125	Non-site specific and structure related in the Feather River	0.300	0.13	4	**0.53**	**VH**
Antelope Creek	0.12	Spawning	**0.25**	Spawning Habitat Availability	0.175	Habitat Availability	1.000	0.53	1	**0.53**	**VH**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Predation	0.150	Non-site specific and structure related in the Delta	0.350	0.13	4	**0.51**	**VH**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.050	Deer Creek	0.450	0.10	5	**0.51**	**VH**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Loss of Riparian Habitat and Instream Cover	0.150	Lower Sacramento River	0.325	0.17	3	**0.51**	**VH**

Northern Sierra Nevada Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Auburn Ravine and Coon Creek drainage	0.07	Adult Immigration and Holding	0.40	Flow Conditions	0.100	Low Flows - attraction, migratory cues in the Auburn Ravine and Coon Creek drainage	0.900	0.252	2	**0.50**	**VH**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Loss of Floodplain Habitat	0.150	Delta	0.300	0.13	4	**0.50**	**VH**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Loss of Floodplain Habitat	0.150	Lower Sacramento River	0.300	0.13	4	**0.50**	**VH**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Loss of Natural River Morphology	0.150	Delta	0.300	0.13	4	**0.50**	**VH**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Loss of Natural River Morphology	0.150	Lower Sacramento River	0.300	0.13	4	**0.50**	**VH**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Loss of Natural River Morphology	0.160	Delta	0.425	0.17	3	**0.50**	**VH**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Entrainment	0.075	Individual Diversions in the Delta	0.200	0.07	7	**0.49**	**VH**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Entrainment	0.075	Individual Diversions in the lower Sacramento River	0.200	0.07	7	**0.49**	**VH**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Entrainment	0.075	Jones and Banks Pumping Plants	0.200	0.07	7	**0.49**	**VH**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.100	Jones and Banks Pumping Plants	0.250	0.07	7	**0.49**	**VH**
Mill Creek	0.13	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.100	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.300	0.10	5	**0.49**	**VH**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Loss of Floodplain Habitat	0.075	Bear River	0.600	0.081	6	**0.49**	**VH**
Bear River	0.06	Embryo Incubation	0.20	Flow Conditions	0.400	Flow Fluctuations	1.000	0.480	1	**0.48**	**VH**
Dry Creek drainage (Sacramento Region)	0.07	Adult Immigration and Holding	0.20	Water Temperature	0.150	Dry Creek drainage	0.750	0.158	3	**0.47**	**VH**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Loss of Natural River Morphology	0.150	Feather River	0.300	0.16	3	**0.47**	**VH**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Loss of Riparian Habitat and Instream Cover	0.160	Delta	0.400	0.16	3	**0.47**	**VH**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Loss of Floodplain Habitat	0.150	Delta	0.425	0.16	3	**0.47**	**VH**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Loss of Floodplain Habitat	0.125	Yuba River	0.200	0.12	4	**0.47**	**VH**
Yuba River	0.11	Spawning	0.275	Spawning Habitat Availability	0.150	Habitat Suitability	1.000	0.45	1	**0.45**	**VH**
Feather River	0.10	Adult Immigration and Holding	0.150	Harvest/Angling Impacts	0.150	Ocean	0.400	0.09	5	**0.45**	**VH**
Dry Creek drainage (Sacramento Region)	0.07	Adult Immigration and Holding	0.20	Flow Conditions	0.200	Low Flows - attraction, migratory cues in the Dry Creek drainage	0.800	0.224	2	**0.45**	**VH**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Water Quality	0.100	Ag, Urban in the Auburn Ravine and Coon Creek drainage	0.800	0.112	4	**0.45**	**VH**

Northern Sierra Nevada Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.070	Individual Diversions in the Delta	0.200	0.06	7	**0.45**	**VH**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.070	Individual Diversions in the lower Sacramento River	0.200	0.06	7	**0.45**	**VH**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.070	Individual Diversions in the middle Sacramento River	0.200	0.06	7	**0.45**	**VH**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.070	Jones and Banks Pumping Plants	0.200	0.06	7	**0.45**	**VH**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Loss of Natural River Morphology	0.100	Dry Creek drainage	0.700	0.147	3	**0.44**	**VH**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Loss of Riparian Habitat and Instream Cover	0.100	Dry Creek drainage	0.700	0.147	3	**0.44**	**VH**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Predation	0.150	Non-site specific and structure related in the lower Sacramento River	0.300	0.11	4	**0.44**	**VH**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.150	Individual Diversions in the Delta	0.100	0.06	7	**0.44**	**VH**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.150	Individual Diversions in the lower Sacramento River	0.100	0.06	7	**0.44**	**VH**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.150	Individual Diversions in the middle Sacramento River	0.100	0.06	7	**0.44**	**VH**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.150	Jones and Banks Pumping Plants	0.100	0.06	7	**0.44**	**VH**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Loss of Natural River Morphology	0.100	American River	0.700	0.147	3	**0.44**	**VH**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Predation	0.125	Non-site specific and structure related in the lower Sacramento River	0.250	0.11	4	**0.44**	**VH**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Floodplain Habitat	0.160	Deer Creek	0.150	0.11	4	**0.44**	**VH**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Floodplain Habitat	0.160	Mill Creek	0.150	0.11	4	**0.44**	**VH**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Loss of Riparian Habitat and Instream Cover	0.150	Feather River	0.275	0.14	3	**0.43**	**VH**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Loss of Floodplain Habitat	0.125	Lower Sacramento River	0.325	0.14	3	**0.43**	**VH**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Loss of Natural River Morphology	0.150	Feather River	0.150	0.11	4	**0.42**	**VH**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Loss of Riparian Habitat and Instream Cover	0.150	Feather River	0.150	0.11	4	**0.42**	**VH**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Water Temperature	0.075	Delta	0.300	0.11	4	**0.42**	**VH**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Water Temperature	0.075	Feather River	0.300	0.11	4	**0.42**	**VH**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Water Temperature	0.075	Lower Sacramento River	0.300	0.11	4	**0.42**	**VH**
Auburn Ravine and Coon Creek drainage	0.07	Spawning	0.30	Flow Conditions	0.200	Flow Fluctuations	1.000	0.420	1	**0.42**	**VH**

Northern Sierra Nevada Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Loss of Natural River Morphology	0.125	Auburn Ravine and Coon Creek drainage	0.800	0.140	3	**0.42**	**VH**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Loss of Riparian Habitat and Instream Cover	0.125	Auburn Ravine and Coon Creek drainage	0.800	0.140	3	**0.42**	**VH**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Loss of Tidal Marsh Habitat	0.050	Delta	0.800	0.084	5	**0.42**	**VH**
Dry Creek drainage (Sacramento Region)	0.07	Spawning	0.40	Physical Habitat Alteration	0.150	Limited Instream Gravel Supply	1.000	0.420	1	**0.42**	**VH**
Dry Creek drainage (Sacramento Region)	0.07	Spawning	0.40	Water Quality	0.150	Dry Creek drainage	1.000	0.420	1	**0.42**	**VH**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Predation	0.100	Non-site specific and structure related in the Delta	0.300	0.08	5	**0.42**	**VH**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Predation	0.100	Non-site specific and structure related in the lower Sacramento River	0.300	0.08	5	**0.42**	**VH**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.075	Changes in Hydrology	0.200	0.07	6	**0.41**	**VH**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.075	Changes in Hydrology	0.200	0.07	6	**0.41**	**VH**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.075	Reverse Flow Conditions	0.200	0.07	6	**0.41**	**VH**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.075	Reverse Flow Conditions	0.200	0.07	6	**0.41**	**VH**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.350	0.08	5	**0.41**	**VH**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Water Quality	0.050	DO, Ag, Urban, Heavy Metals in the Delta	0.350	0.08	5	**0.41**	**VH**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Loss of Floodplain Habitat	0.125	Feather River	0.175	0.10	4	**0.41**	**VH**
Mill Creek	0.13	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.250	Sacramento Deep Water Ship Channel	0.100	0.08	5	**0.41**	**VH**
Deer Creek	0.13	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.250	Sacramento Deep Water Ship Channel	0.100	0.08	5	**0.41**	**VH**
Mill Creek	0.13	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.250	Suisun Marsh Salinity Control Structure	0.100	0.08	5	**0.41**	**VH**
Deer Creek	0.13	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.250	Suisun Marsh Salinity Control Structure	0.100	0.08	5	**0.41**	**VH**
Mill Creek	0.13	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.250	Sutter Bypass - Tisdale Weir	0.100	0.08	5	**0.41**	**VH**
Deer Creek	0.13	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.250	Sutter Bypass - Tisdale Weir	0.100	0.08	5	**0.41**	**VH**
Mill Creek	0.13	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.250	Yolo Bypass - Freemont Weir	0.100	0.08	5	**0.41**	**VH**
Deer Creek	0.13	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.250	Yolo Bypass - Freemont Weir	0.100	0.08	5	**0.41**	**VH**

Northern Sierra Nevada Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Mill Creek	0.13	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.100	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.250	0.08	5	**0.41**	**VH**
Mill Creek	0.13	Adult Immigration and Holding	**0.25**	Water Quality	0.100	Ag, Urban in the lower Sacramento River	0.250	0.08	5	**0.41**	**VH**
Mill Creek	0.13	Adult Immigration and Holding	**0.25**	Water Quality	0.100	Ag, Urban in the middle Sacramento River	0.250	0.08	5	**0.41**	**VH**
Mill Creek	0.13	Adult Immigration and Holding	**0.25**	Water Quality	0.100	DO, Ag, Urban, Heavy Metals in the Delta	0.250	0.08	5	**0.41**	**VH**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Loss of Floodplain Habitat	0.160	Antelope Creek	0.150	0.10	4	**0.40**	**VH**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Loss of Natural River Morphology	0.160	Middle Sacramento River	0.150	0.10	4	**0.40**	**VH**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Loss of Riparian Habitat and Instream Cover	0.160	Middle Sacramento River	0.150	0.10	4	**0.40**	**VH**
Big Chico Creek	0.08	Spawning	**0.25**	Water Temperature	0.200	Water Temperature in Big Chico Creek	1.000	0.40	1	**0.40**	**VH**
Butte Creek	0.07	Spawning	**0.25**	Spawning Habitat Availability	0.225	Habitat Availability/Suitability	1.000	0.39	1	**0.39**	**VH**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.100	Individual Diversions in the Delta	0.200	0.06	7	**0.39**	**VH**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.100	Individual Diversions in the lower Sacramento River	0.200	0.06	7	**0.39**	**VH**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.100	Individual Diversions in the middle Sacramento River	0.200	0.06	7	**0.39**	**VH**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.080	Butte Creek - stocked rainbow trout fishery - competition for habitat and resources	0.500	0.10	4	**0.39**	**VH**
Deer Creek	0.13	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Deer Creek	0.200	0.07	6	**0.39**	**VH**
Mill Creek	0.13	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Mill Creek	0.200	0.07	6	**0.39**	**VH**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Loss of Natural River Morphology	0.160	Lower Sacramento River	0.325	0.13	3	**0.38**	**VH**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Loss of Riparian Habitat and Instream Cover	0.160	Lower Sacramento River	0.325	0.13	3	**0.38**	**VH**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Water Temperature	0.100	Auburn Ravine and Coon Creek drainage	0.900	0.126	3	**0.38**	**VH**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.075	Changes in Hydrology	0.200	0.06	6	**0.38**	**VH**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.075	Reverse Flow Conditions	0.200	0.06	6	**0.38**	**VH**
Antelope Creek	0.12	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.250	Sacramento Deep Water Ship Channel	0.100	0.08	5	**0.38**	**VH**
Antelope Creek	0.12	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.250	Suisun Marsh Salinity Control Structure	0.100	0.08	5	**0.38**	**VH**
Antelope Creek	0.12	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.250	Sutter Bypass - Tisdale Weir	0.100	0.08	5	**0.38**	**VH**

Northern Sierra Nevada Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Antelope Creek	0.12	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.250	Yolo Bypass - Freemont Weir	0.100	0.08	5	**0.38**	**VH**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Predation	0.150	Non-site specific and structure related in Butte Creek	0.250	0.09	4	**0.37**	**VH**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Water Quality	0.075	DO, Ag, Urban, Heavy Metals in the Delta	0.350	0.09	4	**0.37**	**VH**
Deer Creek	0.13	Adult Immigration and Holding	**0.25**	Water Quality	0.150	Ag, Urban in the lower Sacramento River	0.150	0.07	5	**0.37**	**VH**
Deer Creek	0.13	Adult Immigration and Holding	**0.25**	Water Quality	0.150	Ag, Urban in the middle Sacramento River	0.150	0.07	5	**0.37**	**VH**
Mill Creek	0.13	Adult Immigration and Holding	**0.25**	Water Quality	0.150	DO, Ag, Urban, Heavy Metals in the Bay	0.150	0.07	5	**0.37**	**VH**
Deer Creek	0.13	Adult Immigration and Holding	**0.25**	Water Quality	0.150	DO, Ag, Urban, Heavy Metals in the Bay	0.150	0.07	5	**0.37**	**VH**
Deer Creek	0.13	Adult Immigration and Holding	**0.25**	Water Quality	0.150	DO, Ag, Urban, Heavy Metals in the Delta	0.150	0.07	5	**0.37**	**VH**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Passage Impediments/Barriers	0.050	Tributary Barriers	0.800	0.18	2	**0.36**	**VH**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Passage Impediments/Barriers	0.050	Tributary Barriers	0.800	0.18	2	**0.36**	**VH**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Predation	0.100	Non-site specific and structure related in the Auburn Ravine and Coon Creek drainage	0.650	0.091	4	**0.36**	**VH**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Temperature	0.050	Lower Sacramento River	0.400	0.09	4	**0.36**	**VH**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Temperature	0.050	Lower Sacramento River	0.400	0.09	4	**0.36**	**VH**
Antelope Creek	0.12	Adult Immigration and Holding	**0.25**	Flow Conditions	0.200	Low Flows - attraction, migratory cues AND Flood Flows - non-natal area attraction in lower Sacramento River	0.200	0.12	3	**0.36**	**VH**
Antelope Creek	0.12	Adult Immigration and Holding	**0.25**	Flow Conditions	0.200	Low Flows - attraction, migratory cues in the middle Sacramento River	0.200	0.12	3	**0.36**	**VH**
Antelope Creek	0.12	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Antelope Creek	0.200	0.06	6	**0.36**	**VH**
Big Chico Creek	0.08	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Ocean	0.300	0.06	6	**0.36**	**VH**
American River	0.06	Spawning	0.40	Hatchery Effects	0.150	Competition for habitat, Genetic Integrity	1.000	0.360	1	**0.36**	**VH**
Bear River	0.06	Spawning	0.30	Physical Habitat Alteration	0.200	Limited Instream Gravel Supply	1.000	0.360	1	**0.36**	**VH**
Bear River	0.06	Spawning	0.30	Spawning Habitat Availability	0.200	Habitat Suitability	1.000	0.360	1	**0.36**	**VH**
Big Chico Creek	0.08	Embryo Incubation	**0.15**	Water Temperature	0.300	Water Temperature in Big Chico Creek	1.000	0.36	1.00	**0.36**	**VH**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Loss of Floodplain Habitat	0.150	Lower Sacramento River	0.325	0.12	3	**0.36**	**VH**

Northern Sierra Nevada Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Dry Creek drainage (Sacramento Region)	0.07	Adult Immigration and Holding	0.20	Water Quality	0.100	Ag, Urban in the Dry Creek drainage	0.850	0.119	3	**0.36**	**VH**
Butte Creek	0.07	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Ocean	0.400	0.07	5	**0.35**	**H**
Butte Creek	0.07	Spawning	**0.25**	Hatchery Effects	0.200	Stocked rainbow trout fishery, competition for habitat, genetic integrity	1.000	0.35	1	**0.35**	**H**
Butte Creek	0.07	Adult Immigration and Holding	**0.25**	Recreational Impacts (Summer inner tubing)	0.200	Summer inner tubing and swimming in Butte Creek	1.000	0.35	1	**0.35**	**H**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Predation	0.100	Non-site specific and structure related in the middle Sacramento River	0.250	0.07	5	**0.35**	**H**
Feather River	0.10	Spawning	0.350	Spawning Habitat Availability	0.100	Habitat Suitability	1.000	0.35	1	**0.35**	**H**
Feather River	0.10	Spawning	0.350	Water Temperature	0.100	Water Temperature	1.000	0.35	1	**0.35**	**H**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.300	0.07	5	**0.34**	**H**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.300	0.07	5	**0.34**	**H**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.300	0.07	5	**0.34**	**H**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.300	0.07	5	**0.34**	**H**
American River	0.06	Embryo Incubation	**0.15**	Flow Conditions	0.375	Flow Fluctuations	1.000	0.338	1	**0.34**	**H**
Antelope Creek	0.12	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.075	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.300	0.07	5	**0.34**	**H**
Feather River	0.10	Adult Immigration and Holding	0.150	Water Temperature	0.150	Feather River	0.500	0.11	3	**0.34**	**H**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Loss of Floodplain Habitat	0.150	Big Chico Creek	0.200	0.08	4	**0.34**	**H**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Loss of Floodplain Habitat	0.150	Middle Sacramento River	0.200	0.08	4	**0.34**	**H**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Loss of Natural River Morphology	0.150	Big Chico Creek	0.200	0.08	4	**0.34**	**H**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Loss of Natural River Morphology	0.150	Middle Sacramento River	0.200	0.08	4	**0.34**	**H**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Loss of Riparian Habitat and Instream Cover	0.150	Delta	0.200	0.08	4	**0.34**	**H**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Passage Impediments/Barriers	0.050	Tributary Barriers	0.800	0.17	2	**0.34**	**H**

Northern Sierra Nevada Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Water Temperature	0.050	Lower Sacramento River	0.400	0.08	4	**0.34**	**H**
Antelope Creek	0.12	Adult Immigration and Holding	**0.25**	Water Temperature	0.275	Delta	0.100	0.08	4	**0.33**	**H**
Antelope Creek	0.12	Adult Immigration and Holding	**0.25**	Water Temperature	0.275	Lower Sacramento River	0.100	0.08	4	**0.33**	**H**
Antelope Creek	0.12	Adult Immigration and Holding	**0.25**	Water Temperature	0.275	Middle Sacramento River	0.100	0.08	4	**0.33**	**H**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Loss of Floodplain Habitat	0.125	Feather River	0.250	0.11	3	**0.33**	**H**
Mill Creek	0.13	Spawning	**0.25**	Harvest/Angling Impacts	0.100	Recreational, Poaching, Angler Impacts	1.000	0.33	1	**0.33**	**H**
Mill Creek	0.13	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.100	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bay	0.200	0.07	5	**0.33**	**H**
Mill Creek	0.13	Adult Immigration and Holding	**0.25**	Water Temperature	0.250	Delta	0.100	0.08	4	**0.33**	**H**
Deer Creek	0.13	Adult Immigration and Holding	**0.25**	Water Temperature	0.250	Delta	0.100	0.08	4	**0.33**	**H**
Mill Creek	0.13	Adult Immigration and Holding	**0.25**	Water Temperature	0.250	Lower Sacramento River	0.100	0.08	4	**0.33**	**H**
Deer Creek	0.13	Adult Immigration and Holding	**0.25**	Water Temperature	0.250	Lower Sacramento River	0.100	0.08	4	**0.33**	**H**
Mill Creek	0.13	Adult Immigration and Holding	**0.25**	Water Temperature	0.250	Middle Sacramento River	0.100	0.08	4	**0.33**	**H**
Deer Creek	0.13	Adult Immigration and Holding	**0.25**	Water Temperature	0.250	Middle Sacramento River	0.100	0.08	4	**0.33**	**H**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Flow Conditions	0.300	Changes in Delta Hydrology	0.100	0.054	6	**0.32**	**H**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Flow Conditions	0.300	Diversion into Central Delta	0.100	0.054	6	**0.32**	**H**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Flow Conditions	0.300	Flow Dependent Habitat Availability in the lower Sacramento River	0.100	0.054	6	**0.32**	**H**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Flow Conditions	0.300	Reverse Flow Conditions	0.100	0.054	6	**0.32**	**H**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Loss of Natural River Morphology	0.075	Bear River	0.600	0.081	4	**0.32**	**H**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Loss of Riparian Habitat and Instream Cover	0.075	Bear River	0.600	0.081	4	**0.32**	**H**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Loss of Riparian Habitat and Instream Cover	0.160	Butte Creek	0.275	0.11	3	**0.32**	**H**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.050	Individual Diversions in the Delta	0.200	0.05	7	**0.32**	**H**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.050	Individual Diversions in the lower Sacramento River	0.200	0.05	7	**0.32**	**H**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.050	Individual Diversions in the middle Sacramento River	0.200	0.05	7	**0.32**	**H**

Northern Sierra Nevada Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.050	Jones and Banks Pumping Plants	0.200	0.05	7	**0.32**	**H**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Flow Conditions	0.050	Flow Dependent Habitat Availability in the Yuba River	0.225	0.05	6	**0.32**	**H**
Auburn Ravine and Coon Creek drainage	0.07	Embryo Incubation	**0.10**	Flow Conditions	0.450	Flow Fluctuations	1.000	0.315	1	**0.32**	**H**
Butte Creek	0.07	Embryo Incubation	**0.15**	Flow Conditions	0.300	Flow Fluctuations	1.000	0.32	1.00	**0.32**	**H**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Water Temperature	0.200	Delta	0.250	0.105	3	**0.32**	**H**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Water Temperature	0.075	Feather River	0.400	0.11	3	**0.32**	**H**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Loss of Floodplain Habitat	0.100	Lower Sacramento River	0.300	0.063	5	**0.32**	**H**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.300	0.06	5	**0.32**	**H**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.300	0.06	5	**0.32**	**H**
Feather River	0.10	Adult Immigration and Holding	0.150	Harvest/Angling Impacts	0.150	Feather River	0.275	0.06	5	**0.31**	**H**
Butte Creek	0.07	Spawning	**0.25**	Flow Conditions	0.175	Flow Fluctuations	1.000	0.31	1	**0.31**	**H**
Antelope Creek	0.12	Adult Immigration and Holding	**0.25**	Water Quality	0.100	Ag, Urban in the lower Sacramento River	0.200	0.06	5	**0.30**	**H**
Antelope Creek	0.12	Adult Immigration and Holding	**0.25**	Water Quality	0.100	Ag, Urban in the middle Sacramento River	0.200	0.06	5	**0.30**	**H**
Antelope Creek	0.12	Adult Immigration and Holding	**0.25**	Water Quality	0.100	Antelope Creek	0.200	0.06	5	**0.30**	**H**
Antelope Creek	0.12	Adult Immigration and Holding	**0.25**	Water Quality	0.100	DO, Ag, Urban, Heavy Metals in the Bay	0.200	0.06	5	**0.30**	**H**
Antelope Creek	0.12	Adult Immigration and Holding	**0.25**	Water Quality	0.100	DO, Ag, Urban, Heavy Metals in the Delta	0.200	0.06	5	**0.30**	**H**
American River	0.06	Spawning	0.40	Physical Habitat Alteration	0.125	Limited Instream Gravel Supply	1.000	0.300	1	**0.30**	**H**
Big Chico Creek	0.08	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.100	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.300	0.06	5	**0.30**	**H**
Big Chico Creek	0.08	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.100	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.300	0.06	5	**0.30**	**H**
Big Chico Creek	0.08	Embryo Incubation	**0.15**	Watershed disturbance	0.250	Sedimentation	1.000	0.30	1.00	**0.30**	**H**
Yuba River	0.11	Adult Immigration and Holding	0.15	Harvest/Angling Impacts	0.150	Yuba River	0.200	0.05	6	**0.30**	**H**
Antelope Creek	0.12	Embryo Incubation	**0.15**	Water Temperature	0.165	Water Temperature in Antelope Creek	1.000	0.30	1.00	**0.30**	**H**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Loss of Natural River Morphology	0.160	Butte Creek	0.250	0.10	3	**0.29**	**H**

Northern Sierra Nevada Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Mill Creek	0.13	Adult Immigration and Holding	**0.25**	Flow Conditions	0.150	Low Flows - attraction, migratory cues AND Flood Flows - non-natal area attraction in lower Sacramento River	0.200	0.10	3	**0.29**	**H**
Deer Creek	0.13	Adult Immigration and Holding	**0.25**	Flow Conditions	0.150	Low Flows - attraction, migratory cues AND Flood Flows - non-natal area attraction in lower Sacramento River	0.200	0.10	3	**0.29**	**H**
Mill Creek	0.13	Adult Immigration and Holding	**0.25**	Flow Conditions	0.150	Low Flows - attraction, migratory cues in the middle Sacramento River	0.200	0.10	3	**0.29**	**H**
Deer Creek	0.13	Adult Immigration and Holding	**0.25**	Flow Conditions	0.150	Low Flows - attraction, migratory cues in the middle Sacramento River	0.200	0.10	3	**0.29**	**H**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.250	0.06	5	**0.29**	**H**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Water Quality	0.050	Ag, Urban in the lower Sacramento River	0.250	0.06	5	**0.29**	**H**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Water Quality	0.050	Ag, Urban, Heavy Metals in the Bays	0.250	0.06	5	**0.29**	**H**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Natural River Morphology	0.160	Deer Creek	0.100	0.07	4	**0.29**	**H**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Natural River Morphology	0.160	Mill Creek	0.100	0.07	4	**0.29**	**H**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Riparian Habitat and Instream Cover	0.160	Deer Creek	0.100	0.07	4	**0.29**	**H**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Riparian Habitat and Instream Cover	0.160	Mill Creek	0.100	0.07	4	**0.29**	**H**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Entrainment	0.100	Individual Diversions in the Delta	0.275	0.058	5	**0.29**	**H**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Entrainment	0.100	Jones and Banks Pumping Plants	0.275	0.058	5	**0.29**	**H**
Butte Creek	0.07	Embryo Incubation	**0.15**	Water Quality	0.275	Water Quality, Turbidity in Butte Creek	1.000	0.29	1.00	**0.29**	**H**
Butte Creek	0.07	Embryo Incubation	**0.15**	Water Temperature	0.275	Water Temperature in Butte Creek	1.000	0.29	1.00	**0.29**	**H**
American River	0.06	Adult Immigration and Holding	0.10	Water Temperature	0.200	American River	0.800	0.096	3	**0.29**	**H**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Predation	0.125	Non-site specific and structure related in the Bays	0.100	0.06	5	**0.28**	**H**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Predation	0.125	Non-site specific and structure related in the Bays	0.100	0.06	5	**0.28**	**H**

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Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Antelope Creek	0.12	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.075	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.250	0.06	5	**0.28**	**H**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Invasive Species/Food Web Disruption	0.050	Asian clam, A. aspera, Microcystis, water hyacinth, etc. in the Delta	0.600	0.14	2	**0.28**	**H**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Loss of Tidal Marsh Habitat	0.050	Delta	0.600	0.14	2	**0.28**	**H**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Flow Conditions	0.050	Diversion into Central Delta	0.200	0.05	6	**0.28**	**H**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Flow Conditions	0.050	Reverse Flow Conditions	0.200	0.05	6	**0.28**	**H**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Entrainment	0.200	Individual Diversions in the Delta	0.200	0.056	5	**0.28**	**H**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Entrainment	0.200	Jones and Banks Pumping Plants	0.200	0.056	5	**0.28**	**H**
Dry Creek drainage (Sacramento Region)	0.07	Spawning	0.40	Flow Conditions	0.100	Flow Fluctuations	1.000	0.280	1	**0.28**	**H**
Dry Creek drainage (Sacramento Region)	0.07	Spawning	0.40	Water Temperature	0.100	Dry Creek drainage	1.000	0.280	1	**0.28**	**H**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Loss of Floodplain Habitat	0.150	Butte Creek	0.250	0.09	3	**0.28**	**H**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Temperature	0.050	Middle Sacramento River	0.300	0.07	4	**0.27**	**H**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Temperature	0.050	Middle Sacramento River	0.300	0.07	4	**0.27**	**H**
Bear River	0.06	Spawning	0.30	Water Temperature	0.150	Water Temperature in the Bear River	1.000	0.270	1	**0.27**	**H**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Entrainment	0.100	Individual Diversions in the lower Sacramento River	0.250	0.053	5	**0.26**	**H**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Predation	0.125	Non-site specific and structure related in the Bays	0.100	0.05	5	**0.26**	**H**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Entrainment	0.050	Individual Diversions in the Delta	0.250	0.04	6	**0.26**	**H**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Entrainment	0.050	Individual Diversions in the lower Sacramento River	0.250	0.04	6	**0.26**	**H**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Entrainment	0.050	Jones and Banks Pumping Plants	0.250	0.04	6	**0.26**	**H**
Feather River	0.10	Adult Immigration and Holding	0.150	Flow Conditions	0.125	Low Flows - attraction, migratory cues in the Feather River	0.700	0.13	2	**0.26**	**H**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.375	0.07	4	**0.26**	**H**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Water Quality	0.075	Ag, Urban in the lower Sacramento River	0.250	0.07	4	**0.26**	**H**

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Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Water Quality	0.075	Ag, Urban, Heavy Metals in the Bays	0.250	0.07	4	**0.26**	**H**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.070	Individual Diversions in the Delta	0.250	0.04	6	**0.26**	**H**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.070	Individual Diversions in the lower Sacramento River	0.250	0.04	6	**0.26**	**H**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.070	Jones and Banks Pumping Plants	0.250	0.04	6	**0.26**	**H**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Dry Creek drainage	0.600	0.063	4	**0.25**	**H**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Invasive Species/Food Web Disruption	0.075	Asian clam, A. aspera, Microcystis, etc. in the Delta	0.600	0.13	2	**0.25**	**H**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Loss of Tidal Marsh Habitat	0.075	Delta	0.600	0.13	2	**0.25**	**H**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.600	0.063	4	**0.25**	**H**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Water Temperature	0.050	Middle Sacramento River	0.300	0.06	4	**0.25**	**H**
Feather River	0.10	Embryo Incubation	0.125	Flow Conditions	0.200	Flow Fluctuations, Flooding	1.000	0.25	1.00	**0.25**	**H**
Feather River	0.10	Embryo Incubation	0.125	Harvest/Angling Impacts	0.200	Redd disturbance	1.000	0.25	1.00	**0.25**	**H**
Feather River	0.10	Embryo Incubation	0.125	Short-term Inwater Construction	0.200	Sedimentation, turbidity, acoustic effects, hazardous spills, physical disturbance	1.000	0.25	1.00	**0.25**	**H**
Feather River	0.10	Embryo Incubation	0.125	Water Quality	0.200	Water Pollution	1.000	0.25	1.00	**0.25**	**H**
Feather River	0.10	Embryo Incubation	0.125	Water Temperature	0.200	Water Temperature in the Feather River	1.000	0.25	1.00	**0.25**	**H**
Big Chico Creek	0.08	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.250	Yolo Bypass - Freemont Weir	0.100	0.05	5	**0.25**	**H**
Yuba River	0.11	Adult Immigration and Holding	0.15	Water Temperature	0.125	Feather River	0.300	0.06	4	**0.25**	**H**
Yuba River	0.11	Adult Immigration and Holding	0.15	Water Temperature	0.125	Lower Sacramento River	0.300	0.06	4	**0.25**	**H**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Entrainment	0.075	Individual Diversions in the Feather River	0.100	0.04	7	**0.25**	**H**
Dry Creek drainage (Sacramento Region)	0.07	Embryo Incubation	**0.10**	Water Quality	0.350	Water Pollution	1.000	0.245	1.00	**0.25**	**H**
Auburn Ravine and Coon Creek drainage	0.07	Embryo Incubation	**0.10**	Water Temperature	0.350	Water Temperature in the Auburn Ravine and Coon Creek drainage	1.000	0.245	1	**0.25**	**H**
Dry Creek drainage (Sacramento Region)	0.07	Embryo Incubation	**0.10**	Water Temperature	0.350	Water Temperature in the Dry Creek drainage	1.000	0.245	1	**0.25**	**H**
Deer Creek	0.13	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.300	0.05	5	**0.24**	**H**

Northern Sierra Nevada Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Mill Creek	0.13	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.100	Sedimentation, turbidity, acoustic effects, hazardous spills in the middle Sacramento River	0.150	0.05	5	**0.24**	**H**
Mill Creek	0.13	Embryo Incubation	**0.15**	Flow Conditions	0.125	Flow Fluctuations	1.000	0.24	1.00	**0.24**	**H**
Deer Creek	0.13	Embryo Incubation	**0.15**	Flow Conditions	0.125	Flow Fluctuations	1.000	0.24	1.00	**0.24**	**H**
Deer Creek	0.13	Spawning	**0.25**	Water Temperature	0.075	Water Temperature in Deer Creek	1.000	0.24	1	**0.24**	**H**
Mill Creek	0.13	Spawning	**0.25**	Water Temperature	0.075	Water Temperature in Mill Creek	1.000	0.24	1	**0.24**	**H**
Butte Creek	0.07	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Butte Creek	0.275	0.05	5	**0.24**	**H**
Big Chico Creek	0.08	Embryo Incubation	**0.15**	Flow Conditions	0.200	Flow Fluctuations	1.000	0.24	1.00	**0.24**	**H**
American River	0.06	Spawning	0.40	Spawning Habitat Availability	0.100	Habitat Suitability	1.000	0.240	1	**0.24**	**H**
Big Chico Creek	0.08	Embryo Incubation	**0.15**	Water Quality	0.200	Water Quality in Big Chico Creek	1.000	0.24	1.00	**0.24**	**H**
Big Chico Creek	0.08	Adult Immigration and Holding	**0.25**	Water Temperature	0.300	Delta	0.100	0.06	4	**0.24**	**H**
Big Chico Creek	0.08	Adult Immigration and Holding	**0.25**	Water Temperature	0.300	Lower Sacramento River	0.100	0.06	4	**0.24**	**H**
Big Chico Creek	0.08	Adult Immigration and Holding	**0.25**	Water Temperature	0.300	Middle Sacramento River	0.100	0.06	4	**0.24**	**H**
Big Chico Creek	0.08	Adult Immigration and Holding	**0.25**	Flow Conditions	0.100	Low Flows - attraction, migratory cues AND Flood Flows - non-natal area attraction in Lower Sacramento River	0.400	0.08	3	**0.24**	**H**
Big Chico Creek	0.08	Adult Immigration and Holding	**0.25**	Flow Conditions	0.100	Low Flows - attraction, migratory cues in the middle Sacramento River	0.400	0.08	3	**0.24**	**H**
Big Chico Creek	0.08	Adult Immigration and Holding	**0.25**	Water Quality	0.100	Ag, Urban in the lower Sacramento River	0.300	0.06	4	**0.24**	**H**
Big Chico Creek	0.08	Adult Immigration and Holding	**0.25**	Water Quality	0.100	Ag, Urban in the middle Sacramento River	0.300	0.06	4	**0.24**	**H**
Big Chico Creek	0.08	Adult Immigration and Holding	**0.25**	Water Quality	0.100	DO, Ag, Urban, Heavy Metals in the Delta	0.300	0.06	4	**0.24**	**H**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Flow Conditions	0.050	Changes in Hydrology	0.450	0.047	5	**0.24**	**H**
Butte Creek	0.07	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.150	Yolo Bypass - Freemont Weir	0.150	0.04	6	**0.24**	**H**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Water Temperature	0.075	Delta	0.300	0.08	3	**0.24**	**H**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Water Temperature	0.075	Lower Sacramento River	0.300	0.08	3	**0.24**	**H**
Yuba River	0.11	Adult Immigration and Holding	0.15	Short-term Inwater Construction	0.125	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.225	0.05	5	**0.23**	**H**

Northern Sierra Nevada Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Yuba River	0.11	Adult Immigration and Holding	0.15	Short-term Inwater Construction	0.125	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.225	0.05	5	**0.23**	**H**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the middle Sacramento River	0.200	0.05	5	**0.23**	**H**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the middle Sacramento River	0.200	0.05	5	**0.23**	**H**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.050	Ag, Urban in the lower Sacramento River	0.200	0.05	5	**0.23**	**H**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.050	Ag, Urban in the middle Sacramento River	0.200	0.05	5	**0.23**	**H**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.050	Ag, Urban in Mill Creek	0.200	0.05	5	**0.23**	**H**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.050	Ag, Urban, Heavy Metals in the Bays	0.200	0.05	5	**0.23**	**H**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.050	DO, Ag, Urban, Heavy Metals in the Delta	0.200	0.05	5	**0.23**	**H**
Yuba River	0.11	Adult Immigration and Holding	0.15	Water Temperature	0.125	Delta	0.275	0.06	4	**0.23**	**H**
Yuba River	0.11	Spawning	0.275	Flow Conditions	0.075	Flow Fluctuations	1.000	0.23	1	**0.23**	**H**
American River	0.06	Adult Immigration and Holding	0.10	Harvest/Angling Impacts	0.100	American River	0.750	0.045	5	**0.23**	**H**
Antelope Creek	0.12	Embryo Incubation	**0.15**	Flow Conditions	0.125	Flow Fluctuations	1.000	0.23	1.00	**0.23**	**H**
Antelope Creek	0.12	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Bays	0.125	0.04	6	**0.23**	**H**
Antelope Creek	0.12	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Delta	0.125	0.04	6	**0.23**	**H**
Antelope Creek	0.12	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Lower Sacramento River	0.125	0.04	6	**0.23**	**H**
Antelope Creek	0.12	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Middle Sacramento River	0.125	0.04	6	**0.23**	**H**
Antelope Creek	0.12	Spawning	**0.25**	Harvest/Angling Impacts	0.075	Recreational, Poaching, Angler Impacts	1.000	0.23	1	**0.23**	**H**
Antelope Creek	0.12	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.075	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bay	0.200	0.05	5	**0.23**	**H**
Antelope Creek	0.12	Spawning	**0.25**	Water Temperature	0.075	Water Temperature in Antelope Creek	1.000	0.23	1	**0.23**	**H**
American River	0.06	Embryo Incubation	**0.15**	Water Temperature	0.250	Water Temperature in the American River	1.000	0.225	1	**0.23**	**H**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.070	Individual Diversions in Mill Creek	0.100	0.03	7	**0.22**	**H**

Northern Sierra Nevada Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Yuba River	0.11	Adult Immigration and Holding	0.15	Flow Conditions	0.100	Low Flows - attraction, migratory cues in the Yuba River	0.450	0.07	3	**0.22**	**H**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.150	Contra Costa Power Plant	0.050	0.03	7	**0.22**	**H**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.150	Pittsburg Power Plant	0.050	0.03	7	**0.22**	**H**
Butte Creek	0.07	Spawning	**0.25**	Harvest/Angling Impacts	0.125	Recreational, Poaching, Angler Impacts	1.000	0.22	1	**0.22**	**H**
Butte Creek	0.07	Spawning	**0.25**	Water Temperature	0.125	Water Temperature in Butte Creek	1.000	0.22	1	**0.22**	**H**
Butte Creek	0.07	Adult Immigration and Holding	**0.25**	Water Quality	0.125	Ag, Urban in Butte Creek	0.333	0.07	3	**0.22**	**H**
Butte Creek	0.07	Adult Immigration and Holding	**0.25**	Water Quality	0.125	Ag, Urban in the lower Sacramento River	0.333	0.07	3	**0.22**	**H**
Butte Creek	0.07	Adult Immigration and Holding	**0.25**	Water Quality	0.125	DO, Ag, Urban, Heavy Metals in the Delta	0.333	0.07	3	**0.22**	**H**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Flow Conditions	0.050	Changes in Delta Hydrology	0.150	0.04	6	**0.21**	**H**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Flow Conditions	0.100	Changes in Hydrology	0.200	0.042	5	**0.21**	**H**
Butte Creek	0.07	Adult Immigration and Holding	**0.25**	Flow Conditions	0.100	Low Flows - attraction, migratory cues AND Flood Flows - non-natal area attraction in the lower Sacramento River	0.600	0.11	2	**0.21**	**H**
Auburn Ravine and Coon Creek drainage	0.07	Spawning	0.30	Hatchery Effects	0.100	Redd superimposition, competition for habitat, Genetic Integrity	1.000	0.210	1	**0.21**	**H**
Auburn Ravine and Coon Creek drainage	0.07	Spawning	0.30	Physical Habitat Alteration	0.100	Limited Instream Gravel Supply	1.000	0.210	1	**0.21**	**H**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the middle Sacramento River	0.200	0.04	5	**0.21**	**H**
Auburn Ravine and Coon Creek drainage	0.07	Spawning	0.30	Spawning Habitat Availability	0.100	Habitat Suitability	1.000	0.210	1	**0.21**	**H**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Invasive Species/Food Web Disruption	0.050	Asian clam, A. aspera, Microcystis, etc. in the Delta	0.600	0.11	2	**0.21**	**H**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Loss of Tidal Marsh Habitat	0.050	Delta	0.600	0.11	2	**0.21**	**H**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.300	0.05	4	**0.21**	**H**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Entrainment	0.050	Individual Diversions in the Feather River	0.200	0.04	6	**0.21**	**H**

Northern Sierra Nevada Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.300	0.04	5	**0.21**	**H**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.300	0.04	5	**0.21**	**H**
Yuba River	0.11	Embryo Incubation	0.15	Harvest/Angling Impacts	0.125	Redd disturbance	1.000	0.21	1.00	**0.21**	**H**
Yuba River	0.11	Adult Immigration and Holding	0.15	Short-term Inwater Construction	0.125	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bay	0.200	0.04	5	**0.21**	**H**
Yuba River	0.11	Adult Immigration and Holding	0.15	Short-term Inwater Construction	0.125	Sedimentation, turbidity, acoustic effects, hazardous spills in the Yuba River	0.200	0.04	5	**0.21**	**H**
Yuba River	0.11	Embryo Incubation	0.15	Short-term Inwater Construction	0.125	Sedimentation, turbidity, acoustic effects, hazardous spills, physical disturbance	1.000	0.21	1.00	**0.21**	**H**
Yuba River	0.11	Embryo Incubation	0.15	Water Quality	0.125	Water Pollution above Daguerre Point Dam	1.000	0.21	1.00	**0.21**	**H**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.070	Individual Diversions in Butte Creek	0.200	0.03	6	**0.21**	**H**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.060	DO, Ag, Urban, Heavy Metals in the Delta	0.350	0.05	4	**0.21**	**H**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.075	Flow Dependent Habitat Availability in Deer Creek	0.100	0.03	6	**0.20**	**H**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.075	Flow Dependent Habitat Availability in Mill Creek	0.100	0.03	6	**0.20**	**H**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.075	Flow Dependent Habitat Availability in the lower Sacramento River	0.100	0.03	6	**0.20**	**H**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.075	Flow Dependent Habitat Availability in the lower Sacramento River	0.100	0.03	6	**0.20**	**H**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.075	Flow Dependent Habitat Availability in the middle Sacramento River	0.100	0.03	6	**0.20**	**H**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.075	Flow Dependent Habitat Availability in the middle Sacramento River	0.100	0.03	6	**0.20**	**H**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.030	Delta	0.300	0.04	5	**0.20**	**H**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.030	Lower Sacramento River	0.300	0.04	5	**0.20**	**H**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Hatchery Effects	0.025	Feather River	0.350	0.04	5	**0.20**	**H**
Deer Creek	0.13	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.250	0.04	5	**0.20**	**H**

Northern Sierra Nevada Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Big Chico Creek	0.08	Spawning	**0.25**	Barrier	0.100	Redd superimposition, competition for habitat, hybridization/genetic integrity	1.000	0.20	1	**0.20**	**H**
Big Chico Creek	0.08	Spawning	**0.25**	Flow Conditions	0.100	Flow Fluctuations	1.000	0.20	1	**0.20**	**H**
Big Chico Creek	0.08	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.100	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bay	0.200	0.04	5	**0.20**	**H**
Yuba River	0.11	Adult Immigration and Holding	0.15	Flow Conditions	0.100	Low Flows - attraction, migratory cues in the Feather River	0.400	0.07	3	**0.20**	**H**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Flow Conditions	0.050	Diversion into Central Delta	0.225	0.04	5	**0.20**	**H**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Flow Conditions	0.050	Flow Dependent Habitat Availability in the Feather River	0.225	0.04	5	**0.20**	**H**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Flow Conditions	0.050	Reverse Flow Conditions	0.225	0.04	5	**0.20**	**H**
Dry Creek drainage (Sacramento Region)	0.07	Adult Immigration and Holding	0.20	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Dry Creek drainage	0.700	0.049	4	**0.20**	**H**
Mill Creek	0.13	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Bays	0.100	0.03	6	**0.20**	**H**
Deer Creek	0.13	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Bays	0.100	0.03	6	**0.20**	**H**
Mill Creek	0.13	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Delta	0.100	0.03	6	**0.20**	**H**
Deer Creek	0.13	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Delta	0.100	0.03	6	**0.20**	**H**
Mill Creek	0.13	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Lower Sacramento River	0.100	0.03	6	**0.20**	**H**
Deer Creek	0.13	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Lower Sacramento River	0.100	0.03	6	**0.20**	**H**
Mill Creek	0.13	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Middle Sacramento River	0.100	0.03	6	**0.20**	**H**
Deer Creek	0.13	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Middle Sacramento River	0.100	0.03	6	**0.20**	**H**
Mill Creek	0.13	Embryo Incubation	**0.15**	Short-term Inwater Construction	0.100	Sedimentation, turbidity, acoustic effects, hazardous spills, physical disturbance	1.000	0.20	1.00	**0.20**	**H**
Deer Creek	0.13	Embryo Incubation	**0.15**	Short-term Inwater Construction	0.100	Sedimentation, turbidity, acoustic effects, hazardous spills, physical disturbance	1.000	0.20	1.00	**0.20**	**H**
Deer Creek	0.13	Embryo Incubation	**0.15**	Water Temperature	0.100	Water Temperature in Deer Creek	1.000	0.20	1.00	**0.20**	**H**
Mill Creek	0.13	Embryo Incubation	**0.15**	Water Temperature	0.100	Water Temperature in Mill Creek	1.000	0.20	1.00	**0.20**	**H**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.030	Delta	0.300	0.04	5	**0.19**	**H**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.030	Lower Sacramento River	0.300	0.04	5	**0.19**	**H**

Northern Sierra Nevada Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
American River	0.06	Juvenile Rearing and Outmigration	0.35	Predation	0.150	Non-site specific and structure related in the Delta	0.150	0.047	4	**0.19**	**H**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Predation	0.150	Non-site specific and structure related in the lower Sacramento River	0.150	0.047	4	**0.19**	**H**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.075	Flow Dependent Habitat Availability in Antelope Creek	0.100	0.03	6	**0.19**	**H**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.075	Flow Dependent Habitat Availability in the lower Sacramento River	0.100	0.03	6	**0.19**	**H**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.075	Flow Dependent Habitat Availability in the middle Sacramento River	0.100	0.03	6	**0.19**	**H**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Invasive Species/Food Web Disruption	0.050	Asian clam, A. aspera, Microcystis, etc. in the Bays	0.400	0.09	2	**0.19**	**H**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Loss of Tidal Marsh Habitat	0.050	Bays	0.400	0.09	2	**0.19**	**H**
Yuba River	0.11	Adult Immigration and Holding	0.15	Harvest/Angling Impacts	0.150	Delta	0.125	0.03	6	**0.19**	**H**
Yuba River	0.11	Adult Immigration and Holding	0.15	Harvest/Angling Impacts	0.150	Lower Sacramento River	0.125	0.03	6	**0.19**	**H**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.375	0.05	4	**0.18**	**M**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Flow Conditions	0.050	Flow Dependent Habitat Availability in the American River	0.350	0.037	5	**0.18**	**M**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Temperature	0.050	Deer Creek	0.200	0.05	4	**0.18**	**M**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Temperature	0.050	Mill Creek	0.200	0.05	4	**0.18**	**M**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Predation	0.050	Non-site specific and structure related in the Bear River	0.400	0.036	5	**0.18**	**M**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Water Quality	0.025	Bear River	0.800	0.036	5	**0.18**	**M**
American River	0.06	Spawning	0.40	Flow Conditions	0.075	Flow Fluctuations	1.000	0.180	1	**0.18**	**M**
Big Chico Creek	0.08	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Bays	0.150	0.03	6	**0.18**	**M**
Big Chico Creek	0.08	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Delta	0.150	0.03	6	**0.18**	**M**
Big Chico Creek	0.08	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Lower Sacramento River	0.150	0.03	6	**0.18**	**M**
Big Chico Creek	0.08	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Middle Sacramento River	0.150	0.03	6	**0.18**	**M**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Flow Conditions	0.050	Flow Dependent Habitat Availability in the lower Sacramento River	0.125	0.03	6	**0.18**	**M**

Northern Sierra Nevada Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Feather River	0.150	0.04	5	**0.18**	**M**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Yuba River	0.150	0.04	5	**0.18**	**M**
Dry Creek drainage (Sacramento Region)	0.07	Adult Immigration and Holding	0.20	Harvest/Angling Impacts	0.050	Dry Creek drainage	0.500	0.035	5	**0.18**	**M**
Feather River	0.10	Spawning	0.350	Flow Conditions	0.050	Flow Fluctuations	1.000	0.18	1	**0.18**	**M**
Feather River	0.10	Spawning	0.350	Harvest/Angling Impacts	0.050	Recreational, Poaching, Angler Impacts	1.000	0.18	1	**0.18**	**M**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Passage Impediments/Barriers	0.025	Fish Barrier/Oroville Dam	1.000	0.09	2	**0.18**	**M**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Predation	0.125	Non-site specific and structure related in the Bays	0.100	0.04	4	**0.18**	**M**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.050	Delta	0.150	0.03	5	**0.17**	**M**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.050	Lower Sacramento River	0.150	0.03	5	**0.17**	**M**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.050	Middle Sacramento River	0.150	0.03	5	**0.17**	**M**
Antelope Creek	0.12	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.075	Sedimentation, turbidity, acoustic effects, hazardous spills in the middle Sacramento River	0.150	0.03	5	**0.17**	**M**
Feather River	0.10	Adult Immigration and Holding	0.150	Water Temperature	0.150	Delta	0.250	0.06	3	**0.17**	**M**
Feather River	0.10	Adult Immigration and Holding	0.150	Water Temperature	0.150	Lower Sacramento River	0.250	0.06	3	**0.17**	**M**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Water Quality	0.200	Ag, Urban in the lower Sacramento River	0.100	0.042	4	**0.17**	**M**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Water Quality	0.200	Ag, Urban, Heavy Metals in the Bays	0.100	0.042	4	**0.17**	**M**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Water Quality	0.200	DO, Ag, Urban, Heavy Metals in th Delta	0.100	0.042	4	**0.17**	**M**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Hatchery Effects	0.050	American River	0.400	0.042	4	**0.17**	**M**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Invasive Species/Food Web Disruption	0.075	Asian clam, A. aspera, Microcystis, etc. in the Bays	0.400	0.08	2	**0.17**	**M**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Loss of Riparian Habitat and Instream Cover	0.150	Big Chico Creek	0.100	0.04	4	**0.17**	**M**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Loss of Tidal Marsh Habitat	0.075	Bays	0.400	0.08	2	**0.17**	**M**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Water Temperature	0.050	Antelope Creek	0.200	0.04	4	**0.17**	**M**
Yuba River	0.11	Adult Immigration and Holding	0.15	Passage Impediments/Barriers	0.400	Sacramento Deep Water Ship Channel	0.050	0.03	5	**0.17**	**M**

Northern Sierra Nevada Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Yuba River	0.11	Adult Immigration and Holding	0.15	Passage Impediments/Barriers	0.400	Suisun Marsh Salinity Control Structure	0.050	0.03	5	**0.17**	**M**
Yuba River	0.11	Adult Immigration and Holding	0.15	Passage Impediments/Barriers	0.400	Yolo Bypass - Freemont Weir	0.050	0.03	5	**0.17**	**M**
Yuba River	0.11	Adult Immigration and Holding	0.15	Water Quality	0.100	Ag, Urban in the Feather River	0.250	0.04	4	**0.17**	**M**
Yuba River	0.11	Adult Immigration and Holding	0.15	Water Quality	0.100	Ag, Urban in the lower Sacramento River	0.250	0.04	4	**0.17**	**M**
Yuba River	0.11	Adult Immigration and Holding	0.15	Water Quality	0.100	DO, Ag, Urban, Heavy Metals in the Delta	0.250	0.04	4	**0.17**	**M**
Yuba River	0.11	Adult Immigration and Holding	0.15	Water Quality	0.100	Yuba River	0.250	0.04	4	**0.17**	**M**
Yuba River	0.11	Embryo Incubation	0.15	Water Temperature	0.100	Water Temperature above Daguerre Point Dam	1.000	0.17	1.00	**0.17**	**M**
Mill Creek	0.13	Spawning	**0.25**	Flow Conditions	0.050	Flow Fluctuations	1.000	0.16	1	**0.16**	**M**
Deer Creek	0.13	Spawning	**0.25**	Harvest/Angling Impacts	0.050	Recreational, Poaching, Angler Impacts	1.000	0.16	1	**0.16**	**M**
Mill Creek	0.13	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.100	Sedimentation, turbidity, acoustic effects, hazardous spills in Mill Creek	0.100	0.03	5	**0.16**	**M**
Deer Creek	0.13	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bay	0.200	0.03	5	**0.16**	**M**
Mill Creek	0.13	Spawning	**0.25**	Spawning Habitat Availability	0.050	Habitat Suitability	1.000	0.16	1	**0.16**	**M**
Mill Creek	0.13	Adult Immigration and Holding	**0.25**	Water Quality	0.100	Mill Creek	0.100	0.03	5	**0.16**	**M**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Flow Conditions	0.300	Flow Dependent Habitat Availability in the Feather River	0.050	0.027	6	**0.16**	**M**
Bear River	0.06	Adult Immigration and Holding	0.20	Flow Conditions	0.450	Low Flows - attraction, migratory cues in the Feather River	0.100	0.054	3	**0.16**	**M**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Loss of Floodplain Habitat	0.075	Delta	0.200	0.027	6	**0.16**	**M**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Loss of Tidal Marsh Habitat	0.025	Delta	0.600	0.027	6	**0.16**	**M**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.050	Individual Diversions in Deer Creek	0.100	0.02	7	**0.16**	**M**
Butte Creek	0.07	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.150	Centerville Head Dam	0.100	0.03	6	**0.16**	**M**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Predation	0.050	Non-site specific and structure related in the Feather River	0.350	0.032	5	**0.16**	**M**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Water Quality	0.075	Ag, Urban in the Feather River	0.150	0.04	4	**0.16**	**M**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.080	Delta	0.200	0.04	4	**0.16**	**M**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.080	Lower Sacramento River	0.200	0.04	4	**0.16**	**M**

Northern Sierra Nevada Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Yuba River	0.11	Adult Immigration and Holding	0.15	Short-term Inwater Construction	0.125	Sedimentation, turbidity, acoustic effects, hazardous spills in the Feather River	0.150	0.03	5	**0.15**	**M**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Flow Conditions	0.050	Changes in Delta Hydrology	0.175	0.03	5	**0.15**	**M**
Yuba River	0.11	Spawning	0.275	Water Temperature	0.050	Water Temperature in the Yuba River	1.000	0.15	1	**0.15**	**M**
Antelope Creek	0.12	Spawning	**0.25**	Flow Conditions	0.050	Flow Fluctuations	1.000	0.15	1	**0.15**	**M**
Feather River	0.10	Adult Immigration and Holding	0.150	Water Quality	0.100	Ag, Urban in the Feather River	0.333	0.05	3	**0.15**	**M**
Feather River	0.10	Adult Immigration and Holding	0.150	Water Quality	0.100	Ag, Urban in the lower Sacramento River	0.333	0.05	3	**0.15**	**M**
Feather River	0.10	Adult Immigration and Holding	0.150	Water Quality	0.100	DO, Ag, Urban, Heavy Metals in the Delta	0.333	0.05	3	**0.15**	**M**
Yuba River	0.11	Adult Immigration and Holding	0.15	Harvest/Angling Impacts	0.150	Bays	0.100	0.02	6	**0.15**	**M**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Loss of Tidal Marsh Habitat	0.050	Delta	0.600	0.07	2	**0.15**	**M**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.300	0.04	4	**0.15**	**M**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Predation	0.150	Non-site specific and structure related in the Bays	0.100	0.04	4	**0.15**	**M**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.060	Ag, Urban in the lower Sacramento River	0.250	0.04	4	**0.15**	**M**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.060	Ag, Urban, Heavy Metals in the Bays	0.250	0.04	4	**0.15**	**M**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Short-term Inwater Construction	0.025	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bear River	0.650	0.029	5	**0.15**	**M**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Hatchery Effects	0.025	Lower Sacramento River	0.250	0.03	5	**0.15**	**M**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Hatchery Effects	0.025	Yuba River	0.250	0.03	5	**0.15**	**M**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Predation	0.125	Non-site specific and structure related in the Bay	0.050	0.03	5	**0.15**	**M**
Butte Creek	0.07	Adult Immigration and Holding	**0.25**	Water Temperature	0.275	Delta	0.100	0.05	3	**0.14**	**M**
Butte Creek	0.07	Adult Immigration and Holding	**0.25**	Water Temperature	0.275	Lower Sacramento River	0.100	0.05	3	**0.14**	**M**
American River	0.06	Adult Immigration and Holding	0.10	Flow Conditions	0.150	Low Flows - attraction, migratory cues in the American River	0.800	0.072	2	**0.14**	**M**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Predation	0.125	Non-site specific and structure related in Deer Creek	0.050	0.03	5	**0.14**	**M**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Predation	0.125	Non-site specific and structure related in Mill Creek	0.050	0.03	5	**0.14**	**M**

Northern Sierra Nevada Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
American River	0.06	Juvenile Rearing and Outmigration	0.35	Loss of Riparian Habitat and Instream Cover	0.150	Delta	0.150	0.047	3	**0.14**	**M**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Water Temperature	0.150	Lower Sacramento River	0.150	0.047	3	**0.14**	**M**
Feather River	0.10	Adult Immigration and Holding	0.150	Harvest/Angling Impacts	0.150	Delta	0.125	0.03	5	**0.14**	**M**
Feather River	0.10	Adult Immigration and Holding	0.150	Harvest/Angling Impacts	0.150	Lower Sacramento River	0.125	0.03	5	**0.14**	**M**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Passage Impediments/Barriers	0.025	Daguerre Point Dam	0.600	0.07	2	**0.14**	**M**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Water Temperature	0.075	Yuba River	0.100	0.04	4	**0.14**	**M**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Flow Conditions	0.050	Flow Dependent Habitat Availability in the Feather River	0.100	0.02	6	**0.14**	**M**
Dry Creek drainage (Sacramento Region)	0.07	Embryo Incubation	**0.10**	Flow Conditions	0.200	Flow Fluctuations	1.000	0.140	1	**0.14**	**M**
Butte Creek	0.07	Adult Immigration and Holding	**0.25**	Flow Conditions	0.100	Low Flows - attraction, migratory cues in Butte Creek	0.400	0.07	2	**0.14**	**M**
Dry Creek drainage (Sacramento Region)	0.07	Spawning	0.40	Harvest/Angling Impacts	0.050	Recreational, Poaching, Angler Impacts	1.000	0.140	1	**0.14**	**M**
Dry Creek drainage (Sacramento Region)	0.07	Spawning	0.40	Hatchery Effects	0.050	Redd superimposition, competition for habitat, Genetic Integrity	1.000	0.140	1	**0.14**	**M**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Predation	0.100	Non-site specific and structure related in Big Chico Creek	0.100	0.03	5	**0.14**	**M**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the middle Sacramento River	0.200	0.03	5	**0.14**	**M**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Invasive Species/Food Web Disruption	0.050	Asian clam, A. aspera, Microcystis, etc. in the Bays	0.400	0.07	2	**0.14**	**M**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Loss of Tidal Marsh Habitat	0.050	Bays	0.400	0.07	2	**0.14**	**M**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Passage Impediments/Barriers	0.050	Tributary Barriers	1.000	0.14	1	**0.14**	**M**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Feather River	0.200	0.04	4	**0.14**	**M**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Water Temperature	0.025	Big Chico Creek	0.500	0.04	4	**0.14**	**M**
Auburn Ravine and Coon Creek drainage	0.07	Adult Immigration and Holding	0.40	Water Temperature	0.020	Auburn Ravine and Coon Creek drainage	0.800	0.045	3	**0.13**	**M**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Flow Conditions	0.150	Changes in Delta Hydrology	0.125	0.026	5	**0.13**	**M**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Flow Conditions	0.150	Diversion into Central Delta	0.125	0.026	5	**0.13**	**M**

Northern Sierra Nevada Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Flow Conditions	0.050	Flow Dependent Habitat Availability in the lower Sacramento River	0.150	0.03	5	**0.13**	**M**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Predation	0.125	Non-site specific and structure related in Antelope Creek	0.050	0.03	5	**0.13**	**M**
Butte Creek	0.07	Spawning	**0.25**	Water Quality	0.075	Water Quality, Turbidity in Butte Creek	1.000	0.13	1	**0.13**	**M**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Hatchery Effects	0.025	Feather River	0.375	0.03	4	**0.13**	**M**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Loss of Natural River Morphology	0.100	Delta	0.200	0.042	3	**0.13**	**M**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Loss of Riparian Habitat and Instream Cover	0.100	Lower Sacramento River	0.200	0.042	3	**0.13**	**M**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Passage Impediments/Barriers	0.050	Impediments/Barriers in the Auburn Ravine and Coon Creek drainage	0.900	0.063	2	**0.13**	**M**
Dry Creek drainage (Sacramento Region)	0.07	Adult Immigration and Holding	0.20	Water Temperature	0.150	Lower Sacramento River	0.200	0.042	3	**0.13**	**M**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.025	Diversion into Central Delta	0.300	0.02	6	**0.13**	**M**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Loss of Natural River Morphology	0.100	Delta	0.200	0.042	3	**0.13**	**M**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Hatchery Effects	0.050	Delta	0.300	0.032	4	**0.13**	**M**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Predation	0.150	Non-site specific and structure related in the Bays	0.100	0.032	4	**0.13**	**M**
Big Chico Creek	0.08	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.250	Sacramento Deep Water Ship Channel	0.050	0.03	5	**0.13**	**M**
Big Chico Creek	0.08	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.250	Suisun Marsh Salinity Control Structure	0.050	0.03	5	**0.13**	**M**
Big Chico Creek	0.08	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.250	Sutter Bypass - Tisdale Weir	0.050	0.03	5	**0.13**	**M**
Feather River	0.10	Adult Immigration and Holding	0.150	Short-term Inwater Construction	0.075	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.275	0.03	4	**0.12**	**M**
Feather River	0.10	Adult Immigration and Holding	0.150	Short-term Inwater Construction	0.075	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.275	0.03	4	**0.12**	**M**
Deer Creek	0.13	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the middle Sacramento River	0.150	0.02	5	**0.12**	**M**
Feather River	0.10	Adult Immigration and Holding	0.150	Passage Impediments/Barriers	0.400	Sacramento Deep Water Ship Channel	0.050	0.03	4	**0.12**	**M**
Feather River	0.10	Adult Immigration and Holding	0.150	Passage Impediments/Barriers	0.400	Suisun Marsh Salinity Control Structure	0.050	0.03	4	**0.12**	**M**

Northern Sierra Nevada Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Feather River	0.10	Adult Immigration and Holding	0.150	Passage Impediments/Barriers	0.400	Yolo Bypass - Freemont Weir	0.050	0.03	4	**0.12**	**M**
American River	0.06	Spawning	0.40	Water Temperature	0.050	American River	1.000	0.120	1	**0.12**	**M**
Big Chico Creek	0.08	Adult Immigration and Holding	**0.25**	Flow Conditions	0.100	Low Flows - attraction, migratory cues in Big Chico Creek	0.200	0.04	3	**0.12**	**M**
Big Chico Creek	0.08	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Big Chico Creek	0.100	0.02	6	**0.12**	**M**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Invasive Species/Food Web Disruption	0.040	Asian clam, A. aspera, Microcystis, etc. in the Delta	0.700	0.059	2	**0.12**	**M**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bays	0.100	0.02	5	**0.12**	**M**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Water Quality	0.050	Ag, Urban in the Feather River	0.100	0.02	5	**0.12**	**M**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.050	Bays	0.100	0.02	5	**0.11**	**M**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in Deer Creek	0.100	0.02	5	**0.11**	**M**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in Mill Creek	0.100	0.02	5	**0.11**	**M**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bays	0.100	0.02	5	**0.11**	**M**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bays	0.100	0.02	5	**0.11**	**M**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.050	Ag, Urban in the lower Sacramento River	0.100	0.02	5	**0.11**	**M**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.050	Ag, Urban in the middle Sacramento River	0.100	0.02	5	**0.11**	**M**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.050	Ag, Urban, Heavy Metals in the Bays	0.100	0.02	5	**0.11**	**M**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.050	DO, Ag, Urban, Heavy Metals in the Delta	0.100	0.02	5	**0.11**	**M**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Hatchery Effects	0.025	Lower Sacramento River	0.325	0.03	4	**0.11**	**M**
Feather River	0.10	Adult Immigration and Holding	0.150	Flow Conditions	0.125	Low Flows - attraction, migratory cues AND Flood Flows - non-natal area attraction in Lower Sacramento River	0.300	0.06	2	**0.11**	**M**
American River	0.06	Embryo Incubation	**0.15**	Harvest/Angling Impacts	0.125	Redd disturbance	1.000	0.113	1.00	**0.11**	**M**
Antelope Creek	0.12	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.075	Sedimentation, turbidity, acoustic effects, hazardous spills in Antelope Creek	0.100	0.02	5	**0.11**	**M**

Northern Sierra Nevada Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Feather River	0.10	Adult Immigration and Holding	0.150	Short-term Inwater Construction	0.075	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bay	0.250	0.03	4	**0.11**	**M**
American River	0.06	Embryo Incubation	**0.15**	Short-term Inwater Construction	0.125	Sedimentation, turbidity, acoustic effects, hazardous spills, physical disturbance	1.000	0.113	1	**0.11**	**M**
American River	0.06	Embryo Incubation	**0.15**	Water Quality	0.125	Water Pollution	1.000	0.113	1.00	**0.11**	**M**
Dry Creek drainage (Sacramento Region)	0.07	Adult Immigration and Holding	0.20	Flow Conditions	0.200	Low Flows - attraction, migratory cues AND Flood Flows - non-natal area attraction in the lower Sacramento River	0.200	0.056	2	**0.11**	**M**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Predation	0.100	Non-site specific and structure related in the Delta	0.200	0.028	4	**0.11**	**M**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.070	Contra Costa Power Plant	0.050	0.02	7	**0.11**	**M**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.070	Pittsburg Power Plant	0.050	0.02	7	**0.11**	**M**
Butte Creek	0.07	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Delta	0.125	0.02	5	**0.11**	**M**
Butte Creek	0.07	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Lower Sacramento River	0.125	0.02	5	**0.11**	**M**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Loss of Tidal Marsh Habitat	0.025	Bays	0.400	0.018	6	**0.11**	**M**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Loss of Natural River Morphology	0.075	Delta	0.200	0.027	4	**0.11**	**M**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Loss of Riparian Habitat and Instream Cover	0.075	Delta	0.200	0.027	4	**0.11**	**M**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Flow Conditions	0.100	Flow Dependent Habitat Availability in the lower Sacramento River	0.100	0.021	5	**0.11**	**M**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Flow Conditions	0.150	Reverse Flow Conditions	0.100	0.021	5	**0.11**	**M**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Entrainment	0.100	Contra Costa Power Plant	0.100	0.021	5	**0.11**	**M**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Entrainment	0.100	Pittsburg Power Plant	0.100	0.021	5	**0.11**	**M**
Auburn Ravine and Coon Creek drainage	0.07	Spawning	0.30	Harvest/Angling Impacts	0.050	Recreational, Poaching, Angler Impacts	1.000	0.105	1	**0.11**	**M**
Butte Creek	0.07	Embryo Incubation	**0.15**	Harvest/Angling Impacts	0.100	Redd disturbance	1.000	0.11	1.00	**0.11**	**M**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Loss of Floodplain Habitat	0.100	Delta	0.100	0.021	5	**0.11**	**M**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Loss of Tidal Marsh Habitat	0.050	Bays	0.200	0.021	5	**0.11**	**M**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in Antelope Creek	0.100	0.02	5	**0.11**	**M**

Northern Sierra Nevada Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bays	0.100	0.02	5	**0.11**	**M**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.050	Ag, Urban in the lower Sacramento River	0.100	0.02	5	**0.11**	**M**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.050	Ag, Urban in the middle Sacramento River	0.100	0.02	5	**0.11**	**M**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.050	Ag, Urban, Heavy Metals in the Bays	0.100	0.02	5	**0.11**	**M**
Auburn Ravine and Coon Creek drainage	0.07	Spawning	0.30	Water Quality	0.050	Auburn Ravine and Coon Creek drainage	1.000	0.105	1	**0.11**	**M**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.050	DO, Ag, Urban, Heavy Metals in the Delta	0.100	0.02	5	**0.11**	**M**
Auburn Ravine and Coon Creek drainage	0.07	Spawning	0.30	Water Temperature	0.050	Auburn Ravine and Coon Creek drainage	1.000	0.105	1	**0.11**	**M**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Hatchery Effects	0.050	Lower Sacramento River	0.250	0.026	4	**0.11**	**M**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.025	Delta	0.300	0.02	5	**0.11**	**M**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.025	Lower Sacramento River	0.300	0.02	5	**0.11**	**M**
Yuba River	0.11	Adult Immigration and Holding	0.15	Water Temperature	0.125	Yuba River	0.125	0.03	4	**0.10**	**M**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.030	Middle Sacramento River	0.150	0.02	5	**0.10**	**M**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Entrainment	0.020	Jones and Banks Pumping Plants	0.400	0.017	6	**0.10**	**M**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Predation	0.020	Non-site specific and structure related in the Dry Creek drainage	0.600	0.025	4	**0.10**	**M**
Big Chico Creek	0.08	Spawning	**0.25**	Harvest/Angling Impacts	0.050	Recreational, Poaching, Angler Impacts	1.000	0.10	1	**0.10**	**M**
Big Chico Creek	0.08	Spawning	**0.25**	Hatchery Effects	0.050	Redd superimposition, competition for habitat, Genetic Integrity	1.000	0.10	1	**0.10**	**M**
Big Chico Creek	0.08	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.100	Sedimentation, turbidity, acoustic effects, hazardous spills in Big Chico Creek	0.100	0.02	5	**0.10**	**M**
Big Chico Creek	0.08	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.100	Sedimentation, turbidity, acoustic effects, hazardous spills in the middle Sacramento River	0.100	0.02	5	**0.10**	**M**
Big Chico Creek	0.08	Spawning	**0.25**	Water Quality	0.050	Water Quality in Big Chico Creek	1.000	0.10	1	**0.10**	**M**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.100	Contra Costa Power Plant	0.050	0.01	7	**0.10**	**M**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.100	Individual Diversions in Big Chico Creek	0.050	0.01	7	**0.10**	**M**

Northern Sierra Nevada Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.100	Pittsburg Power Plant	0.050	0.01	7	**0.10**	**M**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Loss of Tidal Marsh Habitat	0.050	Bays	0.400	0.05	2	**0.10**	**M**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in Butte Creek	0.200	0.02	4	**0.10**	**M**
Butte Creek	0.07	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.275	0.02	4	**0.10**	**M**
Butte Creek	0.07	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.275	0.02	4	**0.10**	**M**
Bear River	0.06	Adult Immigration and Holding	0.20	Water Temperature	0.500	Feather River	0.040	0.024	4	**0.10**	**M**
Dry Creek drainage (Sacramento Region)	0.07	Adult Immigration and Holding	0.20	Passage Impediments/Barriers	0.450	Sacramento Deep Water Ship Channel	0.050	0.032	3	**0.09**	**M**
Dry Creek drainage (Sacramento Region)	0.07	Adult Immigration and Holding	0.20	Passage Impediments/Barriers	0.450	Suisun Marsh Salinity Control Structure	0.050	0.032	3	**0.09**	**M**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Loss of Tidal Marsh Habitat	0.010	Delta	0.900	0.019	5	**0.09**	**M**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.030	Middle Sacramento River	0.150	0.02	5	**0.09**	**M**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Loss of Riparian Habitat and Instream Cover	0.150	Lower Sacramento River	0.100	0.032	3	**0.09**	**M**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Passage Impediments/Barriers	0.025	Englebright Dam	0.400	0.05	2	**0.09**	**M**
Auburn Ravine and Coon Creek drainage	0.07	Adult Immigration and Holding	0.40	Harvest/Angling Impacts	0.010	Auburn Ravine and Coon Creek drainage	0.650	0.018	5	**0.09**	**M**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Passage Impediments/Barriers	0.050	Dam(s)	0.200	0.05	2	**0.09**	**M**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Passage Impediments/Barriers	0.050	Dam(s)	0.200	0.05	2	**0.09**	**M**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Temperature	0.050	Delta	0.100	0.02	4	**0.09**	**M**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Temperature	0.050	Delta	0.100	0.02	4	**0.09**	**M**
Feather River	0.10	Adult Immigration and Holding	0.150	Short-term Inwater Construction	0.075	Sedimentation, turbidity, acoustic effects, hazardous spills in the Feather River	0.200	0.02	4	**0.09**	**M**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Water Temperature	0.250	Delta	0.050	0.023	4	**0.09**	**M**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Water Temperature	0.250	Feather River	0.050	0.023	4	**0.09**	**M**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Water Temperature	0.250	Lower Sacramento River	0.050	0.023	4	**0.09**	**M**

Northern Sierra Nevada Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.060	Ag, Urban in Butte Creek	0.150	0.02	4	**0.09**	**M**
Butte Creek	0.07	Spawning	**0.25**	Barrier	0.050	Centerville Head Dam - Redd superimposition, competition for habitat, hybridization/genetic integrity	1.000	0.09	1	**0.09**	**M**
Butte Creek	0.07	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bay	0.250	0.02	4	**0.09**	**M**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bays	0.125	0.02	4	**0.09**	**M**
Bear River	0.06	Adult Immigration and Holding	0.20	Water Quality	0.020	Bear River	0.900	0.022	4	**0.09**	**M**
Feather River	0.10	Adult Immigration and Holding	0.150	Harvest/Angling Impacts	0.150	Bays	0.075	0.02	5	**0.08**	**M**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.025	Changes in Hydrology	0.200	0.01	6	**0.08**	**M**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.025	Reverse Flow Conditions	0.200	0.01	6	**0.08**	**M**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Loss of Floodplain Habitat	0.020	Lower Sacramento River	0.400	0.017	5	**0.08**	**M**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.200	0.021	4	**0.08**	**M**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Passage Impediments/Barriers	0.050	Dam(s)	0.200	0.04	2	**0.08**	**M**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the American River	0.200	0.021	4	**0.08**	**M**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Water Temperature	0.050	Delta	0.100	0.02	4	**0.08**	**M**
Deer Creek	0.13	Spawning	**0.25**	Flow Conditions	0.025	Flow Fluctuations	1.000	0.08	1	**0.08**	**M**
Deer Creek	0.13	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in Deer Creek	0.100	0.02	5	**0.08**	**M**
Bear River	0.06	Adult Immigration and Holding	0.20	Flow Conditions	0.450	Low Flows - attraction, migratory cues AND Flood Flows - non-natal area attraction in Lower Sacramento River	0.050	0.027	3	**0.08**	**M**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Loss of Floodplain Habitat	0.075	Feather River	0.100	0.014	6	**0.08**	**M**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Loss of Floodplain Habitat	0.075	Lower Sacramento River	0.100	0.014	6	**0.08**	**M**
Big Chico Creek	0.08	Adult Immigration and Holding	**0.25**	Water Quality	0.100	Ag, Urban in Big Chico Creek	0.100	0.02	4	**0.08**	**M**

Northern Sierra Nevada Steelhead Diversity Group Stressor Matrix

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Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.050	Contra Costa Power Plant	0.050	0.01	7	**0.08**	**M**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.050	Pittsburg Power Plant	0.050	0.01	7	**0.08**	**M**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Loss of Natural River Morphology	0.125	Delta	0.150	0.026	3	**0.08**	**M**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Loss of Riparian Habitat and Instream Cover	0.125	Lower Sacramento River	0.150	0.026	3	**0.08**	**M**
Butte Creek	0.07	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.150	Sacramento Deep Water Ship Channel	0.050	0.01	6	**0.08**	**M**
Butte Creek	0.07	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.150	Suisun Marsh Salinity Control Structure	0.050	0.01	6	**0.08**	**M**
Butte Creek	0.07	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.150	Sutter Bypass - Tisdale Weir	0.050	0.01	6	**0.08**	**M**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.080	Bays	0.100	0.02	4	**0.08**	**M**
Yuba River	0.11	Spawning	0.275	Harvest/Angling Impacts	0.025	Recreational, Poaching, Angler Impacts	1.000	0.08	1	**0.08**	**M**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Entrainment	0.020	Individual Diversions in the Delta	0.300	0.013	6	**0.08**	**M**
Yuba River	0.11	Adult Immigration and Holding	0.15	Flow Conditions	0.100	Low Flows - attraction, migratory cues AND Flood Flows - non-natal area attraction in Lower Sacramento River	0.150	0.02	3	**0.07**	**M**
Yuba River	0.11	Adult Immigration and Holding	0.15	Harvest/Angling Impacts	0.150	Feather River	0.050	0.01	6	**0.07**	**M**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Water Temperature	0.025	Butte Creek	0.400	0.02	3	**0.07**	**M**
Auburn Ravine and Coon Creek drainage	0.07	Adult Immigration and Holding	0.40	Short-term Inwater Construction	0.010	Sedimentation, turbidity, acoustic effects, hazardous spills in the Auburn Ravine and Coon Creek drainage	0.650	0.018	4	**0.07**	**M**
American River	0.06	Spawning	0.40	Harvest/Angling Impacts	0.030	Recreational, Poaching, Angler Impacts	1.000	0.072	1	**0.07**	**M**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Entrainment	0.200	Contra Costa Power Plant	0.050	0.014	5	**0.07**	**M**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Entrainment	0.200	Individual Diversions in the lower Sacramento River	0.050	0.014	5	**0.07**	**M**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Entrainment	0.200	Pittsburg Power Plant	0.050	0.014	5	**0.07**	**M**
Dry Creek drainage (Sacramento Region)	0.07	Adult Immigration and Holding	0.20	Harvest/Angling Impacts	0.050	Delta	0.200	0.014	5	**0.07**	**M**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Predation	0.100	Non-site specific and structure related in the Bays	0.050	0.01	5	**0.07**	**M**

Northern Sierra Nevada Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in Big Chico Creek	0.100	0.01	5	**0.07**	**M**
Butte Creek	0.07	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in Butte Creek	0.200	0.02	4	**0.07**	**M**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bays	0.100	0.01	5	**0.07**	**M**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.025	Ag, Urban in the lower Sacramento River	0.200	0.01	5	**0.07**	**M**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.025	Ag, Urban in the middle Sacramento River	0.200	0.01	5	**0.07**	**M**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.025	Ag, Urban in Big Chico Creek	0.200	0.01	5	**0.07**	**M**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.025	Ag, Urban, Heavy Metals in the Bays	0.200	0.01	5	**0.07**	**M**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.025	DO, Ag, Urban, Heavy Metals in the Delta	0.200	0.01	5	**0.07**	**M**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.025	Diversion into Central Delta	0.225	0.01	5	**0.07**	**M**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.025	Flow Dependent Habitat Availability in Butte Creek	0.225	0.01	5	**0.07**	**M**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.025	Reverse Flow Conditions	0.225	0.01	5	**0.07**	**M**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.030	Bays	0.100	0.01	5	**0.07**	**M**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.030	Mill Creek	0.100	0.01	5	**0.07**	**M**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Hatchery Effects	0.025	Delta	0.300	0.014	5	**0.07**	**M**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Hatchery Effects	0.020	Dry Creek drainage	0.400	0.017	4	**0.07**	**M**
Auburn Ravine and Coon Creek drainage	0.07	Adult Immigration and Holding	0.40	Water Quality	0.010	Ag, Urban in the Auburn Ravine and Coon Creek drainage	0.800	0.022	3	**0.07**	**M**
Bear River	0.06	Adult Immigration and Holding	0.20	Passage Impediments/Barriers	0.020	Bear River	0.700	0.017	4	**0.07**	**M**
Butte Creek	0.07	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Bays	0.075	0.01	5	**0.07**	**M**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Loss of Natural River Morphology	0.100	Lower Sacramento River	0.100	0.021	3	**0.06**	**L**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Loss of Riparian Habitat and Instream Cover	0.100	Delta	0.100	0.021	3	**0.06**	**L**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Loss of Tidal Marsh Habitat	0.010	Delta	0.900	0.013	5	**0.06**	**L**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.030	Antelope Creek	0.100	0.01	5	**0.06**	**L**

Northern Sierra Nevada Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.030	Bays	0.100	0.01	5	**0.06**	**L**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Loss of Floodplain Habitat	0.020	Delta	0.300	0.013	5	**0.06**	**L**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Loss of Floodplain Habitat	0.020	Dry Creek drainage	0.300	0.013	5	**0.06**	**L**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Loss of Natural River Morphology	0.100	Lower Sacramento River	0.100	0.021	3	**0.06**	**L**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Water Temperature	0.200	Lower Sacramento River	0.050	0.021	3	**0.06**	**L**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Short-term Inwater Construction	0.150	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bays	0.050	0.016	4	**0.06**	**L**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.150	0.016	4	**0.06**	**L**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Hatchery Effects	0.025	Feather River	0.275	0.012	5	**0.06**	**L**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Entrainment	0.075	Contra Costa Power Plant	0.025	0.01	7	**0.06**	**L**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Entrainment	0.075	Pittsburg Power Plant	0.025	0.01	7	**0.06**	**L**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bays	0.125	0.02	4	**0.06**	**L**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Hatchery Effects	0.025	Delta	0.175	0.02	4	**0.06**	**L**
Bear River	0.06	Embryo Incubation	0.20	Harvest/Angling Impacts	0.050	Redd disturbance	1.000	0.060	1.00	**0.06**	**L**
Big Chico Creek	0.08	Embryo Incubation	**0.15**	Harvest/Angling Impacts	0.050	Redd disturbance	1.000	0.06	1.00	**0.06**	**L**
Bear River	0.06	Embryo Incubation	0.20	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills, physical disturbance	1.000	0.060	1	**0.06**	**L**
Bear River	0.06	Embryo Incubation	0.20	Water Quality	0.050	Water Pollution in the Bear River	1.000	0.060	1.00	**0.06**	**L**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Hatchery Effects	0.025	Delta	0.100	0.01	5	**0.06**	**L**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Water Quality	0.050	Yuba River	0.050	0.01	5	**0.06**	**L**
Auburn Ravine and Coon Creek drainage	0.07	Adult Immigration and Holding	0.40	Flow Conditions	0.100	Low Flows - attraction, migratory cues AND Flood Flows - non-natal area attraction in the lower Sacramento River	0.100	0.028	2	**0.06**	**L**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Predation	0.100	Non-site specific and structure related in the lower Sacramento River	0.100	0.014	4	**0.06**	**L**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Water Quality	0.100	Ag, Urban in the lower Sacramento River	0.100	0.014	4	**0.06**	**L**

Northern Sierra Nevada Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Water Quality	0.100	DO, Ag, Urban, Heavy Metals in th Delta	0.100	0.014	4	**0.06**	**L**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Water Temperature	0.025	Lower Sacramento River	0.200	0.01	4	**0.06**	**L**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Water Temperature	0.025	Middle Sacramento River	0.200	0.01	4	**0.06**	**L**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Water Temperature	0.025	Delta	0.300	0.02	3	**0.06**	**L**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Water Temperature	0.025	Lower Sacramento River	0.300	0.02	3	**0.06**	**L**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Invasive Species/Food Web Disruption	0.010	Asian clam, A. aspera, Microcystis, etc. in the Delta	0.600	0.03	2	**0.05**	**L**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Invasive Species/Food Web Disruption	0.010	Asian clam, A. aspera, Microcystis, etc. in the Delta	0.600	0.03	2	**0.05**	**L**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Tidal Marsh Habitat	0.010	Delta	0.600	0.03	2	**0.05**	**L**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Tidal Marsh Habitat	0.010	Delta	0.600	0.03	2	**0.05**	**L**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Water Quality	0.010	Ag, Urban in the lower Sacramento River	0.650	0.014	4	**0.05**	**L**
American River	0.06	Adult Immigration and Holding	0.10	Water Temperature	0.200	Lower Sacramento River	0.150	0.018	3	**0.05**	**L**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Invasive Species/Food Web Disruption	0.025	Asian clam, A. aspera, Microcystis, etc. in the Delta	0.600	0.027	2	**0.05**	**L**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Loss of Natural River Morphology	0.075	Feather River	0.100	0.014	4	**0.05**	**L**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Loss of Natural River Morphology	0.075	Lower Sacramento River	0.100	0.014	4	**0.05**	**L**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Loss of Riparian Habitat and Instream Cover	0.075	Feather River	0.100	0.014	4	**0.05**	**L**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Loss of Riparian Habitat and Instream Cover	0.075	Lower Sacramento River	0.100	0.014	4	**0.05**	**L**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.025	Changes in Delta Hydrology	0.175	0.01	5	**0.05**	**L**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Flow Conditions	0.100	Diversion into Central Delta	0.050	0.011	5	**0.05**	**L**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Flow Conditions	0.150	Flow Dependent Habitat Availability in the lower Sacramento River	0.050	0.011	5	**0.05**	**L**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Flow Conditions	0.100	Reverse Flow Conditions	0.050	0.011	5	**0.05**	**L**
Dry Creek drainage (Sacramento Region)	0.07	Adult Immigration and Holding	0.20	Harvest/Angling Impacts	0.050	Ocean	0.150	0.011	5	**0.05**	**L**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Flow Conditions	0.050	Diversion into Central Delta	0.100	0.011	5	**0.05**	**L**
Auburn Ravine and Coon Creek drainage	0.07	Embryo Incubation	**0.10**	Harvest/Angling Impacts	0.075	Redd disturbance	1.000	0.053	1.00	**0.05**	**L**

Northern Sierra Nevada Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Auburn Ravine and Coon Creek drainage	0.07	Embryo Incubation	**0.10**	Short-term Inwater Construction	0.075	Sedimentation, turbidity, acoustic effects, hazardous spills, physical disturbance	1.000	0.053	1	**0.05**	**L**
Butte Creek	0.07	Embryo Incubation	**0.15**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills, physical disturbance	1.000	0.05	1.00	**0.05**	**L**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.025	Middle Sacramento River	0.150	0.01	5	**0.05**	**L**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Hatchery Effects	0.020	Delta	0.300	0.013	4	**0.05**	**L**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Invasive Species/Food Web Disruption	0.040	Asian clam, A. aspera, Microcystis, etc. in the Bays	0.300	0.025	2	**0.05**	**L**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Invasive Species/Food Web Disruption	0.010	Asian clam, A. aspera, Microcystis, etc. in the Delta	0.600	0.03	2	**0.05**	**L**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Loss of Tidal Marsh Habitat	0.010	Delta	0.600	0.03	2	**0.05**	**L**
Big Chico Creek	0.08	Spawning	**0.25**	Physical Habitat Alteration	0.050	Limited Instream Gravel Supply	0.500	0.05	1	**0.05**	**L**
American River	0.06	Spawning	0.40	Water Quality	0.020	American River	1.000	0.048	1	**0.05**	**L**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Water Temperature	0.150	Delta	0.050	0.016	3	**0.05**	**L**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.025	Flow Dependent Habitat Availability in the lower Sacramento River	0.150	0.01	5	**0.05**	**L**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Hatchery Effects	0.025	Bear River	0.200	0.009	5	**0.05**	**L**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Hatchery Effects	0.025	Lower Sacramento River	0.200	0.009	5	**0.05**	**L**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Predation	0.050	Non-site specific and structure related in the Delta	0.100	0.009	5	**0.05**	**L**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Predation	0.050	Non-site specific and structure related in the lower Sacramento River	0.100	0.009	5	**0.05**	**L**
Bear River	0.06	Spawning	0.30	Barrier	0.025	Redd superimposition, competition for habitat, hybridization/genetic integrity	1.000	0.045	1	**0.05**	**L**
Bear River	0.06	Spawning	0.30	Harvest/Angling Impacts	0.025	Recreational, Poaching, Angler Impacts	1.000	0.045	1	**0.05**	**L**
Bear River	0.06	Spawning	0.30	Hatchery Effects	0.025	Redd superimposition, competition for habitat, genetic integrity	1.000	0.045	1	**0.05**	**L**
Bear River	0.06	Spawning	0.30	Water Quality	0.025	Water Quality in the Bear River	1.000	0.045	1	**0.05**	**L**
Butte Creek	0.07	Spawning	**0.25**	Physical Habitat Alteration	0.025	Limited Instream Gravel Supply	1.000	0.04	1	**0.04**	**L**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Hatchery Effects	0.025	Bays	0.125	0.01	4	**0.04**	**L**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.025	Flow Dependent Habitat Availability in Big Chico Creek	0.100	0.01	6	**0.04**	**L**

Northern Sierra Nevada Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.025	Flow Dependent Habitat Availability in the lower Sacramento River	0.100	0.01	6	**0.04**	**L**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.025	Flow Dependent Habitat Availability in the middle Sacramento River	0.100	0.01	6	**0.04**	**L**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bays	0.100	0.011	4	**0.04**	**L**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.100	0.011	4	**0.04**	**L**
Dry Creek drainage (Sacramento Region)	0.07	Adult Immigration and Holding	0.20	Water Quality	0.100	Ag, Urban in the lower Sacramento River	0.100	0.014	3	**0.04**	**L**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Passage Impediments/Barriers	0.010	Agricultural, Wildlife and Terminal Diversions	0.800	0.02	2	**0.04**	**L**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Loss of Floodplain Habitat	0.010	Lower Sacramento River	0.550	0.008	5	**0.04**	**L**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Invasive Species/Food Web Disruption	0.010	Asian clam, A. aspera, Microcystis, etc. in the Delta	0.900	0.019	2	**0.04**	**L**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Passage Impediments/Barriers	0.010	Nimbus/Folsom Dam	0.900	0.019	2	**0.04**	**L**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Invasive Species/Food Web Disruption	0.010	Asian clam, A. aspera, Microcystis, etc. in the Bays	0.400	0.02	2	**0.04**	**L**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Invasive Species/Food Web Disruption	0.010	Asian clam, A. aspera, Microcystis, etc. in the Bays	0.400	0.02	2	**0.04**	**L**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Tidal Marsh Habitat	0.010	Bays	0.400	0.02	2	**0.04**	**L**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Tidal Marsh Habitat	0.010	Bays	0.400	0.02	2	**0.04**	**L**
American River	0.06	Adult Immigration and Holding	0.10	Flow Conditions	0.150	Low Flows - attraction, migratory cues AND Flood Flows - non-natal area attraction in Lower Sacramento River	0.200	0.018	2	**0.04**	**L**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Invasive Species/Food Web Disruption	0.025	Asian clam, A. aspera, Microcystis, etc. in the Bays	0.400	0.018	2	**0.04**	**L**
Auburn Ravine and Coon Creek drainage	0.07	Adult Immigration and Holding	0.40	Passage Impediments/Barriers	0.850	Sacramento Deep Water Ship Channel	0.005	0.012	3	**0.04**	**L**
Auburn Ravine and Coon Creek drainage	0.07	Adult Immigration and Holding	0.40	Passage Impediments/Barriers	0.850	Suisun Marsh Salinity Control Structure	0.005	0.012	3	**0.04**	**L**
Dry Creek drainage (Sacramento Region)	0.07	Adult Immigration and Holding	0.20	Harvest/Angling Impacts	0.050	Lower Sacramento River	0.100	0.007	5	**0.04**	**L**
Dry Creek drainage (Sacramento Region)	0.07	Embryo Incubation	**0.10**	Harvest/Angling Impacts	0.050	Redd disturbance	1.000	0.035	1.00	**0.04**	**L**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.025	Bays	0.100	0.01	5	**0.04**	**L**

Northern Sierra Nevada Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.025	Big Chico Creek	0.100	0.01	5	**0.04**	**L**
Dry Creek drainage (Sacramento Region)	0.07	Embryo Incubation	**0.10**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills, physical disturbance	1.000	0.035	1	**0.04**	**L**
Auburn Ravine and Coon Creek drainage	0.07	Embryo Incubation	**0.10**	Water Quality	0.050	Water Pollution	1.000	0.035	1.00	**0.04**	**L**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Hatchery Effects	0.020	Lower Sacramento River	0.200	0.008	4	**0.03**	**L**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Predation	0.020	Non-site specific and structure related in the Delta	0.200	0.008	4	**0.03**	**L**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Short-term Inwater Construction	0.010	Sedimentation, turbidity, acoustic effects, hazardous spills in the Auburn Ravine and Coon Creek drainage	0.600	0.008	4	**0.03**	**L**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Invasive Species/Food Web Disruption	0.010	Asian clam, A. aspera, Microcystis, etc. in the Bays	0.400	0.02	2	**0.03**	**L**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Loss of Tidal Marsh Habitat	0.010	Bays	0.400	0.02	2	**0.03**	**L**
American River	0.06	Adult Immigration and Holding	0.10	Harvest/Angling Impacts	0.100	Lower Sacramento River	0.100	0.006	5	**0.03**	**L**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Invasive Species/Food Web Disruption	0.010	Asian clam, A. aspera, Microcystis, etc. in the Delta	0.600	0.01	2	**0.03**	**L**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Hatchery Effects	0.025	Bays	0.050	0.01	5	**0.03**	**L**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Loss of Floodplain Habitat	0.010	Auburn Ravine and Coon Creek drainage	0.400	0.006	5	**0.03**	**L**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Predation	0.100	Non-site specific and structure related in the Bays	0.050	0.007	4	**0.03**	**L**
Dry Creek drainage (Sacramento Region)	0.07	Adult Immigration and Holding	0.20	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bay	0.100	0.007	4	**0.03**	**L**
Dry Creek drainage (Sacramento Region)	0.07	Adult Immigration and Holding	0.20	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.100	0.007	4	**0.03**	**L**
Dry Creek drainage (Sacramento Region)	0.07	Adult Immigration and Holding	0.20	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.100	0.007	4	**0.03**	**L**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Water Temperature	0.025	Delta	0.100	0.01	4	**0.03**	**L**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Flow Conditions	0.050	Flow Dependent Habitat Availability in the lower Sacramento River	0.050	0.005	5	**0.03**	**L**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Flow Conditions	0.050	Reverse Flow Conditions	0.050	0.005	5	**0.03**	**L**

Northern Sierra Nevada Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Loss of Natural River Morphology	0.125	Lower Sacramento River	0.050	0.009	3	**0.03**	**L**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Loss of Riparian Habitat and Instream Cover	0.125	Delta	0.050	0.009	3	**0.03**	**L**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Entrainment	0.050	Contra Costa Power Plant	0.025	0.00	6	**0.03**	**L**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Entrainment	0.050	Pittsburg Power Plant	0.025	0.00	6	**0.03**	**L**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.070	Contra Costa Power Plant	0.025	0.00	6	**0.03**	**L**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.070	Pittsburg Power Plant	0.025	0.00	6	**0.03**	**L**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Invasive Species/Food Web Disruption	0.010	Asian clam, A. aspera, Microcystis, etc. in the Delta	0.900	0.013	2	**0.03**	**L**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Entrainment	0.020	Individual Diversions in the Dry Creek drainage	0.100	0.004	6	**0.03**	**L**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Entrainment	0.020	Individual Diversions in the lower Sacramento River	0.100	0.004	6	**0.03**	**L**
Bear River	0.06	Adult Immigration and Holding	0.20	Water Temperature	0.500	Lower Sacramento River	0.010	0.006	4	**0.02**	**L**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Predation	0.050	Non-site specific and structure related in the Bays	0.050	0.005	5	**0.02**	**L**
Bear River	0.06	Adult Immigration and Holding	0.20	Short-term Inwater Construction	0.005	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bear River	0.750	0.005	5	**0.02**	**L**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Short-term Inwater Construction	0.025	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.100	0.005	5	**0.02**	**L**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Short-term Inwater Construction	0.025	Sedimentation, turbidity, acoustic effects, hazardous spills in the Feather River	0.100	0.005	5	**0.02**	**L**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Short-term Inwater Construction	0.025	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.100	0.005	5	**0.02**	**L**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Hatchery Effects	0.010	Auburn Ravine and Coon Creek drainage	0.400	0.006	4	**0.02**	**L**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Hatchery Effects	0.010	Delta	0.400	0.006	4	**0.02**	**L**
Auburn Ravine and Coon Creek drainage	0.07	Adult Immigration and Holding	0.40	Short-term Inwater Construction	0.010	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.200	0.006	4	**0.02**	**L**
American River	0.06	Adult Immigration and Holding	0.10	Water Quality	0.030	Ag, Urban in the lower Sacramento River	0.400	0.007	3	**0.02**	**L**
Dry Creek drainage (Sacramento Region)	0.07	Adult Immigration and Holding	0.20	Water Quality	0.100	DO, Ag, Urban, Heavy Metals in th Delta	0.050	0.007	3	**0.02**	**L**

Northern Sierra Nevada Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Water Temperature	0.100	Delta	0.050	0.007	3	**0.02**	**L**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Water Temperature	0.100	Lower Sacramento River	0.050	0.007	3	**0.02**	**L**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Hatchery Effects	0.050	Bays	0.050	0.005	4	**0.02**	**L**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Passage Impediments/Barriers	0.010	Impediments/Barriers in the Dry Creek drainage	0.500	0.011	2	**0.02**	**L**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Passage Impediments/Barriers	0.010	Tributary Barriers	0.500	0.011	2	**0.02**	**L**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Invasive Species/Food Web Disruption	0.010	Asian clam, A. aspera, Microcystis, etc. in the Bays	0.400	0.01	2	**0.02**	**L**
Mill Creek	0.13	Embryo Incubation	**0.15**	Harvest/Angling Impacts	0.010	Redd disturbance	1.000	0.02	1.00	**0.02**	**L**
Deer Creek	0.13	Embryo Incubation	**0.15**	Harvest/Angling Impacts	0.010	Redd disturbance	1.000	0.02	1.00	**0.02**	**L**
Bear River	0.06	Adult Immigration and Holding	0.20	Passage Impediments/Barriers	0.020	Yolo Bypass - Freemont Weir	0.200	0.005	4	**0.02**	**L**
American River	0.06	Adult Immigration and Holding	0.10	Short-term Inwater Construction	0.020	Sedimentation, turbidity, acoustic effects, hazardous spills in the American River	0.400	0.005	4	**0.02**	**L**
American River	0.06	Adult Immigration and Holding	0.10	Water Temperature	0.200	Delta	0.050	0.006	3	**0.02**	**L**
Bear River	0.06	Adult Immigration and Holding	0.20	Harvest/Angling Impacts	0.005	Bear River	0.600	0.004	5	**0.02**	**L**
Antelope Creek	0.12	Embryo Incubation	**0.15**	Harvest/Angling Impacts	0.010	Redd disturbance	1.000	0.02	1.00	**0.02**	**L**
Dry Creek drainage (Sacramento Region)	0.07	Adult Immigration and Holding	0.20	Harvest/Angling Impacts	0.050	Bays	0.050	0.004	5	**0.02**	**L**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Hatchery Effects	0.020	Bays	0.100	0.004	4	**0.02**	**L**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Predation	0.020	Non-site specific and structure related in the Bays	0.100	0.004	4	**0.02**	**L**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Predation	0.020	Non-site specific and structure related in the lower Sacramento River	0.100	0.004	4	**0.02**	**L**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Short-term Inwater Construction	0.010	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.300	0.004	4	**0.02**	**L**
Auburn Ravine and Coon Creek drainage	0.07	Adult Immigration and Holding	0.40	Water Temperature	0.020	Delta	0.100	0.006	3	**0.02**	**L**
Auburn Ravine and Coon Creek drainage	0.07	Adult Immigration and Holding	0.40	Water Temperature	0.020	Lower Sacramento River	0.100	0.006	3	**0.02**	**L**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Water Quality	0.010	DO, Ag, Urban, Heavy Metals in th Delta	0.200	0.004	4	**0.02**	**L**
American River	0.06	Adult Immigration and Holding	0.10	Water Quality	0.030	Ag, Urban in the American River	0.300	0.005	3	**0.02**	**L**

Northern Sierra Nevada Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
American River	0.06	Adult Immigration and Holding	0.10	Water Quality	0.030	DO, Ag, Urban, Heavy Metals in th Delta	0.300	0.005	3	**0.02**	**L**
American River	0.06	Adult Immigration and Holding	0.10	Harvest/Angling Impacts	0.100	Bays	0.050	0.003	5	**0.02**	**L**
American River	0.06	Adult Immigration and Holding	0.10	Harvest/Angling Impacts	0.100	Delta	0.050	0.003	5	**0.02**	**L**
American River	0.06	Adult Immigration and Holding	0.10	Harvest/Angling Impacts	0.100	Ocean	0.050	0.003	5	**0.02**	**L**
American River	0.06	Adult Immigration and Holding	0.10	Short-term Inwater Construction	0.020	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.300	0.004	4	**0.01**	**L**
Auburn Ravine and Coon Creek drainage	0.07	Adult Immigration and Holding	0.40	Harvest/Angling Impacts	0.010	Delta	0.100	0.003	5	**0.01**	**L**
Auburn Ravine and Coon Creek drainage	0.07	Adult Immigration and Holding	0.40	Harvest/Angling Impacts	0.010	Lower Sacramento River	0.100	0.003	5	**0.01**	**L**
Auburn Ravine and Coon Creek drainage	0.07	Adult Immigration and Holding	0.40	Harvest/Angling Impacts	0.010	Ocean	0.100	0.003	5	**0.01**	**L**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Passage Impediments/Barriers	0.050	Tributary Barriers	0.100	0.007	2	**0.01**	**L**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Entrainment	0.020	Contra Costa Power Plant	0.050	0.002	6	**0.01**	**L**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Entrainment	0.020	Pittsburg Power Plant	0.050	0.002	6	**0.01**	**L**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Entrainment	0.050	Jones and Banks Pumping Plants	0.020	0.002	7	**0.01**	**L**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Short-term Inwater Construction	0.025	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bays	0.050	0.002	5	**0.01**	**L**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Water Quality	0.025	Ag, Urban in the lower Sacramento River	0.050	0.002	5	**0.01**	**L**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Water Quality	0.025	Ag, Urban in the Feather River	0.050	0.002	5	**0.01**	**L**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Water Quality	0.025	Ag, Urban, Heavy Metals in the Bays	0.050	0.002	5	**0.01**	**L**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Water Quality	0.025	DO, Ag, Urban, Heavy Metals in th Delta	0.050	0.002	5	**0.01**	**L**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Hatchery Effects	0.010	Lower Sacramento River	0.200	0.003	4	**0.01**	**L**
Auburn Ravine and Coon Creek drainage	0.07	Adult Immigration and Holding	0.40	Short-term Inwater Construction	0.010	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.100	0.003	4	**0.01**	**L**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Loss of Tidal Marsh Habitat	0.010	Bays	0.100	0.002	5	**0.01**	**L**
Dry Creek drainage (Sacramento Region)	0.07	Adult Immigration and Holding	0.20	Water Temperature	0.050	Delta	0.050	0.004	3	**0.01**	**L**

Northern Sierra Nevada Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Passage Impediments/Barriers	0.010	Tributary Barriers	0.200	0.00	2	**0.01**	**L**
American River	0.06	Adult Immigration and Holding	0.10	Short-term Inwater Construction	0.020	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.200	0.002	4	**0.01**	**L**
American River	0.06	Adult Immigration and Holding	0.10	Passage Impediments/Barriers	0.500	Sacramento Deep Water Ship Channel	0.010	0.003	3	**0.01**	**L**
American River	0.06	Adult Immigration and Holding	0.10	Passage Impediments/Barriers	0.500	Suisun Marsh Salinity Control Structure	0.010	0.003	3	**0.01**	**L**
Auburn Ravine and Coon Creek drainage	0.07	Adult Immigration and Holding	0.40	Water Quality	0.010	Ag, Urban in the lower Sacramento River	0.100	0.003	3	**0.01**	**L**
Auburn Ravine and Coon Creek drainage	0.07	Adult Immigration and Holding	0.40	Water Quality	0.010	DO, Ag, Urban, Heavy Metals in th Delta	0.100	0.003	3	**0.01**	**L**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Water Quality	0.010	Ag, Urban in the American River	0.100	0.002	4	**0.01**	**L**
Auburn Ravine and Coon Creek drainage	0.07	Adult Immigration and Holding	0.40	Harvest/Angling Impacts	0.010	Bays	0.050	0.001	5	**0.01**	**L**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Loss of Tidal Marsh Habitat	0.010	Bays	0.100	0.001	5	**0.01**	**L**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Entrainment	0.050	Individual Diversions in the Delta	0.010	0.001	7	**0.01**	**L**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Hatchery Effects	0.025	Bays	0.025	0.001	5	**0.01**	**L**
Auburn Ravine and Coon Creek drainage	0.07	Adult Immigration and Holding	0.40	Short-term Inwater Construction	0.010	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bay	0.050	0.001	4	**0.01**	**L**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Short-term Inwater Construction	0.010	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.100	0.001	4	**0.01**	**L**
Bear River	0.06	Adult Immigration and Holding	0.20	Passage Impediments/Barriers	0.020	Sacramento Deep Water Ship Channel	0.050	0.001	4	**0.00**	**L**
Bear River	0.06	Adult Immigration and Holding	0.20	Passage Impediments/Barriers	0.020	Suisun Marsh Salinity Control Structure	0.050	0.001	4	**0.00**	**L**
American River	0.06	Adult Immigration and Holding	0.10	Short-term Inwater Construction	0.020	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bay	0.100	0.001	4	**0.00**	**L**
Bear River	0.06	Adult Immigration and Holding	0.20	Water Quality	0.020	Ag, Urban in the Feather River	0.050	0.001	4	**0.00**	**L**
Bear River	0.06	Adult Immigration and Holding	0.20	Harvest/Angling Impacts	0.005	Ocean	0.150	0.001	5	**0.00**	**L**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Invasive Species/Food Web Disruption	0.010	Asian clam, A. aspera, Microcystis, etc. in the Bays	0.100	0.002	2	**0.00**	**L**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Passage Impediments/Barriers	0.010	Tributary Barriers	0.100	0.002	2	**0.00**	**L**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Water Quality	0.010	Ag, Urban, Heavy Metals in the Bays	0.050	0.001	4	**0.00**	**L**
Bear River	0.06	Adult Immigration and Holding	0.20	Water Quality	0.020	Ag, Urban in the lower Sacramento River	0.040	0.001	4	**0.00**	**L**

Northern Sierra Nevada Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Loss of Floodplain Habitat	0.010	Delta	0.050	0.001	5	**0.00**	**L**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Entrainment	0.050	Contra Costa Power Plant	0.005	0.000	7	**0.00**	**L**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Entrainment	0.050	Individual Diversions in the Feather River	0.005	0.000	7	**0.00**	**L**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Entrainment	0.050	Individual Diversions in the lower Sacramento River	0.005	0.000	7	**0.00**	**L**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Entrainment	0.050	Pittsburg Power Plant	0.005	0.000	7	**0.00**	**L**
Bear River	0.06	Adult Immigration and Holding	0.20	Harvest/Angling Impacts	0.005	Delta	0.100	0.001	5	**0.00**	**L**
Bear River	0.06	Adult Immigration and Holding	0.20	Harvest/Angling Impacts	0.005	Lower Sacramento River	0.100	0.001	5	**0.00**	**L**
Bear River	0.06	Adult Immigration and Holding	0.20	Short-term Inwater Construction	0.005	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.100	0.001	5	**0.00**	**L**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Invasive Species/Food Web Disruption	0.010	Asian clam, A. aspera, Microcystis, etc. in the Bays	0.100	0.001	2	**0.00**	**L**
Bear River	0.06	Adult Immigration and Holding	0.20	Harvest/Angling Impacts	0.005	Bays	0.050	0.000	5	**0.00**	**L**
Bear River	0.06	Adult Immigration and Holding	0.20	Short-term Inwater Construction	0.005	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bay	0.050	0.000	5	**0.00**	**L**
Bear River	0.06	Adult Immigration and Holding	0.20	Short-term Inwater Construction	0.005	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.050	0.000	5	**0.00**	**L**
Bear River	0.06	Adult Immigration and Holding	0.20	Short-term Inwater Construction	0.005	Sedimentation, turbidity, acoustic effects, hazardous spills in the Feather River	0.050	0.000	5	**0.00**	**L**
Bear River	0.06	Adult Immigration and Holding	0.20	Water Quality	0.020	DO, Ag, Urban, Heavy Metals in th Delta	0.010	0.000	4	**0.00**	**L**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Hatchery Effects	0.010	Bays	0.000	0.000	4	**0.00**	
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Short-term Inwater Construction	0.010	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bays	0.000	0.000	4	**0.00**	
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Water Quality	0.100	Ag, Urban, Heavy Metals in the Bays	0.000	0.000	4	**0.00**	
Bear River	0.06	Adult Immigration and Holding	0.20	Water Temperature	0.500	Delta	0.000	0.000	4	**0.00**	

Basalt and Porous Lava Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Cow Creek	0.3	Adult Immigration and Holding	0.3	Passage Impediments/Barriers	**0.300**	Impediments/Barriers in Cow Creek	0.86	2.322	6	**13.93**	**VH**
Cow Creek	0.3	Adult Immigration and Holding	0.3	Water Temperature	**0.300**	Cow Creek	0.95	2.565	4	**10.26**	**VH**
Upper Sacramento Tributaries	0.18	Adult Immigration and Holding	0.3	Passage Impediments/Barriers	**0.300**	Impediments/Barriers in the Upper Sacramento Tributaries	0.76	1.231	6	**7.39**	**VH**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Entrainment	0.250	Individual Diversions in Cow Creek	0.4	0.900	8	**7.20**	**VH**
Cow Creek	0.3	Adult Immigration and Holding	0.3	Flow Conditions	**0.250**	Low Flows - attraction, migratory cues in Cow Creek	0.75	1.688	4	**6.75**	**VH**
Sacramento River	0.26	Adult Immigration and Holding	0.15	Passage Impediments/Barriers	0.400	Keswick Dam	0.525	0.82	7	**5.73**	**VH**
Battle Creek	0.26	Adult Immigration and Holding	0.25	Passage Impediments/Barriers	0.350	North Fork Dams	0.325	0.74	7	**5.18**	**VH**
Battle Creek	0.26	Adult Immigration and Holding	0.25	Passage Impediments/Barriers	0.350	South Fork Dams	0.325	0.74	7	**5.18**	**VH**
Upper Sacramento Tributaries	0.18	Adult Immigration and Holding	0.3	Water Temperature	**0.250**	Upper Sacramento Tributaries	0.95	1.283	4	**5.13**	**VH**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Water Temperature	0.200	Upper Sacramento Tributaries	0.8	0.864	5	**4.32**	**VH**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Loss of Natural River Morphology	0.150	Cow Creek	0.6	0.810	5	**4.05**	**VH**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Loss of Riparian Habitat and Instream Cover	0.150	Cow Creek	0.75	1.013	4	**4.05**	**VH**
Cow Creek	0.3	Spawning	0.3	Barriers	0.400	Redd superimposition, competition for habitat, hybridization/genetic integrity	1	3.600	1	**3.60**	**VH**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Entrainment	0.250	Jones and Banks Pumping Plants	0.2	0.450	8	**3.60**	**VH**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Water Temperature	0.100	Cow Creek	0.8	0.720	5	**3.60**	**VH**
Sacramento River	0.26	Spawning	0.3	Barrier/Genetics	0.450	Keswick/Shasta Dam	1.000	3.51	1	**3.51**	**VH**
Sacramento River	0.26	Adult Immigration and Holding	0.15	Passage Impediments/Barriers	0.400	Red Bluff Diversion Dam	0.300	0.47	7	**3.28**	**VH**
Upper Sacramento Tributaries	0.18	Adult Immigration and Holding	0.3	Flow Conditions	**0.200**	Low Flows - attraction, migratory cues in the Upper Sacramento Tributaries	0.75	0.810	4	**3.24**	**VH**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Flow Conditions	0.100	Flow Dependent Habitat Availability in Cow Creek	0.5	0.450	7	**3.15**	**VH**
Battle Creek	0.26	Adult Immigration and Holding	0.25	Water Temperature	0.175	Battle Creek	0.550	0.63	5	**3.13**	**VH**
Cow Creek	0.3	Spawning	0.3	Hatchery Effects	0.300	Stocked trout fishery in upper Cow Creek - competition for habitat, genetic integrity	1	2.700	1	**2.70**	**VH**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Entrainment	0.150	Individual Diversions in the Upper Sacramento Tributaries	0.4	0.324	8	**2.59**	**VH**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Hatchery Effects	0.125	Battle Creek - Coleman - Competition for habitat and food	0.350	0.40	6	**2.39**	**VH**

Basalt and Porous Lava Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Battle Creek	0.26	Adult Immigration and Holding	0.25	Passage Impediments/Barriers	0.350	Red Bluff Diversion Dam	0.150	0.34	7	**2.39**	**VH**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Loss of Natural Morphologic Function	0.160	Loss of Natural Morphologic Function in the lower Sacramento River	0.350	0.58	4	**2.33**	**VH**
Upper Sacramento Tributaries	0.18	Spawning	0.3	Barriers	0.400	Redd superimposition, competition for habitat, hybridization/genetic integrity	1	2.160	1	**2.16**	**VH**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Predation	0.100	Predation in Cow Creek	0.4	0.360	6	**2.16**	**VH**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Predation	0.100	Predation in the upper Sacramento River	0.4	0.360	6	**2.16**	**VH**
Battle Creek	0.26	Adult Immigration and Holding	0.25	Flow Conditions	0.200	Low Flows - attraction, migratory cues in Battle Creek	0.400	0.52	4	**2.08**	**VH**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Predation	0.125	Predation in the Delta	0.300	0.34	6	**2.05**	**VH**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Loss of Floodplain Habitat	0.150	Upper Sacramento River	0.3	0.405	5	**2.03**	**VH**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Loss of Floodplain Habitat	0.160	Loss of Floodplain Habitat in the Delta	0.300	0.50	4	**2.00**	**VH**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Loss of Floodplain Habitat	0.160	Loss of Floodplain Habitat in the lower Sacramento River	0.300	0.50	4	**2.00**	**VH**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Loss of Natural Morphologic Function	0.160	Loss of Natural Morphologic Function in the Delta	0.300	0.50	4	**2.00**	**VH**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Loss of Riparian Habitat and Instream Cover	0.160	Loss of Riparian Habitat and Instream Cover in the Delta	0.300	0.50	4	**2.00**	**VH**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Loss of Riparian Habitat and Instream Cover	0.160	Loss of Riparian Habitat and Instream Cover in the lower Sacramento River	0.300	0.50	4	**2.00**	**VH**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Predation	0.150	Predation in the Delta	0.250	0.39	5	**1.95**	**VH**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Predation	0.150	Predation in the lower Sacramento River	0.250	0.39	5	**1.95**	**VH**
Upper Sacramento Tributaries	0.18	Adult Immigration and Holding	0.3	Passage Impediments/Barriers	**0.300**	Red Bluff Diversion Dam	0.2	0.324	6	**1.94**	**VH**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Flow Conditions	0.100	Flow Dependent Habitat Availability in the Upper Sacramento Tributaries	0.5	0.270	7	**1.89**	**VH**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Hatchery Effects	0.090	Competition, Predation in the upper Sacramento River	0.400	0.37	5	**1.87**	**VH**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Entrainment	0.100	Individual Diversions in Battle Creek	0.250	0.23	8	**1.82**	**VH**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Entrainment	0.250	Individual Diversions in the Delta	0.1	0.225	8	**1.80**	**VH**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Entrainment	0.250	Individual Diversions in the middle Sacramento River	0.1	0.225	8	**1.80**	**VH**

Basalt and Porous Lava Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Predation	0.150	Non-site specific and structure (GCID, RBDD) related in the middle Sacramento River	0.225	0.35	5	**1.76**	**VH**
Battle Creek	0.26	Spawning	0.25	Barriers	0.250	Redd superimposition, competition for habitat, hybridization/genetic integrity	1.000	1.63	1	**1.63**	**VH**
Battle Creek	0.26	Spawning	0.25	Flow Conditions	0.250	Low instream flows per FERC license	1.000	1.63	1	**1.63**	**VH**
Battle Creek	0.26	Spawning	0.25	Hatchery Effects	0.250	Coleman - competition for habitat, genetic integrity	1.000	1.63	1	**1.63**	**VH**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Loss of Riparian Habitat and Instream Cover	0.100	Upper Sacramento Tributaries	0.75	0.405	4	**1.62**	**VH**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Loss of Floodplain Habitat	0.100	Delta	0.350	0.32	5	**1.59**	**VH**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Loss of Natural River Morphology	0.100	Delta	0.350	0.32	5	**1.59**	**VH**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Loss of Riparian Habitat and Instream Cover	0.100	Delta	0.350	0.32	5	**1.59**	**VH**
Sacramento River	0.26	Spawning	0.3	Physical Habitat Alteration	0.200	Limited Instream Gravel Supply in upper Sacramento River	1.000	1.56	1	**1.56**	**VH**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Entrainment	0.100	Jones and Banks Pumping Plants	0.200	0.18	8	**1.46**	**VH**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Hatchery Effects	0.090	Competition, Predation in the middle Sacramento River	0.300	0.28	5	**1.40**	**VH**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Loss of Floodplain Habitat	0.100	Lower Sacramento River	0.300	0.27	5	**1.37**	**VH**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Loss of Natural River Morphology	0.100	Lower Sacramento River	0.300	0.27	5	**1.37**	**VH**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Loss of Riparian Habitat and Instream Cover	0.100	Lower Sacramento River	0.300	0.27	5	**1.37**	**VH**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Predation	0.150	Non-site specific and structure (ACID) related in the upper Sacramento River	0.175	0.27	5	**1.37**	**VH**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Hatchery Effects	0.125	Upper Sacramento River	0.200	0.23	6	**1.37**	**VH**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Predation	0.125	Predation in the lower Sacramento River	0.200	0.23	6	**1.37**	**VH**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Loss of Floodplain Habitat	0.150	Cow Creek	0.2	0.270	5	**1.35**	**VH**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Loss of Floodplain Habitat	0.150	Lower Sacramento River	0.2	0.270	5	**1.35**	**VH**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Loss of Floodplain Habitat	0.150	Middle Sacramento River	0.2	0.270	5	**1.35**	**VH**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Loss of Natural River Morphology	0.150	Delta	0.2	0.270	5	**1.35**	**VH**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Loss of Floodplain Habitat	0.160	Loss of Floodplain Habitat in the middle Sacramento River	0.200	0.33	4	**1.33**	**VH**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Loss of Floodplain Habitat	0.160	Loss of Floodplain Habitat in the upper Sacramento River	0.200	0.33	4	**1.33**	**VH**

Basalt and Porous Lava Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Loss of Natural Morphologic Function	0.160	Loss of Natural Morphologic Function in the upper Sacramento River	0.200	0.33	4	**1.33**	**VH**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Loss of Riparian Habitat and Instream Cover	0.160	Loss of Riparian Habitat and Instream Cover in the middle Sacramento River	0.200	0.33	4	**1.33**	**VH**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Loss of Riparian Habitat and Instream Cover	0.160	Loss of Riparian Habitat and Instream Cover in the upper Sacramento River	0.200	0.33	4	**1.33**	**VH**
Battle Creek	0.26	Adult Immigration and Holding	0.25	Flow Conditions	0.200	Low Flows - attraction, migratory cues AND Flood Flows - non-natal area attraction in lower Sacramento River	0.250	0.33	4	**1.30**	**VH**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Predation	0.100	Predation in the upper Sacramento River	0.4	0.216	6	**1.30**	**VH**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Predation	0.100	Predation in the Upper Sacramento Tributaries	0.4	0.216	6	**1.30**	**VH**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Entrainment	0.150	Jones and Banks Pumping Plants	0.2	0.162	8	**1.30**	**VH**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Flow Conditions	0.050	Flow Dependent Habitat Availability in Battle Creek	0.400	0.18	7	**1.27**	**VH**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Flow Conditions	0.100	Changes in Hydrology	0.2	0.180	7	**1.26**	**VH**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Water Quality	0.075	Ag, Urban in the lower Sacramento River	0.300	0.20	6	**1.23**	**VH**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Water Quality	0.075	DO, Ag, Urban, Heavy Metals in the Delta	0.300	0.20	6	**1.23**	**VH**
Battle Creek	0.26	Adult Immigration and Holding	0.25	Water Quality	0.100	DO, Ag, Urban, Heavy Metals in the Delta	0.375	0.24	5	**1.22**	**VH**
Upper Sacramento Tributaries	0.18	Adult Immigration and Holding	0.3	Water Quality	**0.150**	Upper Sacramento Tributaries	0.3	0.243	5	**1.22**	**VH**
Upper Sacramento Tributaries	0.18	Adult Immigration and Holding	0.3	Water Quality	**0.150**	Urban, Heavy Metals in the upper Sacramento River	0.3	0.243	5	**1.22**	**VH**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Predation	0.125	Predation in the middle Sacramento River	0.175	0.20	6	**1.19**	**VH**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Water Temperature	0.075	Lower Sacramento River	0.350	0.24	5	**1.19**	**VH**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Entrainment	0.100	Individual Diversions in the Delta	0.150	0.14	8	**1.09**	**VH**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Entrainment	0.100	Individual Diversions in the lower Sacramento River	0.150	0.14	8	**1.09**	**VH**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Entrainment	0.100	Individual Diversions in the middle Sacramento River	0.150	0.14	8	**1.09**	**VH**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Passage Impediments/Barriers	0.200	Impediments/Barriers in the Upper Sacramento Tributaries	0.5	0.540	2	**1.08**	**VH**

Basalt and Porous Lava Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Passage Impediments/Barriers	0.200	Tributary Barriers	0.5	0.540	2	**1.08**	**VH**
Upper Sacramento Tributaries	0.18	Spawning	0.3	Physical Habitat Alteration	0.200	Limited Instream Gravel Supply	1	1.080	1	**1.08**	**VH**
Battle Creek	0.26	Embryo Incubation	**0.15**	Flow Conditions	0.275	Flow Fluctuations	1.000	1.07	1.00	**1.07**	**VH**
Battle Creek	0.26	Embryo Incubation	**0.15**	Water Temperature	0.275	Water Temperature in Battle Creek	1.000	1.07	1.00	**1.07**	**VH**
Battle Creek	0.26	Adult Immigration and Holding	0.25	Flow Conditions	0.200	Low Flows - attraction, migratory cues in the middle Sacramento River	0.200	0.26	4	**1.04**	**VH**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Hatchery Effects	0.125	Lower Sacramento River	0.150	0.17	6	**1.02**	**VH**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Hatchery Effects	0.125	Middle Sacramento River	0.150	0.17	6	**1.02**	**VH**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Water Temperature	0.075	Delta	0.300	0.20	5	**1.02**	**VH**
Upper Sacramento Tributaries	0.18	Adult Immigration and Holding	0.3	Harvest/Angling Impacts	**0.090**	Upper Sacramento River	0.3	0.146	7	**1.02**	**VH**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Entrainment	0.070	Individual Diversions in the Delta	0.200	0.15	7	**1.02**	**VH**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Entrainment	0.070	Individual Diversions in the lower Sacramento River	0.200	0.15	7	**1.02**	**VH**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Entrainment	0.070	Individual Diversions in the middle Sacramento River	0.200	0.15	7	**1.02**	**VH**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Entrainment	0.070	Jones and Banks Pumping Plants	0.200	0.15	7	**1.02**	**VH**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Loss of Natural Morphologic Function	0.160	Loss of Natural Morphologic Function in the middle Sacramento River	0.150	0.25	4	**1.00**	**VH**
Battle Creek	0.26	Adult Immigration and Holding	0.25	Short-term Inwater Construction	0.125	Sedimentation, turbidity, acoustic effects, hazardous spills in Battle Creek	0.200	0.16	6	**0.98**	**VH**
Battle Creek	0.26	Adult Immigration and Holding	0.25	Short-term Inwater Construction	0.125	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.200	0.16	6	**0.98**	**VH**
Battle Creek	0.26	Adult Immigration and Holding	0.25	Short-term Inwater Construction	0.125	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.200	0.16	6	**0.98**	**VH**
Battle Creek	0.26	Spawning	0.25	Spawning Habitat Availability	0.150	Habitat Suitability	1.000	0.98	1	**0.98**	**VH**
Cow Creek	0.3	Embryo Incubation	**0.10**	Water Quality	0.325	Water Quality in Cow Creek	1.00	0.975	1.00	**0.98**	**VH**
Cow Creek	0.3	Embryo Incubation	**0.10**	Water Temperature	0.325	Water Temperature in Cow Creek	1.00	0.975	1	**0.98**	**VH**
Cow Creek	0.3	Adult Immigration and Holding	0.3	Harvest/Angling Impacts	**0.050**	Upper Sacramento River	0.3	0.135	7	**0.95**	**H**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Loss of Floodplain Habitat	0.100	Middle Sacramento River	0.200	0.18	5	**0.91**	**H**

Basalt and Porous Lava Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Loss of Natural River Morphology	0.100	Middle Sacramento River	0.200	0.18	5	**0.91**	**H**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Entrainment	0.250	Contra Costa Power Plant	0.05	0.113	8	**0.90**	**H**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Entrainment	0.250	Individual Diversions in the lower Sacramento River	0.05	0.113	8	**0.90**	**H**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Entrainment	0.250	Individual Diversions in the upper Sacramento River	0.05	0.113	8	**0.90**	**H**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Entrainment	0.250	Pittsburg Power Plant	0.05	0.113	8	**0.90**	**H**
Cow Creek	0.3	Adult Immigration and Holding	0.3	Flow Conditions	**0.250**	Low Flows - attraction, migratory cues AND Flood Flows - non-natal area attraction in lower Sacramento River	0.1	0.225	4	**0.90**	**H**
Cow Creek	0.3	Adult Immigration and Holding	0.3	Flow Conditions	**0.250**	Low Flows - attraction, migratory cues in the middle Sacramento River	0.1	0.225	4	**0.90**	**H**
Cow Creek	0.3	Adult Immigration and Holding	0.3	Flow Conditions	**0.250**	Low Flows - attraction, migratory cues in the upper Sacramento River	0.1	0.225	4	**0.90**	**H**
Cow Creek	0.3	Spawning	0.3	Physical Habitat Alteration	0.100	Limited Instream Gravel Supply	1	0.900	1	**0.90**	**H**
Cow Creek	0.3	Adult Immigration and Holding	0.3	Short-term Inwater Construction	**0.050**	Sedimentation, turbidity, acoustic effects, hazardous spills in Cow Creek	0.4	0.180	5	**0.90**	**H**
Cow Creek	0.3	Spawning	0.3	Water Temperature	0.100	Water Temperature in Cow Creek	1	0.900	1	**0.90**	**H**
Battle Creek	0.26	Adult Immigration and Holding	0.25	Water Quality	0.100	Ag, Urban in the lower Sacramento River	0.275	0.18	5	**0.89**	**H**
Sacramento River	0.26	Embryo Incubation	0.15	Flow Conditions	0.225	Flow Fluctuations in upper Sacramento River	1.000	0.88	1	**0.88**	**H**
Sacramento River	0.26	Embryo Incubation	0.15	Water Quality	0.225	Water Pollution in upper Sacramento River	1.000	0.88	1	**0.88**	**H**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Predation	0.125	Predation in Battle Creek	0.125	0.14	6	**0.85**	**H**
Upper Sacramento Tributaries	0.18	Adult Immigration and Holding	0.3	Harvest/Angling Impacts	**0.090**	Middle Sacramento River	0.25	0.122	7	**0.85**	**H**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Water Temperature	0.050	Delta	0.400	0.21	4	**0.83**	**H**
Sacramento River	0.26	Adult Immigration and Holding	0.15	Harvest/Angling Impacts	0.100	Ocean	0.350	0.14	6	**0.82**	**H**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.300	0.14	6	**0.82**	**H**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Loss of Natural River Morphology	0.050	Upper Sacramento Tributaries	0.6	0.162	5	**0.81**	**H**
Cow Creek	0.3	Adult Immigration and Holding	0.3	Passage Impediments/Barriers	**0.300**	Red Bluff Diversion Dam	0.05	0.135	6	**0.81**	**H**

Basalt and Porous Lava Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Passage Impediments/Barriers	0.050	Impediments/Barriers in Cow Creek	0.9	0.405	2	**0.81**	**H**
Upper Sacramento Tributaries	0.18	Spawning	0.3	Spawning Habitat Availability	0.150	Habitat Suitability	1	0.810	1	**0.81**	**H**
Upper Sacramento Tributaries	0.18	Adult Immigration and Holding	0.3	Water Quality	**0.150**	Ag, Urban in the middle Sacramento River	0.2	0.162	5	**0.81**	**H**
Battle Creek	0.26	Adult Immigration and Holding	0.25	Passage Impediments/Barriers	0.350	Sacramento Deep Water Ship Channel	0.050	0.11	7	**0.80**	**H**
Battle Creek	0.26	Adult Immigration and Holding	0.25	Passage Impediments/Barriers	0.350	Suisun Marsh Salinity Control Structure	0.050	0.11	7	**0.80**	**H**
Battle Creek	0.26	Adult Immigration and Holding	0.25	Passage Impediments/Barriers	0.350	Sutter Bypass - Tisdale Weir	0.050	0.11	7	**0.80**	**H**
Battle Creek	0.26	Adult Immigration and Holding	0.25	Passage Impediments/Barriers	0.350	Yolo Bypass - Freemont Weir	0.050	0.11	7	**0.80**	**H**
Cow Creek	0.3	Adult Immigration and Holding	0.3	Harvest/Angling Impacts	**0.050**	Middle Sacramento River	0.25	0.113	7	**0.79**	**H**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Predation	0.150	Predation in the Bay	0.100	0.16	5	**0.78**	**H**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Water Quality	0.050	Ag, Urban in the lower Sacramento River	0.300	0.16	5	**0.78**	**H**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Water Quality	0.050	Ag, Urban in the middle Sacramento River	0.300	0.16	5	**0.78**	**H**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Water Quality	0.050	Urban, Heavy Metals in the upper Sacramento River	0.300	0.16	5	**0.78**	**H**
Sacramento River	0.26	Spawning	0.3	Flow Conditions	0.100	Flow Fluctuations in upper Sacramento River	1.000	0.78	1	**0.78**	**H**
Battle Creek	0.26	Adult Immigration and Holding	0.25	Flow Conditions	0.200	Low Flows - attraction, migratory cues in the upper Sacramento River	0.150	0.20	4	**0.78**	**H**
Sacramento River	0.26	Spawning	0.3	Harvest/Angling Impacts	0.100	Upper Sacramento River	1.000	0.78	1	**0.78**	**H**
Sacramento River	0.26	Embryo Incubation	0.15	Water Temperature	0.200	Water Temperature in upper Sacramento River	1.000	0.78	1	**0.78**	**H**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Flow Conditions	0.100	Changes in Hydrology	0.2	0.108	7	**0.76**	**H**
Battle Creek	0.26	Adult Immigration and Holding	0.25	Short-term Inwater Construction	0.125	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bay	0.150	0.12	6	**0.73**	**H**
Sacramento River	0.26	Adult Immigration and Holding	0.15	Short-term Inwater Construction	0.150	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.250	0.15	5	**0.73**	**H**
Sacramento River	0.26	Adult Immigration and Holding	0.15	Short-term Inwater Construction	0.150	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.250	0.15	5	**0.73**	**H**
Battle Creek	0.26	Adult Immigration and Holding	0.25	Short-term Inwater Construction	0.125	Sedimentation, turbidity, acoustic effects, hazardous spills in the middle Sacramento River	0.150	0.12	6	**0.73**	**H**

Basalt and Porous Lava Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Sacramento River	0.26	Adult Immigration and Holding	0.15	Short-term Inwater Construction	0.150	Sedimentation, turbidity, acoustic effects, hazardous spills in the upper Sacramento River	0.250	0.15	5	**0.73**	**H**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.275	0.14	5	**0.72**	**H**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.275	0.14	5	**0.72**	**H**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the upper Sacramento River	0.275	0.14	5	**0.72**	**H**
Battle Creek	0.26	Adult Immigration and Holding	0.25	Water Temperature	0.175	Lower Sacramento River	0.125	0.14	5	**0.71**	**H**
Battle Creek	0.26	Adult Immigration and Holding	0.25	Water Temperature	0.175	Middle Sacramento River	0.125	0.14	5	**0.71**	**H**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Loss of Riparian Habitat and Instream Cover	0.100	Middle Sacramento River	0.150	0.14	5	**0.68**	**H**
Battle Creek	0.26	Adult Immigration and Holding	0.25	Harvest/Angling Impacts	0.050	Ocean	0.300	0.10	7	**0.68**	**H**
Sacramento River	0.26	Embryo Incubation	0.15	Harvest/Angling Impacts	0.175	Redd disturbance in upper Sacramento River	1.000	0.68	1.00	**0.68**	**H**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Hatchery Effects	0.125	Delta	0.100	0.11	6	**0.68**	**H**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Predation	0.125	Predation in the Bays	0.100	0.11	6	**0.68**	**H**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Predation	0.125	Predation in the upper Sacramento River	0.100	0.11	6	**0.68**	**H**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.250	0.11	6	**0.68**	**H**
Sacramento River	0.26	Embryo Incubation	0.15	Short-term Inwater Construction	0.175	Sedimentation, turbidity, acoustic effects, hazardous spills, physical disturbance	1.000	0.68	1	**0.68**	**H**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Water Temperature	0.075	Battle Creek	0.200	0.14	5	**0.68**	**H**
Upper Sacramento Tributaries	0.18	Adult Immigration and Holding	0.3	Harvest/Angling Impacts	**0.090**	Upper Sacramento Tributaries	0.2	0.097	7	**0.68**	**H**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Loss of Floodplain Habitat	0.150	Delta	0.1	0.135	5	**0.68**	**H**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Loss of Natural River Morphology	0.150	Upper Sacramento River	0.1	0.135	5	**0.68**	**H**
Cow Creek	0.3	Adult Immigration and Holding	0.3	Water Quality	**0.050**	Cow Creek	0.3	0.135	5	**0.68**	**H**

Basalt and Porous Lava Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Cow Creek	0.3	Adult Immigration and Holding	0.3	Water Quality	**0.050**	Urban, Heavy Metals in the upper Sacramento River	0.3	0.135	5	**0.68**	**H**
Upper Sacramento Tributaries	0.18	Embryo Incubation	**0.10**	Water Temperature	0.375	Water Temperature in the Upper Sacramento Tributaries	1.00	0.675	1	**0.68**	**H**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Entrainment	0.150	Individual Diversions in the Delta	0.1	0.081	8	**0.65**	**H**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Entrainment	0.150	Individual Diversions in the middle Sacramento River	0.1	0.081	8	**0.65**	**H**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Flow Conditions	0.050	Diversion into Central Delta	0.200	0.09	7	**0.64**	**H**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Flow Conditions	0.100	Flow Dependent Habitat Availability in the upper Sacramento River	0.1	0.090	7	**0.63**	**H**
Cow Creek	0.3	Adult Immigration and Holding	0.3	Harvest/Angling Impacts	**0.050**	Cow Creek	0.2	0.090	7	**0.63**	**H**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Water Temperature	0.050	Lower Sacramento River	0.300	0.16	4	**0.62**	**H**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Water Quality	0.075	Ag, Urban, Heavy Metals in the Bays	0.150	0.10	6	**0.61**	**H**
Cow Creek	0.3	Embryo Incubation	**0.10**	Flow Conditions	0.200	Flow Fluctuations	1	0.600	1	**0.60**	**H**
Battle Creek	0.26	Embryo Incubation	**0.15**	Harvest/Angling Impacts	0.150	Redd disturbance	1.000	0.59	1.00	**0.59**	**H**
Battle Creek	0.26	Embryo Incubation	**0.15**	Short-term Inwater Construction	0.150	Sedimentation, turbidity, acoustic effects, hazardous spills, physical disturbance	1.000	0.59	1.00	**0.59**	**H**
Sacramento River	0.26	Spawning	0.3	Spawning Habitat Availability	0.075	Habitat Suitability in in upper Sacramento River	1.000	0.59	1	**0.59**	**H**
Sacramento River	0.26	Adult Immigration and Holding	0.15	Water Quality	0.125	DO, Ag, Urban, Heavy Metals in the Delta	0.300	0.15	4	**0.59**	**H**
Battle Creek	0.26	Embryo Incubation	**0.15**	Water Quality	0.150	Water Quality in Battle Creek	1.000	0.59	1.00	**0.59**	**H**
Sacramento River	0.26	Adult Immigration and Holding	0.15	Water Temperature	0.125	Lower Sacramento River	0.400	0.20	3	**0.59**	**H**
Sacramento River	0.26	Adult Immigration and Holding	0.15	Water Temperature	0.125	Middle Sacramento River	0.400	0.20	3	**0.59**	**H**
Battle Creek	0.26	Adult Immigration and Holding	0.25	Water Quality	0.100	Ag, Urban in the middle Sacramento River	0.175	0.11	5	**0.57**	**H**
Battle Creek	0.26	Adult Immigration and Holding	0.25	Water Temperature	0.175	Delta	0.100	0.11	5	**0.57**	**H**
Battle Creek	0.26	Adult Immigration and Holding	0.25	Water Temperature	0.175	Upper Sacramento River	0.100	0.11	5	**0.57**	**H**
Cow Creek	0.3	Adult Immigration and Holding	0.3	Short-term Inwater Construction	**0.050**	Sedimentation, turbidity, acoustic effects, hazardous spills in the upper Sacramento River	0.25	0.113	5	**0.56**	**H**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Flow Conditions	0.030	Changes in Delta Hydrology	0.300	0.09	6	**0.56**	**H**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Flow Conditions	0.030	Reverse Flow Conditions in the Delta	0.300	0.09	6	**0.56**	**H**

Basalt and Porous Lava Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Passage Impediments/Barriers	0.050	North Fork Dams	0.400	0.18	3	**0.55**	**H**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Passage Impediments/Barriers	0.050	South Fork Dams	0.400	0.18	3	**0.55**	**H**
Sacramento River	0.26	Adult Immigration and Holding	0.15	Passage Impediments/Barriers	0.400	Yolo Bypass-Freemont Weir	0.050	0.08	7	**0.55**	**H**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Loss of Riparian Habitat and Instream Cover	0.150	Middle Sacramento River	0.1	0.135	4	**0.54**	**H**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Loss of Riparian Habitat and Instream Cover	0.150	Upper Sacramento River	0.1	0.135	4	**0.54**	**H**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Predation	0.100	Predation in the middle Sacramento River	0.1	0.090	6	**0.54**	**H**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Water Temperature	0.200	Middle Sacramento River	0.1	0.108	5	**0.54**	**H**
Upper Sacramento Tributaries	0.18	Spawning	0.3	Water Temperature	0.100	Water Temperature in the Upper Sacramento Tributaries	1	0.540	1	**0.54**	**H**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Entrainment	0.070	Individual Diversions in the upper Sacramento River	0.100	0.07	7	**0.51**	**H**
Upper Sacramento Tributaries	0.18	Embryo Incubation	**0.10**	Water Quality	0.275	Water Quality in the Upper Sacramento Tributaries	1.00	0.495	1.00	**0.50**	**H**
Battle Creek	0.26	Adult Immigration and Holding	0.25	Short-term Inwater Construction	0.125	Sedimentation, turbidity, acoustic effects, hazardous spills in the upper Sacramento River	0.100	0.08	6	**0.49**	**H**
Battle Creek	0.26	Adult Immigration and Holding	0.25	Water Quality	0.100	Urban, Heavy Metals in the upper Sacramento River	0.150	0.10	5	**0.49**	**H**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Hatchery Effects	0.090	Competition, Predation in the Bays	0.100	0.09	5	**0.47**	**H**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Hatchery Effects	0.090	Competition, Predation in the Delta	0.100	0.09	5	**0.47**	**H**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Hatchery Effects	0.090	Competition, Predation in the lower Sacramento River	0.100	0.09	5	**0.47**	**H**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Flow Conditions	0.030	Diversion into Central Delta	0.250	0.08	6	**0.47**	**H**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Loss of Floodplain Habitat	0.100	Upper Sacramento River	0.100	0.09	5	**0.46**	**H**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Loss of Natural River Morphology	0.100	Upper Sacramento River	0.100	0.09	5	**0.46**	**H**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Loss of Riparian Habitat and Instream Cover	0.100	Battle Creek	0.100	0.09	5	**0.46**	**H**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Loss of Riparian Habitat and Instream Cover	0.100	Upper Sacramento River	0.100	0.09	5	**0.46**	**H**
Cow Creek	0.3	Spawning	0.3	Flow Conditions	0.050	Flow Fluctuations	1	0.450	1	**0.45**	**M**
Cow Creek	0.3	Adult Immigration and Holding	0.3	Short-term Inwater Construction	**0.050**	Sedimentation, turbidity, acoustic effects, hazardous spills in the	0.2	0.090	5	**0.45**	**M**
Cow Creek	0.3	Adult Immigration and Holding	0.3	Water Quality	**0.050**	Ag, Urban in the middle Sacramento River	0.2	0.090	5	**0.45**	**M**

Basalt and Porous Lava Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Water Temperature	0.100	Middle Sacramento River	0.1	0.090	5	**0.45**	**M**
Sacramento River	0.26	Adult Immigration and Holding	0.15	Short-term Inwater Construction	0.150	Sedimentation, turbidity, acoustic effects, hazardous spills in the	0.150	0.09	5	**0.44**	**M**
Upper Sacramento Tributaries	0.18	Adult Immigration and Holding	0.3	Flow Conditions	**0.200**	Low Flows - attraction, migratory cues in the middle Sacramento	0.1	0.108	4	**0.43**	**M**
Upper Sacramento Tributaries	0.18	Adult Immigration and Holding	0.3	Flow Conditions	**0.200**	Low Flows - attraction, migratory cues in the upper Sacramento River	0.1	0.108	4	**0.43**	**M**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Water Temperature	0.050	Middle Sacramento River	0.200	0.10	4	**0.42**	**M**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the	0.150	0.07	6	**0.41**	**M**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the	0.150	0.07	6	**0.41**	**M**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Water Quality	0.075	Urban, Heavy Metals in the upper Sacramento River	0.100	0.07	6	**0.41**	**M**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Water Quality	0.075	Ag, Urban in the middle Sacramento River	0.100	0.07	6	**0.41**	**M**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Loss of Floodplain Habitat	0.050	Upper Sacramento River	0.3	0.081	5	**0.41**	**M**
Upper Sacramento Tributaries	0.18	Adult Immigration and Holding	0.3	Water Quality	**0.150**	Ag, Urban in the lower Sacramento River	0.1	0.081	5	**0.41**	**M**
Upper Sacramento Tributaries	0.18	Adult Immigration and Holding	0.3	Water Quality	**0.150**	DO, Ag, Urban, Heavy Metals in th Delta	0.1	0.081	5	**0.41**	**M**
Sacramento River	0.26	Spawning	0.3	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in upper	1.000	0.39	1	**0.39**	**M**
Sacramento River	0.26	Adult Immigration and Holding	0.15	Water Quality	0.125	Ag, Urban in the lower Sacramento River	0.200	0.10	4	**0.39**	**M**
Sacramento River	0.26	Adult Immigration and Holding	0.15	Water Quality	0.125	Ag, Urban in the middle Sacramento River	0.200	0.10	4	**0.39**	**M**
Sacramento River	0.26	Adult Immigration and Holding	0.15	Water Quality	0.125	Urban, Heavy Metals in the upper Sacramento River	0.200	0.10	4	**0.39**	**M**
Sacramento River	0.26	Adult Immigration and Holding	0.15	Flow Conditions	0.100	Low Flows - attraction, migratory cues AND Flood Flows - non-natal	0.333	0.13	3	**0.39**	**M**
Sacramento River	0.26	Adult Immigration and Holding	0.15	Flow Conditions	0.100	Low Flows - attraction, migratory cues in Middle Sacramento River	0.333	0.13	3	**0.39**	**M**
Sacramento River	0.26	Adult Immigration and Holding	0.15	Flow Conditions	0.100	Low Flows - attraction, migratory cues in Upper Sacramento River	0.333	0.13	3	**0.39**	**M**
Sacramento River	0.26	Adult Immigration and Holding	0.15	Passage Impediments/Barriers	0.400	Sacramento Deep Water Ship Channel	0.035	0.05	7	**0.38**	**M**
Sacramento River	0.26	Adult Immigration and Holding	0.15	Passage Impediments/Barriers	0.400	Suisun Marsh Salinity Control Structure	0.035	0.05	7	**0.38**	**M**
Sacramento River	0.26	Adult Immigration and Holding	0.15	Passage Impediments/Barriers	0.400	Sutter Bypass - Tisdale Weir	0.035	0.05	7	**0.38**	**M**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Flow Conditions	0.100	Flow Dependent Habitat Availability in the upper Sacramento River	0.1	0.054	7	**0.38**	**M**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Entrainment	0.100	Individual Diversions in the upper Sacramento River	0.050	0.05	8	**0.36**	**M**
Upper Sacramento Tributaries	0.18	Embryo Incubation	**0.10**	Flow Conditions	0.200	Flow Fluctuations	1	0.360	1	**0.36**	**M**
Sacramento River	0.26	Adult Immigration and Holding	0.15	Harvest/Angling Impacts	0.100	Upper Sacramento River	0.150	0.06	6	**0.35**	**M**
Battle Creek	0.26	Adult Immigration and Holding	0.25	Harvest/Angling Impacts	0.050	Battle Creek	0.150	0.05	7	**0.34**	**M**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Hatchery Effects	0.125	Bays	0.050	0.06	6	**0.34**	**M**

Basalt and Porous Lava Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Water Temperature	0.075	Middle Sacramento River	0.100	0.07	5	**0.34**	**M**
Upper Sacramento Tributaries	0.18	Adult Immigration and Holding	0.3	Harvest/Angling Impacts	**0.090**	Delta	0.1	0.049	7	**0.34**	**M**
Upper Sacramento Tributaries	0.18	Adult Immigration and Holding	0.3	Harvest/Angling Impacts	**0.090**	Lower Sacramento River	0.1	0.049	7	**0.34**	**M**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Loss of Natural River Morphology	0.150	Lower Sacramento River	0.05	0.068	5	**0.34**	**M**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Loss of Natural River Morphology	0.150	Middle Sacramento River	0.05	0.068	5	**0.34**	**M**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Predation	0.100	Predation in the middle Sacramento River	0.1	0.054	6	**0.32**	**M**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Entrainment	0.150	Contra Costa Power Plant	0.05	0.041	8	**0.32**	**M**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Entrainment	0.150	Individual Diversions in the lower Sacramento River	0.05	0.041	8	**0.32**	**M**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Entrainment	0.150	Individual Diversions in the upper Sacramento River	0.05	0.041	8	**0.32**	**M**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Entrainment	0.150	Pittsburg Power Plant	0.05	0.041	8	**0.32**	**M**
Cow Creek	0.3	Adult Immigration and Holding	0.3	Water Temperature	**0.300**	Middle Sacramento River	0.03	0.081	4	**0.32**	**M**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Flow Conditions	0.050	Changes in Hydrology	0.100	0.05	7	**0.32**	**M**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Flow Conditions	0.050	Flow Dependent Habitat Availability in the lower Sacramento River	0.100	0.05	7	**0.32**	**M**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Invasive Species/Food Web Disruption	0.025	Asian clam, A. aspera, Microcystis, etc. in the Delta	0.700	0.16	2	**0.32**	**M**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Flow Conditions	0.100	Diversion into Central Delta	0.05	0.045	7	**0.32**	**M**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Flow Conditions	0.100	Flow Dependent Habitat Availability in the lower Sacramento River	0.05	0.045	7	**0.32**	**M**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Flow Conditions	0.100	Flow Dependent Habitat Availability in the middle Sacramento River	0.05	0.045	7	**0.32**	**M**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Flow Conditions	0.100	Reverse Flow Conditions	0.05	0.045	7	**0.32**	**M**
Cow Creek	0.3	Adult Immigration and Holding	0.3	Harvest/Angling Impacts	**0.050**	Delta	0.1	0.045	7	**0.32**	**M**
Cow Creek	0.3	Adult Immigration and Holding	0.3	Harvest/Angling Impacts	**0.050**	Lower Sacramento River	0.1	0.045	7	**0.32**	**M**
Sacramento River	0.26	Adult Immigration and Holding	0.15	Short-term Inwater Construction	0.150	Sedimentation, turbidity, acoustic effects, hazardous spills in the	0.100	0.06	5	**0.29**	**M**
Sacramento River	0.26	Adult Immigration and Holding	0.15	Harvest/Angling Impacts	0.100	Bays	0.125	0.05	6	**0.29**	**M**
Sacramento River	0.26	Adult Immigration and Holding	0.15	Harvest/Angling Impacts	0.100	Delta	0.125	0.05	6	**0.29**	**M**
Sacramento River	0.26	Adult Immigration and Holding	0.15	Harvest/Angling Impacts	0.100	Lower Sacramento River	0.125	0.05	6	**0.29**	**M**
Sacramento River	0.26	Adult Immigration and Holding	0.15	Harvest/Angling Impacts	0.100	Middle Sacramento River	0.125	0.05	6	**0.29**	**M**
Battle Creek	0.26	Adult Immigration and Holding	0.25	Harvest/Angling Impacts	0.050	Middle Sacramento River	0.125	0.04	7	**0.28**	**M**
Battle Creek	0.26	Adult Immigration and Holding	0.25	Harvest/Angling Impacts	0.050	Upper Sacramento River	0.125	0.04	7	**0.28**	**M**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Loss of Tidal Marsh Habitat	0.025	Delta	0.600	0.14	2	**0.27**	**M**

Basalt and Porous Lava Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Passage Impediments/Barriers	0.050	Tributary Barriers	0.200	0.09	3	**0.27**	**M**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the	0.100	0.05	6	**0.27**	**M**
Upper Sacramento Tributaries	0.18	Spawning	0.3	Flow Conditions	0.050	Flow Fluctuations	1	0.270	1	**0.27**	**M**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Loss of Floodplain Habitat	0.050	Lower Sacramento River	0.2	0.054	5	**0.27**	**M**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Loss of Floodplain Habitat	0.050	Middle Sacramento River	0.2	0.054	5	**0.27**	**M**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Loss of Floodplain Habitat	0.050	Upper Sacramento Tributaries	0.2	0.054	5	**0.27**	**M**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Loss of Natural River Morphology	0.050	Delta	0.2	0.054	5	**0.27**	**M**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Loss of Riparian Habitat and Instream Cover	0.150	Lower Sacramento River	0.05	0.068	4	**0.27**	**M**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Predation	0.100	Predation in the lower Sacramento River	0.05	0.045	6	**0.27**	**M**
Upper Sacramento Tributaries	0.18	Spawning	0.3	Water Quality	0.050	Water Quality in the Upper Sacramento Tributaries	1	0.270	1	**0.27**	**M**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Water Temperature	0.200	Upper Sacramento River	0.05	0.054	5	**0.27**	**M**
Cow Creek	0.3	Spawning	0.3	Water Quality	0.030	Water Quality in Cow Creek	1	0.270	1	**0.27**	**M**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the	0.100	0.05	5	**0.26**	**M**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Entrainment	0.070	Contra Costa Power Plant	0.050	0.04	7	**0.25**	**M**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Entrainment	0.070	Pittsburg Power Plant	0.050	0.04	7	**0.25**	**M**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Short-term Inwater Construction	0.010	Sedimentation, turbidity, acoustic effects, hazardous spills in Cow	0.45	0.041	6	**0.24**	**M**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Flow Conditions	0.050	Flow Dependent Habitat Availability in the middle Sacramento River	0.075	0.03	7	**0.24**	**M**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Flow Conditions	0.050	Flow Dependent Habitat Availability in the upper Sacramento River	0.075	0.03	7	**0.24**	**M**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Water Quality	0.050	DO, Ag, Urban, Heavy Metals in the Delta	0.090	0.05	5	**0.23**	**M**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Loss of Floodplain Habitat	0.100	Battle Creek	0.050	0.05	5	**0.23**	**M**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Loss of Natural River Morphology	0.100	Battle Creek	0.050	0.05	5	**0.23**	**M**
Battle Creek	0.26	Adult Immigration and Holding	0.25	Harvest/Angling Impacts	0.050	Bays	0.100	0.03	7	**0.23**	**M**
Battle Creek	0.26	Adult Immigration and Holding	0.25	Harvest/Angling Impacts	0.050	Delta	0.100	0.03	7	**0.23**	**M**
Battle Creek	0.26	Adult Immigration and Holding	0.25	Harvest/Angling Impacts	0.050	Lower Sacramento River	0.100	0.03	7	**0.23**	**M**
Cow Creek	0.3	Embryo Incubation	**0.10**	Harvest/Angling Impacts	0.075	Redd disturbance	1.00	0.225	1.00	**0.23**	**M**
Cow Creek	0.3	Embryo Incubation	**0.10**	Short-term Inwater Construction	0.075	Sedimentation, turbidity, acoustic effects, hazardous spills, physical	1	0.225	1	**0.23**	**M**
Cow Creek	0.3	Adult Immigration and Holding	0.3	Water Quality	**0.050**	Ag, Urban in the lower Sacramento River	0.1	0.045	5	**0.23**	**M**
Cow Creek	0.3	Adult Immigration and Holding	0.3	Water Quality	**0.050**	DO, Ag, Urban, Heavy Metals in th Delta	0.1	0.045	5	**0.23**	**M**

Basalt and Porous Lava Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Water Temperature	0.100	Upper Sacramento River	0.05	0.045	5	**0.23**	**M**
Sacramento River	0.26	Adult Immigration and Holding	0.15	Passage Impediments/Barriers	0.400	ACID Dam	0.020	0.03	7	**0.22**	**M**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Water Temperature	0.200	Lower Sacramento River	0.04	0.043	5	**0.22**	**M**
Upper Sacramento Tributaries	0.18	Adult Immigration and Holding	0.3	Flow Conditions	**0.200**	Low Flows - attraction, migratory cues AND Flood Flows - non-natal	0.05	0.054	4	**0.22**	**M**
Upper Sacramento Tributaries	0.18	Spawning	0.3	Hatchery Effects	0.040	Redd superimposition, competition for habitat, Genetic Integrity	1	0.216	1	**0.22**	**M**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Loss of Riparian Habitat and Instream Cover	0.100	Middle Sacramento River	0.1	0.054	4	**0.22**	**M**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Loss of Riparian Habitat and Instream Cover	0.100	Upper Sacramento River	0.1	0.054	4	**0.22**	**M**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Predation	0.100	Predation in the Delta	0.04	0.036	6	**0.22**	**M**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Water Temperature	0.050	Upper Sacramento River	0.100	0.05	4	**0.21**	**M**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Water Quality	0.075	Ag, Urban in Battle Creek	0.050	0.03	6	**0.20**	**M**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the	0.075	0.04	5	**0.20**	**M**
Sacramento River	0.26	Spawning	0.3	Water Temperature	0.025	Upper Sacramento River	1.000	0.20	1	**0.20**	**M**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Flow Conditions	0.100	Diversion into Central Delta	0.05	0.027	7	**0.19**	**M**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Flow Conditions	0.100	Flow Dependent Habitat Availability in the lower Sacramento River	0.05	0.027	7	**0.19**	**M**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Flow Conditions	0.100	Flow Dependent Habitat Availability in the middle Sacramento River	0.05	0.027	7	**0.19**	**M**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Flow Conditions	0.100	Reverse Flow Conditions	0.05	0.027	7	**0.19**	**M**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Water Quality	0.010	Ag, Urban in Cow Creek	0.35	0.032	6	**0.19**	**M**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Entrainment	0.100	Contra Costa Power Plant	0.025	0.02	8	**0.18**	**M**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Entrainment	0.100	Pittsburg Power Plant	0.025	0.02	8	**0.18**	**M**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Loss of Tidal Marsh Habitat	0.025	Bays	0.400	0.09	2	**0.18**	**M**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Water Temperature	0.100	Lower Sacramento River	0.04	0.036	5	**0.18**	**M**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Water Temperature	0.075	Upper Sacramento River	0.050	0.03	5	**0.17**	**L**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Invasive species/Food Web Disruption	0.010	Asian clam, A. aspera, Microcystis, water hyacinth etc. in the Delta	0.800	0.08	2	**0.17**	**L**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Loss of Tidal Marsh Habitat	0.010	Loss of Tidal Marsh Habitat in the Delta	0.800	0.08	2	**0.17**	**L**
Battle Creek	0.26	Spawning	0.25	Harvest/Angling Impacts	0.025	Recreational, Poaching, Angler Impacts	1.000	0.16	1	**0.16**	**L**
Battle Creek	0.26	Spawning	0.25	Physical Habitat Alteration	0.025	Limited Instream Gravel Supply	1.000	0.16	1	**0.16**	**L**
Battle Creek	0.26	Spawning	0.25	Water Quality	0.025	Water Quality in Battle Creek	1.000	0.16	1	**0.16**	**L**
Battle Creek	0.26	Spawning	0.25	Water Temperature	0.025	Water Temperature in Battle Creek	1.000	0.16	1	**0.16**	**L**

Basalt and Porous Lava Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Cow Creek	0.3	Adult Immigration and Holding	0.3	Passage Impediments/Barriers	**0.300**	Sacramento Deep Water Ship Channel	0.01	0.027	6	**0.16**	**L**
Cow Creek	0.3	Adult Immigration and Holding	0.3	Passage Impediments/Barriers	**0.300**	Suisun Marsh Salinity Control Structure	0.01	0.027	6	**0.16**	**L**
Cow Creek	0.3	Adult Immigration and Holding	0.3	Passage Impediments/Barriers	**0.300**	Sutter Bypass - Tisdale Weir	0.01	0.027	6	**0.16**	**L**
Cow Creek	0.3	Adult Immigration and Holding	0.3	Passage Impediments/Barriers	**0.300**	Yolo Bypass - Freemont Weir	0.01	0.027	6	**0.16**	**L**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Predation	0.100	Predation in the lower Sacramento River	0.05	0.027	6	**0.16**	**L**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Water Quality	0.010	Urban, Heavy Metals in the upper Sacramento River	0.3	0.027	6	**0.16**	**L**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Water Quality	0.010	Ag, Urban in the middle Sacramento River	0.3	0.027	6	**0.16**	**L**
Upper Sacramento Tributaries	0.18	Adult Immigration and Holding	0.3	Water Temperature	**0.250**	Middle Sacramento River	0.03	0.041	4	**0.16**	**L**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Flow Conditions	0.050	Reverse Flow Conditions	0.050	0.02	7	**0.16**	**L**
Sacramento River	0.26	Adult Immigration and Holding	0.15	Water Temperature	0.125	Delta	0.100	0.05	3	**0.15**	**L**
Sacramento River	0.26	Adult Immigration and Holding	0.15	Water Temperature	0.125	Upper Sacramento River	0.100	0.05	3	**0.15**	**L**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Short-term Inwater Construction	0.010	Sedimentation, turbidity, acoustic effects, hazardous spills in the	0.45	0.024	6	**0.15**	**L**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Invasive Species/Food Web Disruption	0.010	Asian clam, A. aspera, Microcystis, etc. in the Delta	0.8	0.072	2	**0.14**	**L**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Loss of Tidal Marsh Habitat	0.010	Delta	0.8	0.072	2	**0.14**	**L**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Invasive Species/Food Web Disruption	0.025	Asian clam, A. aspera, Microcystis, etc. in the Bays	0.300	0.07	2	**0.14**	**L**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in Battle	0.050	0.02	6	**0.14**	**L**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Hatchery Effects	0.010	Delta	0.3	0.027	5	**0.14**	**L**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Hatchery Effects	0.010	Middle Sacramento River	0.3	0.027	5	**0.14**	**L**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Loss of Floodplain Habitat	0.050	Delta	0.1	0.027	5	**0.14**	**L**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Loss of Natural River Morphology	0.050	Upper Sacramento River	0.1	0.027	5	**0.14**	**L**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Short-term Inwater Construction	0.010	Sedimentation, turbidity, acoustic effects, hazardous spills in the	0.25	0.023	6	**0.14**	**L**
Upper Sacramento Tributaries	0.18	Embryo Incubation	**0.10**	Harvest/Angling Impacts	0.075	Redd disturbance	1.00	0.135	1.00	**0.14**	**L**
Upper Sacramento Tributaries	0.18	Embryo Incubation	**0.10**	Short-term Inwater Construction	0.075	Sedimentation, turbidity, acoustic effects, hazardous spills, physical	1	0.135	1	**0.14**	**L**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Predation	0.100	Predation in the Delta	0.04	0.022	6	**0.13**	**L**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Passage Impediments/Barriers	0.010	Keswick Dam	0.400	0.04	3	**0.12**	**L**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Water Quality	0.010	Ag, Urban in the Upper Sacramento Tributaries	0.35	0.019	6	**0.11**	**L**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Short-term Inwater Construction	0.010	Sedimentation, turbidity, acoustic effects, hazardous spills in the	0.2	0.018	6	**0.11**	**L**
Upper Sacramento Tributaries	0.18	Adult Immigration and Holding	0.3	Short-term Inwater Construction	**0.010**	Sedimentation, turbidity, acoustic effects, hazardous spills in the	0.4	0.022	5	**0.11**	**L**

Basalt and Porous Lava Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Loss of Riparian Habitat and Instream Cover	0.100	Lower Sacramento River	0.05	0.027	4	**0.11**	**L**
Cow Creek	0.3	Adult Immigration and Holding	0.3	Water Temperature	**0.300**	Lower Sacramento River	0.01	0.027	4	**0.11**	**L**
Cow Creek	0.3	Adult Immigration and Holding	0.3	Water Temperature	**0.300**	Upper Sacramento River	0.01	0.027	4	**0.11**	**L**
Upper Sacramento Tributaries	0.18	Adult Immigration and Holding	0.3	Harvest/Angling Impacts	**0.090**	Bays	0.03	0.015	7	**0.10**	**L**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Hatchery Effects	0.010	Delta	0.3	0.016	6	**0.10**	**L**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Hatchery Effects	0.010	Middle Sacramento River	0.3	0.016	6	**0.10**	**L**
Upper Sacramento Tributaries	0.18	Adult Immigration and Holding	0.3	Passage Impediments/Barriers	**0.300**	Sacramento Deep Water Ship Channel	0.01	0.016	6	**0.10**	**L**
Upper Sacramento Tributaries	0.18	Adult Immigration and Holding	0.3	Passage Impediments/Barriers	**0.300**	Suisun Marsh Salinity Control Structure	0.01	0.016	6	**0.10**	**L**
Upper Sacramento Tributaries	0.18	Adult Immigration and Holding	0.3	Passage Impediments/Barriers	**0.300**	Sutter Bypass - Tisdale Weir	0.01	0.016	6	**0.10**	**L**
Upper Sacramento Tributaries	0.18	Adult Immigration and Holding	0.3	Passage Impediments/Barriers	**0.300**	Yolo Bypass - Freemont Weir	0.01	0.016	6	**0.10**	**L**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Water Quality	0.010	Urban, Heavy Metals in the upper Sacramento River	0.3	0.016	6	**0.10**	**L**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Water Quality	0.010	Ag, Urban in the middle Sacramento River	0.3	0.016	6	**0.10**	**L**
Cow Creek	0.3	Adult Immigration and Holding	0.3	Harvest/Angling Impacts	**0.050**	Bays	0.03	0.014	7	**0.09**	**L**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Passage Impediments/Barriers	0.010	ACID Dam	0.300	0.03	3	**0.09**	**L**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Passage Impediments/Barriers	0.010	Tributary Barriers	0.300	0.03	3	**0.09**	**L**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Flow Conditions	0.030	Flow Dependent Habitat Availability in the lower Sacramento River	0.050	0.02	6	**0.09**	**L**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Flow Conditions	0.030	Flow Dependent Habitat Availability in the middle Sacramento River	0.050	0.02	6	**0.09**	**L**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Flow Conditions	0.030	Flow Dependent Habitat Availability in the upper Sacramento River	0.050	0.02	6	**0.09**	**L**
Cow Creek	0.3	Spawning	0.3	Harvest/Angling Impacts	0.010	Recreational, Poaching, Angler Impacts	1	0.090	1	**0.09**	**L**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Passage Impediments/Barriers	0.050	Tributary Barriers	0.1	0.045	2	**0.09**	**L**
Cow Creek	0.3	Adult Immigration and Holding	0.3	Short-term Inwater Construction	**0.050**	Sedimentation, turbidity, acoustic effects, hazardous spills in the	0.04	0.018	5	**0.09**	**L**
Cow Creek	0.3	Spawning	0.3	Spawning Habitat Availability	0.010	Habitat Suitability	1	0.090	1	**0.09**	**L**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Invasive Species/Food Web Disruption	0.010	Asian clam, A. aspera, Microcystis, etc. in the Delta	0.8	0.043	2	**0.09**	**L**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Loss of Tidal Marsh Habitat	0.010	Delta	0.8	0.043	2	**0.09**	**L**
Battle Creek	0.26	Adult Immigration and Holding	0.25	Water Quality	0.100	Battle Creek	0.025	0.02	5	**0.08**	**L**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Short-term Inwater Construction	0.010	Sedimentation, turbidity, acoustic effects, hazardous spills in the	0.25	0.014	6	**0.08**	**L**
Upper Sacramento Tributaries	0.18	Adult Immigration and Holding	0.3	Short-term Inwater Construction	**0.010**	Sedimentation, turbidity, acoustic effects, hazardous spills in the	0.3	0.016	5	**0.08**	**L**
Upper Sacramento Tributaries	0.18	Adult Immigration and Holding	0.3	Harvest/Angling Impacts	**0.090**	Ocean	0.02	0.010	7	**0.07**	**L**

Basalt and Porous Lava Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Hatchery Effects	0.010	Lower Sacramento River	0.15	0.014	5	**0.07**	**L**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Hatchery Effects	0.010	Upper Sacramento River	0.15	0.014	5	**0.07**	**L**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Loss of Natural River Morphology	0.050	Lower Sacramento River	0.05	0.014	5	**0.07**	**L**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Loss of Natural River Morphology	0.050	Middle Sacramento River	0.05	0.014	5	**0.07**	**L**
Upper Sacramento Tributaries	0.18	Adult Immigration and Holding	0.3	Short-term Inwater Construction	**0.010**	Sedimentation, turbidity, acoustic effects, hazardous spills in the	0.25	0.014	5	**0.07**	**L**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Short-term Inwater Construction	0.010	Sedimentation, turbidity, acoustic effects, hazardous spills in the	0.2	0.011	6	**0.06**	**L**
Cow Creek	0.3	Adult Immigration and Holding	0.3	Harvest/Angling Impacts	**0.050**	Ocean	0.02	0.009	7	**0.06**	**L**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Water Quality	0.010	Ag, Urban in the lower Sacramento River	0.1	0.009	6	**0.05**	**L**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Water Temperature	0.200	Delta	0.01	0.011	5	**0.05**	**L**
Upper Sacramento Tributaries	0.18	Spawning	0.3	Harvest/Angling Impacts	0.010	Recreational, Poaching, Angler Impacts	1	0.054	1	**0.05**	**L**
Upper Sacramento Tributaries	0.18	Adult Immigration and Holding	0.3	Water Temperature	**0.250**	Lower Sacramento River	0.01	0.014	4	**0.05**	**L**
Upper Sacramento Tributaries	0.18	Adult Immigration and Holding	0.3	Water Temperature	**0.250**	Upper Sacramento River	0.01	0.014	4	**0.05**	**L**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Predation	0.100	Predation in the Bays	0.01	0.009	6	**0.05**	**L**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Hatchery Effects	0.010	Lower Sacramento River	0.15	0.008	6	**0.05**	**L**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Hatchery Effects	0.010	Upper Sacramento River	0.15	0.008	6	**0.05**	**L**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Hatchery Effects	0.010	Cow Creek	0.1	0.009	5	**0.05**	**L**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Water Temperature	0.100	Delta	0.01	0.009	5	**0.05**	**L**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Invasive species/Food Web Disruption	0.010	Asian clam, A. aspera, Microcystis, water hyacinth etc. in the Bays	0.200	0.02	2	**0.04**	**L**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Loss of Tidal Marsh Habitat	0.010	oss of Tidal Marsh Habitat in the Bay	0.200	0.02	2	**0.04**	**L**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Invasive Species/Food Web Disruption	0.010	Asian clam, A. aspera, Microcystis, etc. in the Bays	0.2	0.018	2	**0.04**	**L**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Loss of Tidal Marsh Habitat	0.010	Bays	0.2	0.018	2	**0.04**	**L**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Hatchery Effects	0.010	Upper Sacramento Tributaries	0.1	0.005	6	**0.03**	**L**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Predation	0.100	Predation in the Bays	0.01	0.005	6	**0.03**	**L**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Water Quality	0.010	Ag, Urban in the lower Sacramento River	0.1	0.005	6	**0.03**	**L**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Short-term Inwater Construction	0.010	Sedimentation, turbidity, acoustic effects, hazardous spills in the	0.05	0.005	6	**0.03**	**L**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Water Quality	0.050	Ag, Urban, Heavy Metals in the Bays	0.010	0.01	5	**0.03**	**L**
Cow Creek	0.3	Adult Immigration and Holding	0.3	Short-term Inwater Construction	**0.050**	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bay	0.01	0.005	5	**0.02**	**L**
Cow Creek	0.3	Adult Immigration and Holding	0.3	Short-term Inwater Construction	**0.050**	Sedimentation, turbidity, acoustic effects, hazardous spills in the	0.01	0.005	5	**0.02**	**L**

Basalt and Porous Lava Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Invasive Species/Food Web Disruption	0.010	Asian clam, A. aspera, Microcystis, etc. in the Bays	0.2	0.011	2	**0.02**	**L**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Loss of Tidal Marsh Habitat	0.010	Bays	0.2	0.011	2	**0.02**	**L**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Short-term Inwater Construction	0.010	Sedimentation, turbidity, acoustic effects, hazardous spills in the	0.04	0.004	6	**0.02**	**L**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Water Quality	0.010	DO, Ag, Urban, Heavy Metals in th Delta	0.04	0.004	6	**0.02**	**L**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Short-term Inwater Construction	0.010	Sedimentation, turbidity, acoustic effects, hazardous spills in the	0.05	0.003	6	**0.02**	**L**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Short-term Inwater Construction	0.010	Sedimentation, turbidity, acoustic effects, hazardous spills in the	0.04	0.002	6	**0.01**	**L**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Water Quality	0.010	DO, Ag, Urban, Heavy Metals in th Delta	0.04	0.002	6	**0.01**	**L**
Upper Sacramento Tributaries	0.18	Adult Immigration and Holding	0.3	Short-term Inwater Construction	**0.010**	Sedimentation, turbidity, acoustic effects, hazardous spills in the	0.04	0.002	5	**0.01**	**L**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Short-term Inwater Construction	0.010	Sedimentation, turbidity, acoustic effects, hazardous spills in the	0.01	0.001	6	**0.01**	**L**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Water Quality	0.010	Ag, Urban, Heavy Metals in the Bays	0.01	0.001	6	**0.01**	**L**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Short-term Inwater Construction	0.010	Sedimentation, turbidity, acoustic effects, hazardous spills in the	0.01	0.001	6	**0.00**	**L**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Water Quality	0.010	Ag, Urban, Heavy Metals in the Bays	0.01	0.001	6	**0.00**	**L**
Upper Sacramento Tributaries	0.18	Adult Immigration and Holding	0.3	Short-term Inwater Construction	**0.010**	Sedimentation, turbidity, acoustic effects, hazardous spills in the	0.01	0.001	5	**0.00**	**L**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Hatchery Effects	0.010	Bays	0	0.000	5		
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Loss of Riparian Habitat and Instream Cover	0.150	Delta	0	0.000	4		
Cow Creek	0.3	Adult Immigration and Holding	0.3	Water Temperature	**0.300**	Delta	0	0.000	4		

Northwestern California Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Stony Creek	0.16	Adult Immigration and Holding	0.30	Passage Impediments/Barriers	0.300	Black Butte Dam	0.960	1.382	5	**6.91**	**VH**
Thomes Creek	0.13	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.250	Ag Diversion Dams, Braiding, Natural Channel Gradient	0.750	0.61	5	**3.05**	**VH**
Stony Creek	0.16	Adult Immigration and Holding	0.30	Water Temperature	0.300	Stony Creek	0.500	0.720	4	**2.88**	**VH**
Thomes Creek	0.13	Adult Immigration and Holding	**0.25**	Water Temperature	0.300	Thomes Creek	0.700	0.68	4	**2.73**	**VH**
Beegum Creek	0.13	Adult Immigration and Holding	**0.25**	Water Temperature	0.250	Beegum Creek	0.600	0.49	5	**2.44**	**VH**
Stony Creek	0.16	Adult Immigration and Holding	0.30	Flow Conditions	0.250	Low Flows - attraction, migratory cues in Stony Creek	0.600	0.720	3	**2.16**	**VH**
Clear Creek	0.21	Spawning	0.4	Physical Habitat Alteration	0.250	Limited Instream Gravel Supply	1.000	2.10	1	**2.10**	**VH**
Clear Creek	0.21	Adult Immigration and Holding	0.2	Passage Impediments/Barriers	0.200	Red Bluff Diversion Dam	0.410	0.34	6	**2.07**	**VH**
Clear Creek	0.21	Adult Immigration and Holding	0.2	Water Temperature	0.300	Clear Creek	0.400	0.50	4	**2.02**	**VH**
Putah Creek	0.12	Adult Immigration and Holding	0.200	Passage Impediments/Barriers	0.350	Solano Dam	0.550	0.462	4	**1.85**	**VH**
Clear Creek	0.21	Adult Immigration and Holding	0.2	Passage Impediments/Barriers	0.200	Whiskeytown Dam	0.355	0.30	6	**1.79**	**VH**
Beegum Creek	0.13	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.200	RBDD	0.550	0.36	5	**1.79**	**VH**
Clear Creek	0.21	Spawning	0.4	Spawning Habitat Availability	0.200	Habitat Suitability	1.000	1.68	1	**1.68**	**VH**
Clear Creek	0.21	Spawning	0.4	Water Temperature	0.200	Water Temperature in Clear Creek	1.000	1.68	1	**1.68**	**VH**
Stony Creek	0.16	Spawning	0.35	Barrier	0.300	Redd superimposition, competition for habitat, hybridization/genetic integrity	1.000	1.680	1	**1.68**	**VH**
Stony Creek	0.16	Spawning	0.35	Spawning Habitat Availability	0.300	Habitat Suitability	1.000	1.680	1	**1.68**	**VH**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Flow Conditions	0.150	Flow Dependent Habitat Availability in Stony Creek	0.450	0.270	6	**1.62**	**VH**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Loss of Natural River Morphology	0.160	Lower Sacramento River	0.350	0.29	5	**1.47**	**VH**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Water Temperature	0.150	Stony Creek	0.600	0.360	4	**1.44**	**VH**
Putah Creek	0.12	Adult Immigration and Holding	0.200	Passage Impediments/Barriers	0.350	Montecello Dam	0.400	0.336	4	**1.34**	**VH**
Thomes Creek	0.13	Spawning	**0.25**	Spawning Habitat Availability	0.400	Habitat Suitability	1.000	1.30	1	**1.30**	**VH**
Clear Creek	0.21	Adult Immigration and Holding	0.2	Flow Conditions	0.250	Low Flows - attraction, migratory cues in Clear Creek	0.400	0.42	3	**1.26**	**VH**
Clear Creek	0.21	Spawning	0.4	Flow Conditions	0.150	Flow Fluctuations	1.000	1.26	1	**1.26**	**VH**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Loss of Floodplain Habitat	0.160	Delta	0.300	0.25	5	**1.26**	**VH**

Northwestern California Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Flow Conditions	0.150	Flow Dependent Habitat Availability in Putah Creek	0.600	0.297	4	**1.19**	**VH**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Loss of Riparian Habitat and Instream Cover	0.160	Lower Sacramento River	0.350	0.29	4	**1.18**	**VH**
Stony Creek	0.16	Adult Immigration and Holding	0.30	Water Temperature	0.300	Delta	0.200	0.288	4	**1.15**	**VH**
Stony Creek	0.16	Adult Immigration and Holding	0.30	Water Temperature	0.300	Lower Sacramento River	0.200	0.288	4	**1.15**	**VH**
Clear Creek	0.21	Embryo Incubation	**0.15**	Water Quality	0.350	Sedimentation in Clear Creek	1.000	1.10	1.00	**1.10**	**VH**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Flow Conditions	0.075	Flow Dependent Habitat Availability in Clear Creek	0.450	0.18	6	**1.06**	**VH**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Loss of Floodplain Habitat	0.160	Lower Sacramento River	0.250	0.21	5	**1.05**	**VH**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Floodplain Habitat	0.150	Delta	0.300	0.20	5	**1.02**	**VH**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Floodplain Habitat	0.150	Lower Sacramento River	0.300	0.20	5	**1.02**	**VH**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Natural River Morphology	0.150	Delta	0.300	0.20	5	**1.02**	**VH**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Natural River Morphology	0.150	Lower Sacramento River	0.300	0.20	5	**1.02**	**VH**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Predation	0.125	Predation in the Delta	0.250	0.16	6	**0.98**	**VH**
Beegum Creek	0.13	Spawning	**0.25**	Spawning Habitat Availability	0.300	Habitat Suitability	1.000	0.98	1	**0.98**	**VH**
Putah Creek	0.12	Adult Immigration and Holding	0.200	Flow Conditions	0.400	Low Flows - attraction, migratory cues AND Flood Flows - non-natal area attraction in Putah Creek	1.000	0.960	1	**0.96**	**VH**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Riparian Habitat and Instream Cover	0.150	Lower Sacramento River	0.350	0.24	4	**0.96**	**VH**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Riparian Habitat and Instream Cover	0.150	Middle Sacramento River	0.350	0.24	4	**0.96**	**VH**
Clear Creek	0.21	Embryo Incubation	**0.15**	Flow Conditions	0.300	Flow Fluctuations	1.000	0.95	1.00	**0.95**	**VH**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Riparian Habitat and Instream Cover	0.150	Delta	0.275	0.19	5	**0.94**	**VH**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Riparian Habitat and Instream Cover	0.150	Lower Sacramento River	0.275	0.19	5	**0.94**	**VH**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Flow Conditions	0.150	Diversion into Central Delta	0.250	0.150	6	**0.90**	**VH**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Riparian Habitat and Instream Cover	0.150	Beegum Creek	0.250	0.17	5	**0.85**	**VH**
Clear Creek	0.21	Spawning	0.4	Barriers	0.100	Redd superimposition, competition for habitat, hybridization/genetic integrity	1.000	0.84	1	**0.84**	**VH**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Loss of Floodplain Habitat	0.160	Clear Creek	0.200	0.17	5	**0.84**	**VH**

Northwestern California Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Loss of Natural River Morphology	0.160	Clear Creek	0.200	0.17	5	**0.84**	**VH**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Loss of Natural River Morphology	0.160	Delta	0.200	0.17	5	**0.84**	**VH**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Loss of Natural River Morphology	0.160	Middle Sacramento River	0.200	0.17	5	**0.84**	**VH**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Loss of Floodplain Habitat	0.150	Delta	0.350	0.210	4	**0.84**	**VH**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Floodplain Habitat	0.150	Delta	0.300	0.20	4	**0.82**	**VH**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Floodplain Habitat	0.150	Lower Sacramento River	0.300	0.20	4	**0.82**	**VH**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Natural River Morphology	0.150	Delta	0.300	0.20	4	**0.82**	**VH**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Natural River Morphology	0.150	Lower Sacramento River	0.300	0.20	4	**0.82**	**VH**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.100	Jones and Banks Pumping Plants	0.250	0.11	7	**0.80**	**VH**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Predation	0.125	Predation in the lower Sacramento River	0.200	0.13	6	**0.79**	**VH**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Predation	0.125	Predation in the middle Sacramento River	0.200	0.13	6	**0.79**	**VH**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Predation	0.125	Predation in the upper Sacramento River	0.200	0.13	6	**0.79**	**VH**
Clear Creek	0.21	Embryo Incubation	**0.15**	Water Temperature	0.250	Water Temperature in Clear Creek	1.000	0.79	1.00	**0.79**	**VH**
Clear Creek	0.21	Adult Immigration and Holding	0.2	Water Quality	0.150	Ag, Urban in the lower Sacramento River	0.200	0.13	6	**0.76**	**VH**
Clear Creek	0.21	Adult Immigration and Holding	0.2	Water Quality	0.150	Clear Creek	0.200	0.13	6	**0.76**	**VH**
Clear Creek	0.21	Adult Immigration and Holding	0.2	Water Quality	0.150	DO, Ag, Urban, Heavy Metals in the Delta	0.200	0.13	6	**0.76**	**VH**
Clear Creek	0.21	Adult Immigration and Holding	0.2	Water Temperature	0.300	Delta	0.150	0.19	4	**0.76**	**VH**
Clear Creek	0.21	Adult Immigration and Holding	0.2	Water Temperature	0.300	Lower Sacramento River	0.150	0.19	4	**0.76**	**VH**
Clear Creek	0.21	Adult Immigration and Holding	0.2	Water Temperature	0.300	Middle Sacramento River	0.150	0.19	4	**0.76**	**VH**
Clear Creek	0.21	Adult Immigration and Holding	0.2	Water Temperature	0.300	Upper Sacramento River	0.150	0.19	4	**0.76**	**VH**
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Water Temperature	0.150	Putah Creek	0.750	0.371	2	**0.74**	**VH**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.100	Individual Diversions in the Delta	0.200	0.09	8	**0.73**	**VH**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.100	Individual Diversions in the lower Sacramento River	0.200	0.09	8	**0.73**	**VH**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.100	Individual Diversions in the middle Sacramento River	0.200	0.09	8	**0.73**	**VH**

Northwestern California Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.100	Jones and Banks Pumping Plants	0.200	0.09	8	**0.73**	**VH**
Stony Creek	0.16	Adult Immigration and Holding	0.30	Flow Conditions	0.250	Low Flows - attraction, migratory cues AND Flood Flows - non-natal area attraction in lower Sacramento River	0.200	0.240	3	**0.72**	**VH**
Stony Creek	0.16	Adult Immigration and Holding	0.30	Flow Conditions	0.250	Low Flows - attraction, migratory cues in the middle Sacramento River	0.200	0.240	3	**0.72**	**VH**
Putah Creek	0.12	Adult Immigration and Holding	0.200	Harvest/Angling Impacts	0.100	Putah Creek	0.750	0.180	4	**0.72**	**VH**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Loss of Floodplain Habitat	0.150	Lower Sacramento River	0.300	0.180	4	**0.72**	**VH**
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Loss of Floodplain Habitat	0.150	Putah Creek	0.700	0.347	2	**0.69**	**VH**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Predation	0.100	Predation in the Delta	0.300	0.14	5	**0.68**	**VH**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Predation	0.100	Predation in the lower Sacramento River	0.300	0.14	5	**0.68**	**VH**
Beegum Creek	0.13	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Ocean	0.300	0.10	7	**0.68**	**VH**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Predation	0.100	Predation in the Delta	0.250	0.11	6	**0.68**	**VH**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Predation	0.100	Predation in the lower Sacramento River	0.250	0.11	6	**0.68**	**VH**
Beegum Creek	0.13	Embryo Incubation	**0.15**	Watershed disturbance	0.350	Sedimentation	1.000	0.68	1.00	**0.68**	**VH**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Floodplain Habitat	0.150	Middle Sacramento River	0.200	0.14	5	**0.68**	**VH**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Natural River Morphology	0.150	Beegum Creek	0.200	0.14	5	**0.68**	**VH**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Loss of Riparian Habitat and Instream Cover	0.160	Clear Creek	0.200	0.17	4	**0.67**	**VH**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Loss of Riparian Habitat and Instream Cover	0.160	Delta	0.200	0.17	4	**0.67**	**VH**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Loss of Riparian Habitat and Instream Cover	0.160	Middle Sacramento River	0.200	0.17	4	**0.67**	**VH**
Beegum Creek	0.13	Spawning	**0.25**	Flow Conditions	0.200	Flow Fluctuations	1.000	0.65	1	**0.65**	**VH**
Beegum Creek	0.13	Adult Immigration and Holding	**0.25**	Flow Conditions	0.200	Low Flows - attraction, migratory cues AND Flood Flows - non-natal area attraction in Lower Sacramento River	0.250	0.16	4	**0.65**	**VH**
Beegum Creek	0.13	Adult Immigration and Holding	**0.25**	Flow Conditions	0.200	Low Flows - attraction, migratory cues in Beegum Creek	0.250	0.16	4	**0.65**	**VH**

Northwestern California Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Beegum Creek	0.13	Adult Immigration and Holding	**0.25**	Flow Conditions	0.200	Low Flows - attraction, migratory cues in the middle Sacramento River	0.250	0.16	4	**0.65**	**VH**
Beegum Creek	0.13	Adult Immigration and Holding	**0.25**	Flow Conditions	0.200	Low Flows - attraction, migratory cues in the Upper Sacramento River	0.250	0.16	4	**0.65**	**VH**
Beegum Creek	0.13	Spawning	**0.25**	Water Temperature	0.200	Water Temperature in Beegum Creek	1.000	0.65	1	**0.65**	**VH**
Thomes Creek	0.13	Spawning	**0.25**	Water Temperature	0.200	Water Temperature in Thomes Creek	1.000	0.65	1	**0.65**	**VH**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.100	Individual Diversions in the Delta	0.200	0.09	7	**0.64**	**VH**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.100	Individual Diversions in the lower Sacramento River	0.200	0.09	7	**0.64**	**VH**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.100	Individual Diversions in the middle Sacramento River	0.200	0.09	7	**0.64**	**VH**
Clear Creek	0.21	Adult Immigration and Holding	0.2	Flow Conditions	0.250	Low Flows - attraction, migratory cues AND Flood Flows - non-natal area attraction in lower Sacramento River	0.200	0.21	3	**0.63**	**VH**
Clear Creek	0.21	Adult Immigration and Holding	0.2	Flow Conditions	0.250	Low Flows - attraction, migratory cues in the middle Sacramento River	0.200	0.21	3	**0.63**	**VH**
Clear Creek	0.21	Adult Immigration and Holding	0.2	Flow Conditions	0.250	Low Flows - attraction, migratory cues in the upper Sacramento River	0.200	0.21	3	**0.63**	**VH**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Loss of Floodplain Habitat	0.160	Upper Sacramento River	0.150	0.13	5	**0.63**	**VH**
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Flow Conditions	0.150	Changes in Hydrology	0.300	0.149	4	**0.59**	**VH**
Thomes Creek	0.13	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Ocean	0.300	0.10	6	**0.59**	**VH**
Thomes Creek	0.13	Embryo Incubation	**0.15**	Water Temperature	0.300	Water Temperature in Thomes Creek	1.000	0.59	1.00	**0.59**	**VH**
Stony Creek	0.16	Adult Immigration and Holding	0.30	Harvest/Angling Impacts	0.050	Ocean	0.400	0.096	6	**0.58**	**VH**
Stony Creek	0.16	Adult Immigration and Holding	0.30	Water Temperature	0.300	Middle Sacramento River	0.100	0.144	4	**0.58**	**VH**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Predation	0.100	Predation in the middle Sacramento River	0.250	0.11	5	**0.57**	**VH**
Clear Creek	0.21	Adult Immigration and Holding	0.2	Water Quality	0.150	Ag, Urban in the middle Sacramento River	0.150	0.09	6	**0.57**	**VH**
Clear Creek	0.21	Adult Immigration and Holding	0.2	Water Quality	0.150	Urban, Heavy Metals in the upper Sacramento River	0.150	0.09	6	**0.57**	**VH**
Stony Creek	0.16	Spawning	0.35	Flow Conditions	0.100	Flow Fluctuations	1.000	0.560	1	**0.56**	**VH**
Stony Creek	0.16	Spawning	0.35	Physical Habitat Alteration	0.100	Limited Instream Gravel Supply	1.000	0.560	1	**0.56**	**VH**

Northwestern California Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Predation	0.100	Predation in the middle Sacramento River	0.200	0.09	6	**0.55**	**VH**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Floodplain Habitat	0.150	Middle Sacramento River	0.200	0.14	4	**0.55**	**VH**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Floodplain Habitat	0.150	Thomes Creek	0.200	0.14	4	**0.55**	**VH**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Natural River Morphology	0.150	Middle Sacramento River	0.200	0.14	4	**0.55**	**VH**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Natural River Morphology	0.150	Thomes Creek	0.200	0.14	4	**0.55**	**VH**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Riparian Habitat and Instream Cover	0.150	Delta	0.200	0.14	4	**0.55**	**VH**
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Predation	0.100	Predation in Putah Creek	0.550	0.182	3	**0.54**	**VH**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Flow Conditions	0.150	Changes in Hydrology	0.150	0.090	6	**0.54**	**VH**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Predation	0.075	Predation in the Delta	0.350	0.105	5	**0.53**	**H**
Stony Creek	0.16	Embryo Incubation	**0.10**	Water Quality	0.325	Water Quality in Stony Creek	1.000	0.520	1.00	**0.52**	**H**
Stony Creek	0.16	Embryo Incubation	**0.10**	Water Temperature	0.325	Water Temperature in Stony Creek	1.000	0.520	1	**0.52**	**H**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Entrainment	0.070	Individual Diversions in the Delta	0.175	0.06	8	**0.51**	**H**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Entrainment	0.070	Individual Diversions in the lower Sacramento River	0.175	0.06	8	**0.51**	**H**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Entrainment	0.070	Individual Diversions in the middle Sacramento River	0.175	0.06	8	**0.51**	**H**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Entrainment	0.070	Jones and Banks Pumping Plants	0.175	0.06	8	**0.51**	**H**
Clear Creek	0.21	Adult Immigration and Holding	0.2	Harvest/Angling Impacts	0.050	Ocean	0.350	0.07	7	**0.51**	**H**
Clear Creek	0.21	Adult Immigration and Holding	0.2	Passage Impediments/Barriers	0.200	Yolo Bypass - Freemont Weir	0.100	0.08	6	**0.50**	**H**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Entrainment	0.050	Jones and Banks Pumping Plants	0.350	0.070	7	**0.49**	**H**
Beegum Creek	0.13	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.200	Yolo Bypass - Freemont Weir	0.150	0.10	5	**0.49**	**H**
Thomes Creek	0.13	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.100	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.300	0.10	5	**0.49**	**H**
Thomes Creek	0.13	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.100	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.300	0.10	5	**0.49**	**H**
Beegum Creek	0.13	Adult Immigration and Holding	**0.25**	Water Quality	0.100	Ag, Urban in the lower Sacramento River	0.250	0.08	6	**0.49**	**H**
Thomes Creek	0.13	Embryo Incubation	**0.15**	Watershed disturbance	0.250	Sedimentation	1.000	0.49	1.00	**0.49**	**H**

Northwestern California Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Loss of Floodplain Habitat	0.150	Stony Creek	0.200	0.120	4	**0.48**	**H**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Water Temperature	0.150	Delta	0.200	0.120	4	**0.48**	**H**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Flow Conditions	0.075	Diversion into Central Delta	0.200	0.08	6	**0.47**	**H**
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Loss of Natural River Morphology	0.100	Putah Creek	0.700	0.231	2	**0.46**	**H**
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Loss of Riparian Habitat and Instream Cover	0.100	Putah Creek	0.700	0.231	2	**0.46**	**H**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Water Temperature	0.050	Lower Sacramento River	0.350	0.09	5	**0.46**	**H**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Passage Impediments/Barriers	0.075	North Diversion Dam	0.500	0.150	3	**0.45**	**H**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Passage Impediments/Barriers	0.075	Tributary Barriers	0.500	0.150	3	**0.45**	**H**
Beegum Creek	0.13	Embryo Incubation	**0.15**	Flow Conditions	0.225	Flow Fluctuations	1.000	0.44	1.00	**0.44**	**H**
Beegum Creek	0.13	Embryo Incubation	**0.15**	Water Quality	0.225	Water Quality in Beegum Creek	1.000	0.44	1.00	**0.44**	**H**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Loss of Floodplain Habitat	0.160	Middle Sacramento River	0.100	0.08	5	**0.42**	**H**
Clear Creek	0.21	Spawning	0.4	Water Quality	0.050	Water Quality in Clear Creek	1.000	0.42	1	**0.42**	**H**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Loss of Natural River Morphology	0.075	Delta	0.350	0.105	4	**0.42**	**H**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Loss of Riparian Habitat and Instream Cover	0.075	Delta	0.350	0.105	4	**0.42**	**H**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Predation	0.100	Predation in the upper Sacramento River	0.150	0.07	6	**0.41**	**H**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.300	0.07	6	**0.41**	**H**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.300	0.07	6	**0.41**	**H**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Invasive Species/Food Web Disruption	0.075	Asian clam, A. aspera, Microcystis, etc. in the Delta	0.600	0.20	2	**0.41**	**H**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Invasive Species/Food Web Disruption	0.075	Asian clam, A. aspera, Microcystis, etc. in the Delta	0.600	0.20	2	**0.41**	**H**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Tidal Marsh Habitat	0.075	Delta	0.600	0.20	2	**0.41**	**H**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Tidal Marsh Habitat	0.075	Delta	0.600	0.20	2	**0.41**	**H**
Thomes Creek	0.13	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.250	Yolo Bypass - Freemont Weir	0.100	0.08	5	**0.41**	**H**
Beegum Creek	0.13	Adult Immigration and Holding	**0.25**	Water Temperature	0.250	Delta	0.100	0.08	5	**0.41**	**H**

Northwestern California Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Beegum Creek	0.13	Adult Immigration and Holding	**0.25**	Water Temperature	0.250	Lower Sacramento River	0.100	0.08	5	**0.41**	**H**
Beegum Creek	0.13	Adult Immigration and Holding	**0.25**	Water Temperature	0.250	Middle Sacramento River	0.100	0.08	5	**0.41**	**H**
Beegum Creek	0.13	Adult Immigration and Holding	**0.25**	Water Temperature	0.250	Upper Sacramento River	0.100	0.08	5	**0.41**	**H**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Water Quality	0.050	DO, Ag, Urban, Heavy Metals in th Delta	0.400	0.080	5	**0.40**	**H**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Predation	0.125	Predation in Clear Creek	0.100	0.07	6	**0.39**	**H**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Water Temperature	0.050	Middle Sacramento River	0.300	0.08	5	**0.39**	**H**
Thomes Creek	0.13	Embryo Incubation	**0.15**	Flow Conditions	0.200	Flow Fluctuations	1.000	0.39	1.00	**0.39**	**H**
Thomes Creek	0.13	Adult Immigration and Holding	**0.25**	Flow Conditions	0.100	Low Flows - attraction, migratory cues AND Flood Flows - non-natal area attraction in Lower Sacramento River	0.400	0.13	3	**0.39**	**H**
Thomes Creek	0.13	Adult Immigration and Holding	**0.25**	Flow Conditions	0.100	Low Flows - attraction, migratory cues in the middle Sacramento River	0.400	0.13	3	**0.39**	**H**
Beegum Creek	0.13	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.100	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.200	0.07	6	**0.39**	**H**
Beegum Creek	0.13	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.100	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.200	0.07	6	**0.39**	**H**
Beegum Creek	0.13	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.100	Sedimentation, turbidity, acoustic effects, hazardous spills in the upper Sacramento River	0.200	0.07	6	**0.39**	**H**
Thomes Creek	0.13	Adult Immigration and Holding	**0.25**	Water Quality	0.100	Ag, Urban in the lower Sacramento River	0.300	0.10	4	**0.39**	**H**
Thomes Creek	0.13	Adult Immigration and Holding	**0.25**	Water Quality	0.100	Ag, Urban in the middle Sacramento River	0.300	0.10	4	**0.39**	**H**
Beegum Creek	0.13	Adult Immigration and Holding	**0.25**	Water Quality	0.100	Ag, Urban in the middle Sacramento River	0.200	0.07	6	**0.39**	**H**
Beegum Creek	0.13	Adult Immigration and Holding	**0.25**	Water Quality	0.100	Ag, Urban in the upper Sacramento River	0.200	0.07	6	**0.39**	**H**
Thomes Creek	0.13	Adult Immigration and Holding	**0.25**	Water Quality	0.100	DO, Ag, Urban, Heavy Metals in the Delta	0.300	0.10	4	**0.39**	**H**
Thomes Creek	0.13	Embryo Incubation	**0.15**	Water Quality	0.200	Water Quality in Thomes Creek	1.000	0.39	1.00	**0.39**	**H**
Thomes Creek	0.13	Adult Immigration and Holding	**0.25**	Water Temperature	0.300	Delta	0.100	0.10	4	**0.39**	**H**
Thomes Creek	0.13	Adult Immigration and Holding	**0.25**	Water Temperature	0.300	Lower Sacramento River	0.100	0.10	4	**0.39**	**H**

Northwestern California Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Thomes Creek	0.13	Adult Immigration and Holding	**0.25**	Water Temperature	0.300	Middle Sacramento River	0.100	0.10	4	**0.39**	**H**
Stony Creek	0.16	Adult Immigration and Holding	0.30	Water Quality	0.050	DO, Ag, Urban, Heavy Metals in th Delta	0.400	0.096	4	**0.38**	**H**
Clear Creek	0.21	Adult Immigration and Holding	0.2	Water Quality	0.150	DO, Ag, Urban, Heavy Metals in the Bay	0.100	0.06	6	**0.38**	**H**
Putah Creek	0.12	Embryo Incubation	0.150	Flow Conditions	0.550	Flow Fluctuations	0.375	0.371	1	**0.37**	**H**
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Water Quality	0.075	Ag, Urban in Putah Creek	0.500	0.124	3	**0.37**	**H**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Passage Impediments/Barriers	0.050	Tributary Barriers	0.700	0.18	2	**0.37**	**H**
Stony Creek	0.16	Adult Immigration and Holding	0.30	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.300	0.072	5	**0.36**	**H**
Stony Creek	0.16	Adult Immigration and Holding	0.30	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.300	0.072	5	**0.36**	**H**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Loss of Floodplain Habitat	0.150	Middle Sacramento River	0.150	0.090	4	**0.36**	**H**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Loss of Natural River Morphology	0.075	Lower Sacramento River	0.300	0.090	4	**0.36**	**H**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Entrainment	0.050	Individual Unscreened Diversions in the Delta	0.250	0.050	7	**0.35**	**H**
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Invasive Species/Food Web Disruption	0.075	Asian clam, A. aspera, Microcystis, etc. in the Delta	0.700	0.173	2	**0.35**	**H**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.300	0.07	5	**0.34**	**H**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.300	0.07	5	**0.34**	**H**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Floodplain Habitat	0.150	Beegum Creek	0.100	0.07	5	**0.34**	**H**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Floodplain Habitat	0.150	Upper Sacramento River	0.100	0.07	5	**0.34**	**H**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Natural River Morphology	0.150	Middle Sacramento River	0.100	0.07	5	**0.34**	**H**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Natural River Morphology	0.150	Upper Sacramento River	0.100	0.07	5	**0.34**	**H**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Riparian Habitat and Instream Cover	0.150	Middle Sacramento River	0.100	0.07	5	**0.34**	**H**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Riparian Habitat and Instream Cover	0.150	Upper Sacramento River	0.100	0.07	5	**0.34**	**H**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Loss of Riparian Habitat and Instream Cover	0.075	Lower Sacramento River	0.275	0.083	4	**0.33**	**H**

Northwestern California Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Loss of Riparian Habitat and Instream Cover	0.075	Stony Creek	0.275	0.083	4	**0.33**	**H**
Thomes Creek	0.13	Spawning	**0.25**	Barrier	0.100	Redd superimposition, competition for habitat, hybridization/genetic integrity	1.000	0.33	1	**0.33**	**H**
Beegum Creek	0.13	Spawning	**0.25**	Barrier	0.100	Redd superimposition, competition for habitat, hybridization/genetic integrity	1.000	0.33	1	**0.33**	**H**
Thomes Creek	0.13	Spawning	**0.25**	Flow Conditions	0.100	Flow Fluctuations	1.000	0.33	1	**0.33**	**H**
Beegum Creek	0.13	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.200	Sacramento Deep Water Ship Channel	0.100	0.07	5	**0.33**	**H**
Beegum Creek	0.13	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.200	Suisun Marsh Salinity Control Structure	0.100	0.07	5	**0.33**	**H**
Beegum Creek	0.13	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.200	Sutter Bypass - Tisdale Weir	0.100	0.07	5	**0.33**	**H**
Thomes Creek	0.13	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.100	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bay	0.200	0.07	5	**0.33**	**H**
Stony Creek	0.16	Embryo Incubation	**0.10**	Flow Conditions	0.200	Flow Fluctuations	1.000	0.320	1	**0.32**	**H**
Putah Creek	0.12	Spawning	0.375	Physical Habitat Alteration	0.150	Limited Instream Gravel Supply	0.450	0.304	1	**0.30**	**H**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Predation	0.075	Predation in the lower Sacramento River	0.200	0.060	5	**0.30**	**H**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.300	0.060	5	**0.30**	**H**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.300	0.060	5	**0.30**	**H**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Water Quality	0.050	Ag, Urban in the lower Sacramento River	0.300	0.060	5	**0.30**	**H**
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Predation	0.100	Predation in the Delta	0.300	0.099	3	**0.30**	**H**
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Loss of Floodplain Habitat	0.150	Delta	0.300	0.149	2	**0.30**	**H**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Entrainment	0.070	Individual Diversions in Clear Creek	0.100	0.04	8	**0.29**	**H**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Entrainment	0.070	Individual Diversions in the upper Sacramento River	0.100	0.04	8	**0.29**	**H**
Clear Creek	0.21	Adult Immigration and Holding	0.2	Harvest/Angling Impacts	0.050	Clear Creek	0.200	0.04	7	**0.29**	**H**
Thomes Creek	0.13	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Bays	0.150	0.05	6	**0.29**	**H**
Thomes Creek	0.13	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Delta	0.150	0.05	6	**0.29**	**H**
Thomes Creek	0.13	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Lower Sacramento River	0.150	0.05	6	**0.29**	**H**

Northwestern California Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Thomes Creek	0.13	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Middle Sacramento River	0.150	0.05	6	**0.29**	**H**
Beegum Creek	0.13	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.100	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bay	0.150	0.05	6	**0.29**	**H**
Beegum Creek	0.13	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.100	Sedimentation, turbidity, acoustic effects, hazardous spills in the middle Sacramento River	0.150	0.05	6	**0.29**	**H**
Putah Creek	0.12	Spawning	0.375	Spawning Habitat Availability	0.200	Habitat Suitability	0.325	0.293	1	**0.29**	**H**
Beegum Creek	0.13	Adult Immigration and Holding	**0.25**	Water Quality	0.100	DO, Ag, Urban, Heavy Metals in the Delta	0.150	0.05	6	**0.29**	**H**
Stony Creek	0.16	Adult Immigration and Holding	0.30	Harvest/Angling Impacts	0.050	Middle Sacramento River	0.200	0.048	6	**0.29**	**H**
Stony Creek	0.16	Adult Immigration and Holding	0.30	Water Quality	0.050	Ag, Urban in the lower Sacramento River	0.300	0.072	4	**0.29**	**H**
Beegum Creek	0.13	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Delta	0.125	0.04	7	**0.28**	**H**
Beegum Creek	0.13	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Lower Sacramento River	0.125	0.04	7	**0.28**	**H**
Beegum Creek	0.13	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Middle Sacramento River	0.125	0.04	7	**0.28**	**H**
Beegum Creek	0.13	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Upper Sacramento River	0.125	0.04	7	**0.28**	**H**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Temperature	0.025	Beegum Creek	0.500	0.06	5	**0.28**	**H**
Stony Creek	0.16	Spawning	0.35	Harvest/Angling Impacts	0.050	Recreational, Poaching, Angler Impacts	1.000	0.280	1	**0.28**	**H**
Stony Creek	0.16	Spawning	0.35	Hatchery Effects	0.050	Redd superimposition, competition for habitat, Genetic Integrity	1.000	0.280	1	**0.28**	**H**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Invasive Species/Food Web Disruption	0.050	Asian clam, A. aspera, Microcystis, etc. in the Delta	0.700	0.140	2	**0.28**	**H**
Stony Creek	0.16	Spawning	0.35	Water Quality	0.050	Water Quality in Stony Creek	1.000	0.280	1	**0.28**	**H**
Stony Creek	0.16	Spawning	0.35	Water Temperature	0.050	Water Temperature in Stony Creek	1.000	0.280	1	**0.28**	**H**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Predation	0.100	Predation in Beegum Creek	0.100	0.05	6	**0.27**	**H**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the middle Sacramento River	0.200	0.05	6	**0.27**	**H**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Invasive Species/Food Web Disruption	0.075	Asian clam, A. aspera, Microcystis, etc. in the Bays	0.400	0.14	2	**0.27**	**H**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Invasive Species/Food Web Disruption	0.075	Asian clam, A. aspera, Microcystis, etc. in the Bays	0.400	0.14	2	**0.27**	**H**

Northwestern California Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Riparian Habitat and Instream Cover	0.150	Thomes Creek	0.100	0.07	4	**0.27**	**H**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Tidal Marsh Habitat	0.075	Bays	0.400	0.14	2	**0.27**	**H**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Tidal Marsh Habitat	0.075	Bays	0.400	0.14	2	**0.27**	**H**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Flow Conditions	0.150	Flow Dependent Habitat Availability in the lower Sacramento River	0.075	0.045	6	**0.27**	**H**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in Clear Creek	0.200	0.05	5	**0.26**	**M**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.200	0.05	5	**0.26**	**M**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.200	0.05	5	**0.26**	**M**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the upper Sacramento River	0.200	0.05	5	**0.26**	**M**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Water Quality	0.050	Urban, Heavy Metals in the upper Sacramento River	0.200	0.05	5	**0.26**	**M**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Water Quality	0.050	Ag, Urban in the lower Sacramento River	0.200	0.05	5	**0.26**	**M**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Water Quality	0.050	Ag, Urban in the middle Sacramento River	0.200	0.05	5	**0.26**	**M**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Water Quality	0.050	Ag, Urban in Clear Creek	0.200	0.05	5	**0.26**	**M**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Water Temperature	0.050	Clear Creek	0.200	0.05	5	**0.26**	**M**
Clear Creek	0.21	Adult Immigration and Holding	0.2	Passage Impediments/Barriers	0.200	Sacramento Deep Water Ship Channel	0.050	0.04	6	**0.25**	**M**
Clear Creek	0.21	Adult Immigration and Holding	0.2	Passage Impediments/Barriers	0.200	Suisun Marsh Salinity Control Structure	0.050	0.04	6	**0.25**	**M**
Clear Creek	0.21	Spawning	0.4	Harvest/Angling Impacts	0.030	Recreational, Poaching, Angler Impacts	1.000	0.25	1	**0.25**	**M**
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Water Temperature	0.150	Delta	0.250	0.124	2	**0.25**	**M**
Beegum Creek	0.13	Embryo Incubation	**0.15**	Water Temperature	0.125	Water Temperature in Beegum Creek	1.000	0.24	1.00	**0.24**	**M**
Stony Creek	0.16	Adult Immigration and Holding	0.30	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in Stony Creek	0.200	0.048	5	**0.24**	**M**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Loss of Natural River Morphology	0.075	Stony Creek	0.200	0.060	4	**0.24**	**M**

Northwestern California Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Water Temperature	0.150	Lower Sacramento River	0.100	0.060	4	**0.24**	**M**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Water Temperature	0.150	Middle Sacramento River	0.100	0.060	4	**0.24**	**M**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Flow Conditions	0.075	Changes in Hydrology	0.100	0.04	6	**0.24**	**M**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Flow Conditions	0.075	Reverse Flow Conditions	0.100	0.04	6	**0.24**	**M**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Hatchery Effects	0.030	Delta	0.300	0.05	5	**0.24**	**M**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Predation	0.100	Predation in Thomes Creek	0.100	0.05	5	**0.23**	**M**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the middle Sacramento River	0.200	0.05	5	**0.23**	**M**
Beegum Creek	0.13	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Bays	0.100	0.03	7	**0.23**	**M**
Beegum Creek	0.13	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Beegum Creek	0.100	0.03	7	**0.23**	**M**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Passage Impediments/Barriers	0.050	Tributary Barriers	1.000	0.23	1	**0.23**	**M**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Passage Impediments/Barriers	0.050	Tributary Barriers	1.000	0.23	1	**0.23**	**M**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Temperature	0.025	Thomes Creek	0.500	0.06	4	**0.23**	**M**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Passage Impediments/Barriers	0.075	Black Butte Dam	0.250	0.075	3	**0.23**	**M**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Predation	0.075	Predation in Stony Creek	0.150	0.045	5	**0.23**	**M**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Predation	0.075	Predation in the Bays	0.150	0.045	5	**0.23**	**M**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Predation	0.075	Predation in the middle Sacramento River	0.150	0.045	5	**0.23**	**M**
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Water Quality	0.075	DO, Ag, Urban, Heavy Metals in th Delta	0.300	0.074	3	**0.22**	**M**
Clear Creek	0.21	Adult Immigration and Holding	0.2	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.200	0.04	5	**0.21**	**M**
Clear Creek	0.21	Adult Immigration and Holding	0.2	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.200	0.04	5	**0.21**	**M**
Clear Creek	0.21	Adult Immigration and Holding	0.2	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the upper Sacramento River	0.200	0.04	5	**0.21**	**M**

Northwestern California Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Loss of Natural River Morphology	0.160	Upper Sacramento River	0.050	0.04	5	**0.21**	**M**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Entrainment	0.050	Individual Unscreened Diversions in Stony Creek	0.150	0.030	7	**0.21**	**M**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.025	Diversion into Central Delta	0.300	0.03	6	**0.20**	**M**
Thomes Creek	0.13	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.250	Sacramento Deep Water Ship Channel	0.050	0.04	5	**0.20**	**M**
Thomes Creek	0.13	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.250	Suisun Marsh Salinity Control Structure	0.050	0.04	5	**0.20**	**M**
Thomes Creek	0.13	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.250	Sutter Bypass - Tisdale Weir	0.050	0.04	5	**0.20**	**M**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in Stony Creek	0.200	0.040	5	**0.20**	**M**
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Loss of Natural River Morphology	0.100	Delta	0.300	0.099	2	**0.20**	**M**
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Loss of Riparian Habitat and Instream Cover	0.100	Delta	0.300	0.099	2	**0.20**	**M**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Predation	0.125	Predation in the Bays	0.050	0.03	6	**0.20**	**M**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the middle Sacramento River	0.150	0.04	5	**0.20**	**M**
Thomes Creek	0.13	Adult Immigration and Holding	**0.25**	Flow Conditions	0.100	Low Flows - attraction, migratory cues in Thomes Creek	0.200	0.07	3	**0.20**	**M**
Thomes Creek	0.13	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Thomes Creek	0.100	0.03	6	**0.20**	**M**
Beegum Creek	0.13	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.100	Sedimentation, turbidity, acoustic effects, hazardous spills in Beegum Creek	0.100	0.03	6	**0.20**	**M**
Beegum Creek	0.13	Adult Immigration and Holding	**0.25**	Water Quality	0.100	Ag, Urban in Beegum Creek	0.100	0.03	6	**0.20**	**M**
Beegum Creek	0.13	Adult Immigration and Holding	**0.25**	Water Quality	0.100	Ag, Urban in the Bay	0.100	0.03	6	**0.20**	**M**
Putah Creek	0.12	Adult Immigration and Holding	0.200	Water Quality	0.050	Ag, Urban in Putah Creek	0.800	0.096	2	**0.19**	**M**
Stony Creek	0.16	Adult Immigration and Holding	0.30	Water Quality	0.050	Ag, Urban in the middle Sacramento River	0.200	0.048	4	**0.19**	**M**
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Entrainment	0.025	Jones and Banks Pumping Plants	0.450	0.037	5	**0.19**	**M**
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Passage Impediments/Barriers	0.025	Solano Dam	0.750	0.062	3	**0.19**	**M**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.100	Contra Costa Power Plant	0.050	0.02	8	**0.18**	**M**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.100	Individual Diversions in Beegum Creek	0.050	0.02	8	**0.18**	**M**

Northwestern California Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.100	Individual Diversions in the upper Sacramento River	0.050	0.02	8	**0.18**	**M**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.100	Pittsburg Power Plant	0.050	0.02	8	**0.18**	**M**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Flow Conditions	0.150	Flow Dependent Habitat Availability in the middle Sacramento River	0.050	0.030	6	**0.18**	**M**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Loss of Natural River Morphology	0.075	Middle Sacramento River	0.150	0.045	4	**0.18**	**M**
Clear Creek	0.21	Adult Immigration and Holding	0.2	Passage Impediments/Barriers	0.200	Sutter Bypass - Tisdale Weir	0.035	0.03	6	**0.18**	**M**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.025	Delta	0.300	0.03	5	**0.17**	**M**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.025	Lower Sacramento River	0.300	0.03	5	**0.17**	**M**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.025	Delta	0.250	0.03	6	**0.17**	**M**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.025	Ag, Urban in the lower Sacramento River	0.250	0.03	6	**0.17**	**M**
Clear Creek	0.21	Spawning	0.4	Hatchery Effects	0.020	Redd superimposition, competition for habitat, Genetic Integrity	1.000	0.17	1	**0.17**	**M**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Loss of Riparian Habitat and Instream Cover	0.160	Upper Sacramento River	0.050	0.04	4	**0.17**	**M**
Thomes Creek	0.13	Spawning	**0.25**	Harvest/Angling Impacts	0.050	Recreational, Poaching, Angler Impacts	1.000	0.16	1	**0.16**	**M**
Beegum Creek	0.13	Spawning	**0.25**	Harvest/Angling Impacts	0.050	Recreational, Poaching, Angler Impacts	1.000	0.16	1	**0.16**	**M**
Thomes Creek	0.13	Spawning	**0.25**	Hatchery Effects	0.050	Redd superimposition, competition for habitat, Genetic Integrity	1.000	0.16	1	**0.16**	**M**
Beegum Creek	0.13	Spawning	**0.25**	Hatchery Effects	0.050	Redd superimposition, competition for habitat, Genetic Integrity	1.000	0.16	1	**0.16**	**M**
Thomes Creek	0.13	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.100	Sedimentation, turbidity, acoustic effects, hazardous spills in the middle Sacramento River	0.100	0.03	5	**0.16**	**M**
Thomes Creek	0.13	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.100	Sedimentation, turbidity, acoustic effects, hazardous spills in Thomes Creek	0.100	0.03	5	**0.16**	**M**
Beegum Creek	0.13	Spawning	**0.25**	Water Quality	0.050	Water Quality in Beegum Creek	1.000	0.16	1	**0.16**	**M**
Thomes Creek	0.13	Spawning	**0.25**	Water Quality	0.050	Water Quality in Thomes Creek	1.000	0.16	1	**0.16**	**M**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.100	Contra Costa Power Plant	0.050	0.02	7	**0.16**	**M**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.100	Individual Diversions in Thomes Creek	0.050	0.02	7	**0.16**	**M**

Northwestern California Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.100	Pittsburg Power Plant	0.050	0.02	7	**0.16**	**M**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.025	Changes in Hydrology	0.200	0.02	7	**0.16**	**M**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.025	Diversion into Central Delta	0.200	0.02	7	**0.16**	**M**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.025	Reverse Flow Conditions	0.200	0.02	7	**0.16**	**M**
Clear Creek	0.21	Embryo Incubation	**0.15**	Harvest/Angling Impacts	0.050	Redd disturbance	1.000	0.16	1.00	**0.16**	**M**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Passage Impediments/Barriers	0.050	Whiskeytown Dam	0.300	0.08	2	**0.16**	**M**
Clear Creek	0.21	Adult Immigration and Holding	0.2	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in Clear Creek	0.150	0.03	5	**0.16**	**M**
Clear Creek	0.21	Adult Immigration and Holding	0.2	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the middle Sacramento River	0.150	0.03	5	**0.16**	**M**
Clear Creek	0.21	Embryo Incubation	**0.15**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills, physical disturbance	1.000	0.16	1.00	**0.16**	**M**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Hatchery Effects	0.030	Lower Sacramento River	0.200	0.03	5	**0.16**	**M**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Hatchery Effects	0.030	Middle Sacramento River	0.200	0.03	5	**0.16**	**M**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Hatchery Effects	0.030	Upper Sacramento River	0.200	0.03	5	**0.16**	**M**
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Predation	0.100	Predation in the Bays	0.150	0.050	3	**0.15**	**M**
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Short-term Inwater Construction	0.025	Sedimentation, turbidity, acoustic effects, hazardous spills in Putah Creek	0.600	0.050	3	**0.15**	**M**
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Water Quality	0.075	Ag, Urban, Heavy Metals in the Bays	0.200	0.050	3	**0.15**	**M**
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Invasive Species/Food Web Disruption	0.075	Asian clam, A. aspera, Microcystis, etc. in the Bays	0.300	0.074	2	**0.15**	**M**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Entrainment	0.070	Contra Costa Power Plant	0.050	0.02	8	**0.15**	**M**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Entrainment	0.070	Pittsburg Power Plant	0.050	0.02	8	**0.15**	**M**
Clear Creek	0.21	Adult Immigration and Holding	0.2	Harvest/Angling Impacts	0.050	Delta	0.100	0.02	7	**0.15**	**M**
Clear Creek	0.21	Adult Immigration and Holding	0.2	Harvest/Angling Impacts	0.050	Lower Sacramento River	0.100	0.02	7	**0.15**	**M**
Clear Creek	0.21	Adult Immigration and Holding	0.2	Harvest/Angling Impacts	0.050	Middle Sacramento River	0.100	0.02	7	**0.15**	**M**

Northwestern California Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Clear Creek	0.21	Adult Immigration and Holding	0.2	Harvest/Angling Impacts	0.050	Upper Sacramento River	0.100	0.02	7	**0.15**	**M**
Beegum Creek	0.13	Embryo Incubation	**0.15**	Harvest/Angling Impacts	0.075	Redd disturbance	1.000	0.15	1.00	**0.15**	**M**
Stony Creek	0.16	Adult Immigration and Holding	0.30	Harvest/Angling Impacts	0.050	Bays	0.100	0.024	6	**0.14**	**M**
Stony Creek	0.16	Adult Immigration and Holding	0.30	Harvest/Angling Impacts	0.050	Delta	0.100	0.024	6	**0.14**	**M**
Putah Creek	0.12	Adult Immigration and Holding	0.200	Harvest/Angling Impacts	0.100	Delta	0.150	0.036	4	**0.14**	**M**
Stony Creek	0.16	Adult Immigration and Holding	0.30	Harvest/Angling Impacts	0.050	Lower Sacramento River	0.100	0.024	6	**0.14**	**M**
Stony Creek	0.16	Adult Immigration and Holding	0.30	Harvest/Angling Impacts	0.050	Stony Creek	0.100	0.024	6	**0.14**	**M**
Putah Creek	0.12	Adult Immigration and Holding	0.200	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in Putah Creek	0.400	0.048	3	**0.14**	**M**
Putah Creek	0.12	Adult Immigration and Holding	0.200	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.400	0.048	3	**0.14**	**M**
Putah Creek	0.12	Adult Immigration and Holding	0.200	Water Temperature	0.050	Delta	0.600	0.072	2	**0.14**	**M**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Entrainment	0.050	Individual Unscreened Diversions in the lower Sacramento River	0.100	0.020	7	**0.14**	**M**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.025	Changes in Hydrology	0.200	0.02	6	**0.14**	**M**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.025	Reverse Flow Conditions	0.200	0.02	6	**0.14**	**M**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.025	Lower Sacramento River	0.200	0.02	6	**0.14**	**M**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.025	Middle Sacramento River	0.200	0.02	6	**0.14**	**M**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.025	Upper Sacramento River	0.200	0.02	6	**0.14**	**M**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Predation	0.100	Predation in the Bays	0.050	0.02	6	**0.14**	**M**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bays	0.100	0.02	6	**0.14**	**M**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.025	Ag, Urban in the middle Sacramento River	0.200	0.02	6	**0.14**	**M**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.025	Ag, Urban in the upper Sacramento River	0.200	0.02	6	**0.14**	**M**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Water Quality	0.050	Ag, Urban, Heavy Metals in the Bays	0.100	0.03	5	**0.13**	**L**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Water Quality	0.050	DO, Ag, Urban, Heavy Metals in the Delta	0.100	0.03	5	**0.13**	**L**

Northwestern California Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Water Temperature	0.050	Delta	0.100	0.03	5	**0.13**	**L**
Thomes Creek	0.13	Adult Immigration and Holding	**0.25**	Water Quality	0.100	Ag, Urban in Thomes Creek	0.100	0.03	4	**0.13**	**L**
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Hatchery Effects	0.025	Delta	0.500	0.041	3	**0.12**	**L**
Stony Creek	0.16	Adult Immigration and Holding	0.30	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bay	0.100	0.024	5	**0.12**	**L**
Stony Creek	0.16	Adult Immigration and Holding	0.30	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the middle Sacramento River	0.100	0.024	5	**0.12**	**L**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Loss of Riparian Habitat and Instream Cover	0.075	Middle Sacramento River	0.100	0.030	4	**0.12**	**L**
Stony Creek	0.16	Embryo Incubation	**0.10**	Harvest/Angling Impacts	0.075	Redd disturbance	1.000	0.120	1.00	**0.12**	**L**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Invasive Species/Food Web Disruption	0.050	Asian clam, A. aspera, Microcystis, etc. in the Bays	0.300	0.060	2	**0.12**	**L**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Loss of Tidal Marsh Habitat	0.025	Delta	0.600	0.060	2	**0.12**	**L**
Stony Creek	0.16	Embryo Incubation	**0.10**	Short-term Inwater Construction	0.075	Sedimentation, turbidity, acoustic effects, hazardous spills, physical disturbance	1.000	0.120	1	**0.12**	**L**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Flow Conditions	0.075	Flow Dependent Habitat Availability in the lower Sacramento River	0.050	0.02	6	**0.12**	**L**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Flow Conditions	0.075	Flow Dependent Habitat Availability in the middle Sacramento River	0.050	0.02	6	**0.12**	**L**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Flow Conditions	0.075	Flow Dependent Habitat Availability in the upper Sacramento River	0.050	0.02	6	**0.12**	**L**
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Loss of Tidal Marsh Habitat	0.025	Delta	0.700	0.058	2	**0.12**	**L**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Predation	0.100	Predation in the Bays	0.050	0.02	5	**0.11**	**L**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bays	0.100	0.02	5	**0.11**	**L**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in Thomes Creek	0.100	0.02	5	**0.11**	**L**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.025	Ag, Urban in the lower Sacramento River	0.200	0.02	5	**0.11**	**L**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.025	Ag, Urban in the middle Sacramento River	0.200	0.02	5	**0.11**	**L**

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Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.025	Ag, Urban in Thomes Creek	0.200	0.02	5	**0.11**	**L**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.025	Ag, Urban, Heavy Metals in the Bays	0.200	0.02	5	**0.11**	**L**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.025	DO, Ag, Urban, Heavy Metals in the Delta	0.200	0.02	5	**0.11**	**L**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Temperature	0.025	Lower Sacramento River	0.200	0.02	5	**0.11**	**L**
Putah Creek	0.12	Embryo Incubation	0.150	Water Temperature	0.300	Water Temperature in Putah Creek	0.200	0.108	1	**0.11**	**L**
Clear Creek	0.21	Adult Immigration and Holding	0.2	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bay	0.100	0.02	5	**0.11**	**L**
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Entrainment	0.025	Individual Diversions in Putah Creek	0.250	0.021	5	**0.10**	**L**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.025	DO, Ag, Urban, Heavy Metals in the Delta	0.150	0.02	6	**0.10**	**L**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Hatchery Effects	0.025	Bays	0.200	0.020	5	**0.10**	**L**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Hatchery Effects	0.025	Delta	0.200	0.020	5	**0.10**	**L**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Hatchery Effects	0.025	Lower Sacramento River	0.200	0.020	5	**0.10**	**L**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Hatchery Effects	0.025	Middle Sacramento River	0.200	0.020	5	**0.10**	**L**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Hatchery Effects	0.025	Stony Creek	0.200	0.020	5	**0.10**	**L**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bays	0.100	0.020	5	**0.10**	**L**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the middle Sacramento River	0.100	0.020	5	**0.10**	**L**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Water Quality	0.050	Ag, Urban in the middle Sacramento River	0.100	0.020	5	**0.10**	**L**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Water Quality	0.050	Ag, Urban in Stony Creek	0.100	0.020	5	**0.10**	**L**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Water Quality	0.050	Ag, Urban, Heavy Metals in the Bays	0.100	0.020	5	**0.10**	**L**
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Flow Conditions	0.150	Diversion into Central Delta	0.050	0.025	4	**0.10**	**L**
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Flow Conditions	0.150	Reverse Flow Conditions	0.050	0.025	4	**0.10**	**L**
Thomes Creek	0.13	Embryo Incubation	**0.15**	Harvest/Angling Impacts	0.050	Redd disturbance	1.000	0.10	1.00	**0.10**	**L**
Stony Creek	0.16	Adult Immigration and Holding	0.30	Water Quality	0.050	Stony Creek	0.100	0.024	4	**0.10**	**L**

Northwestern California Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Putah Creek	0.12	Adult Immigration and Holding	0.200	Water Temperature	0.050	Putah Creek	0.400	0.048	2	**0.10**	**L**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Temperature	0.025	Lower Sacramento River	0.200	0.02	4	**0.09**	**L**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Temperature	0.025	Middle Sacramento River	0.200	0.02	4	**0.09**	**L**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Flow Conditions	0.150	Reverse Flow Conditions	0.025	0.015	6	**0.09**	**L**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.025	Middle Sacramento River	0.150	0.02	5	**0.09**	**L**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Temperature	0.025	Middle Sacramento River	0.150	0.02	5	**0.09**	**L**
Putah Creek	0.12	Adult Immigration and Holding	0.200	Passage Impediments/Barriers	0.350	Sacramento Deep Water Ship Channel	0.025	0.021	4	**0.08**	**L**
Putah Creek	0.12	Adult Immigration and Holding	0.200	Passage Impediments/Barriers	0.350	Suisun Marsh Salinity Control Structure	0.025	0.021	4	**0.08**	**L**
Thomes Creek	0.13	Spawning	**0.25**	Physical Habitat Alteration	0.050	Limited Instream Gravel Supply	0.500	0.08	1	**0.08**	**L**
Beegum Creek	0.13	Spawning	**0.25**	Physical Habitat Alteration	0.050	Limited Instream Gravel Supply	0.500	0.08	1	**0.08**	**L**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Loss of Tidal Marsh Habitat	0.025	Bays	0.400	0.040	2	**0.08**	**L**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.025	Flow Dependent Habitat Availability in Beegum Creek	0.100	0.01	7	**0.08**	**L**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.025	Flow Dependent Habitat Availability in the lower Sacramento River	0.100	0.01	7	**0.08**	**L**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.025	Flow Dependent Habitat Availability in the middle Sacramento River	0.100	0.01	7	**0.08**	**L**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.025	Flow Dependent Habitat Availability in the upper Sacramento River	0.100	0.01	7	**0.08**	**L**
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Hatchery Effects	0.025	Bays	0.300	0.025	3	**0.07**	**L**
Clear Creek	0.21	Adult Immigration and Holding	0.2	Harvest/Angling Impacts	0.050	Bays	0.050	0.01	7	**0.07**	**L**
Putah Creek	0.12	Adult Immigration and Holding	0.200	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bay	0.200	0.024	3	**0.07**	**L**
Stony Creek	0.16	Adult Immigration and Holding	0.30	Passage Impediments/Barriers	0.300	Sacramento Deep Water Ship Channel	0.010	0.014	5	**0.07**	**L**
Stony Creek	0.16	Adult Immigration and Holding	0.30	Passage Impediments/Barriers	0.300	Suisun Marsh Salinity Control Structure	0.010	0.014	5	**0.07**	**L**
Stony Creek	0.16	Adult Immigration and Holding	0.30	Passage Impediments/Barriers	0.300	Sutter Bypass - Tisdale Weir	0.010	0.014	5	**0.07**	**L**
Stony Creek	0.16	Adult Immigration and Holding	0.30	Passage Impediments/Barriers	0.300	Yolo Bypass - Freemont Weir	0.010	0.014	5	**0.07**	**L**

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Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Entrainment	0.050	Contra Costa Power Plant	0.050	0.010	7	**0.07**	**L**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Entrainment	0.050	Individual Unscreened Diversions in the middle Sacramento River	0.050	0.010	7	**0.07**	**L**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Entrainment	0.050	Pittsburg Power Plant	0.050	0.010	7	**0.07**	**L**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.025	Flow Dependent Habitat Availability in the lower Sacramento River	0.100	0.01	6	**0.07**	**L**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.025	Flow Dependent Habitat Availability in the middle Sacramento River	0.100	0.01	6	**0.07**	**L**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.025	Flow Dependent Habitat Availability in Thomes Creek	0.100	0.01	6	**0.07**	**L**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.025	Bays	0.100	0.01	6	**0.07**	**L**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in Beegum Creek	0.050	0.01	6	**0.07**	**L**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the upper Sacramento River	0.050	0.01	6	**0.07**	**L**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.025	Ag, Urban in Beegum Creek	0.100	0.01	6	**0.07**	**L**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.025	Ag, Urban, Heavy Metals in the Bays	0.100	0.01	6	**0.07**	**L**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bays	0.050	0.01	5	**0.07**	**L**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Water Temperature	0.050	Upper Sacramento River	0.050	0.01	5	**0.07**	**L**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Invasive Species/Food Web Disruption	0.010	Asian clam, A. aspera, Microcystis, etc. in the Delta	0.600	0.03	2	**0.06**	**L**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Loss of Tidal Marsh Habitat	0.010	Delta	0.600	0.03	2	**0.06**	**L**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.025	Bays	0.100	0.01	5	**0.06**	**L**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.025	Thomes Creek	0.100	0.01	5	**0.06**	**L**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Temperature	0.025	Delta	0.100	0.01	5	**0.06**	**L**
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Hatchery Effects	0.025	Putah Creek	0.200	0.017	3	**0.05**	**L**
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Passage Impediments/Barriers	0.025	Montecello Dam	0.200	0.017	3	**0.05**	**L**

Northwestern California Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Short-term Inwater Construction	0.025	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bays	0.200	0.017	3	**0.05**	**L**
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Short-term Inwater Construction	0.025	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.200	0.017	3	**0.05**	**L**
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Loss of Tidal Marsh Habitat	0.025	Bays	0.300	0.025	2	**0.05**	**L**
Putah Creek	0.12	Adult Immigration and Holding	0.200	Harvest/Angling Impacts	0.100	Bays	0.050	0.012	4	**0.05**	**L**
Putah Creek	0.12	Adult Immigration and Holding	0.200	Harvest/Angling Impacts	0.100	Ocean	0.050	0.012	4	**0.05**	**L**
Putah Creek	0.12	Adult Immigration and Holding	0.200	Water Quality	0.050	DO, Ag, Urban, Heavy Metals in th Delta	0.200	0.024	2	**0.05**	**L**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Temperature	0.025	Delta	0.100	0.01	4	**0.05**	**L**
Putah Creek	0.12	Spawning	0.375	Flow Conditions	0.200	Flow Fluctuations	0.050	0.045	1	**0.05**	**L**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Invasive Species/Food Web Disruption	0.010	Asian clam, A. aspera, Microcystis, etc. in the Bays	0.400	0.02	2	**0.04**	**L**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Loss of Tidal Marsh Habitat	0.010	Bays	0.400	0.02	2	**0.04**	**L**
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Entrainment	0.025	Contra Costa Power Plant	0.100	0.008	5	**0.04**	**L**
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Entrainment	0.025	Individual Diversions in the Delta	0.100	0.008	5	**0.04**	**L**
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Entrainment	0.025	Pittsburg Power Plant	0.100	0.008	5	**0.04**	**L**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Hatchery Effects	0.030	Bays	0.050	0.01	5	**0.04**	**L**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Hatchery Effects	0.030	Clear Creek	0.050	0.01	5	**0.04**	**L**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.025	Beegum Creek	0.050	0.01	6	**0.03**	**L**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Temperature	0.025	Upper Sacramento River	0.050	0.01	5	**0.03**	**L**
Putah Creek	0.12	Spawning	0.375	Barrier	0.250	Redd superimposition, competition for habitat, hybridization/genetic integrity	0.025	0.028	1	**0.03**	**L**
Putah Creek	0.12	Embryo Incubation	0.150	Harvest/Angling Impacts	0.050	Redd disturbance	0.275	0.025	1.00	**0.02**	**L**
Putah Creek	0.12	Spawning	0.375	Harvest/Angling Impacts	0.050	Recreational, Poaching, Angler Impacts	0.075	0.017	1	**0.02**	**L**
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Passage Impediments/Barriers	0.025	Tributary Barriers	0.050	0.004	3	**0.01**	**L**
Putah Creek	0.12	Spawning	0.375	Hatchery Effects	0.050	Redd superimposition, competition for habitat, Genetic Integrity	0.050	0.011	1	**0.01**	**L**
Putah Creek	0.12	Spawning	0.375	Water Temperature	0.050	Putah Creek	0.050	0.011	1	**0.01**	**L**

Northwestern California Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Putah Creek	0.12	Spawning	0.375	Water Quality	0.050	Putah Creek	0.025	0.006	1	**0.01**	**L**
Putah Creek	0.12	Embryo Incubation	0.150	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills, physical disturbance	0.050	0.005	1	**0.00**	**L**
Putah Creek	0.12	Embryo Incubation	0.150	Water Quality	0.050	Water Pollution	0.050	0.005	1.00	**0.00**	**L**

Southern Sierra Nevada Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
San Joaquin River	0.15	Adult Immigration and Holding	0.30	Passage Impediments/Barriers	0.400	Friant Dam	0.500	0.900	5	**4.500**	**VH**
Calaveras River	0.19	Adult Immigration and Holding	0.30	Passage Impediments/Barriers	0.350	Bellota Weir	0.375	0.748	5	**3.741**	**VH**
Calaveras River	0.19	Adult Immigration and Holding	0.30	Passage Impediments/Barriers	0.350	Flash Board Dams	0.375	0.748	5	**3.741**	**VH**
San Joaquin River	0.15	Juvenile Rearing and Outmigration	0.40	Flow Conditions	0.250	Flow Dependent Habitat Availability in the San Joaquin River	0.500	0.750	4	**3.000**	**VH**
Tuolumne River	0.16	Spawning	0.35	Spawning Habitat Availability	0.500	Habitat Suitability	1.000	2.800	1	**2.800**	**VH**
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Flow Conditions	0.300	Flow Dependent Habitat Availability in the Calaveras River	0.500	0.855	3	**2.565**	**VH**
Tuolumne River	0.16	Adult Immigration and Holding	0.20	Passage Impediments/Barriers	0.350	La Grange	0.500	0.560	4	**2.240**	**VH**
Stanislaus River	0.18	Spawning	0.35	Physical Habitat Alteration	0.350	Limited Instream Gravel Supply	1.000	2.205	1	**2.205**	**VH**
Stanislaus River	0.18	Spawning	0.35	Spawning Habitat Availability	0.350	Habitat Suitability	1.000	2.205	1	**2.205**	**VH**
Tuolumne River	0.16	Adult Immigration and Holding	0.20	Passage Impediments/Barriers	0.350	Don Pedro	0.350	0.392	5	**1.960**	**VH**
Merced River	0.16	Spawning	0.30	Spawning Habitat Availability	0.400	Habitat Suitability	1.000	1.920	1	**1.920**	**VH**
Stanislaus River	0.18	Adult Immigration and Holding	0.20	Passage Impediments/Barriers	0.300	Goodwin Dam	0.350	0.378	5	**1.890**	**VH**
San Joaquin River	0.15	Juvenile Rearing and Outmigration	0.40	Flow Conditions	0.250	Changes in Hydrology	0.300	0.450	4	**1.800**	**VH**
Calaveras River	0.19	Embryo Incubation	**0.20**	Flow Conditions	0.450	Flow Fluctuations	1.000	1.710	1	**1.710**	**VH**
Calaveras River	0.19	Adult Immigration and Holding	0.30	Flow Conditions	0.300	Low flows limiting attraction into the Calaveras Rvier	1.000	1.710	1	**1.710**	**VH**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Flow Conditions	0.200	Flow Dependent Habitat Availability in Merced River	0.350	0.336	5	**1.680**	**VH**
Tuolumne River	0.16	Spawning	0.35	Physical Habitat Alteration	0.300	Limited Instream Gravel Supply	1.000	1.680	1	**1.680**	**VH**
Stanislaus River	0.18	Adult Immigration and Holding	0.20	Passage Impediments/Barriers	0.300	New Melones	0.300	0.324	5	**1.620**	**VH**
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Flow Conditions	0.300	Changes in Hydrology	0.300	0.513	3	**1.539**	**VH**
Calaveras River	0.19	Adult Immigration and Holding	0.30	Passage Impediments/Barriers	0.350	Stockton Deep Water Ship Channel	0.150	0.299	5	**1.496**	**VH**
San Joaquin River	0.15	Juvenile Rearing and Outmigration	0.40	Water Quality	0.150	Ag, Urban in the San Joaquin River	0.550	0.495	3	**1.485**	**VH**
Mokelumne River	0.15	Adult Immigration and Holding	0.15	Passage Impediments/Barriers	0.300	Camanche Dam	0.440	0.297	5	**1.485**	**VH**
Merced River	0.16	Adult Immigration and Holding	0.20	Passage Impediments/Barriers	0.300	Crocker Huffman	0.300	0.288	5	**1.440**	**VH**
Stanislaus River	0.18	Adult Immigration and Holding	0.20	Flow Conditions	0.350	Low flows limiting attraction into the Stanislaus River	0.550	0.693	2	**1.386**	**VH**

Southern Sierra Nevada Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
San Joaquin River	0.15	Adult Immigration and Holding	0.30	Passage Impediments/Barriers	0.400	Mendota Pool	0.150	0.270	5	**1.350**	**VH**
San Joaquin River	0.15	Adult Immigration and Holding	0.30	Passage Impediments/Barriers	0.400	Sack Dam	0.150	0.270	5	**1.350**	**VH**
San Joaquin River	0.15	Adult Immigration and Holding	0.30	Passage Impediments/Barriers	0.400	Stockton Deep Water Ship Channel	0.150	0.270	5	**1.350**	**VH**
Stanislaus River	0.18	Embryo Incubation	**0.20**	Flow Conditions	0.600	Flow Fluctuations	0.600	1.296	1	**1.296**	**VH**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Hatchery Effects	0.175	Mokelumne River	0.650	0.427	3	**1.280**	**VH**
Stanislaus River	0.18	Spawning	0.35	Flow Conditions	0.200	Flow Fluctuations	1.000	1.260	1	**1.260**	**VH**
San Joaquin River	0.15	Adult Immigration and Holding	0.30	Water Quality	0.200	Ag, Urban in the San Joaquin River	0.700	0.630	2	**1.260**	**VH**
San Joaquin River	0.15	Juvenile Rearing and Outmigration	0.40	Water Temperature	0.150	San Joaquin River	0.700	0.630	2	**1.260**	**VH**
Mokelumne River	0.15	Spawning	0.40	Barrier	0.200	Competition for spawning habitat	1.000	1.200	1	**1.200**	**VH**
Mokelumne River	0.15	Spawning	0.40	Hatchery Effects	0.200	Redd superimposition, competition for habitat, Genetic Integrity	1.000	1.200	1	**1.200**	**VH**
Merced River	0.16	Adult Immigration and Holding	0.20	Passage Impediments/Barriers	0.300	McSwain Dam	0.250	0.240	5	**1.200**	**VH**
Mokelumne River	0.15	Spawning	0.40	Spawning Habitat Availability	0.200	Habitat Suitability	1.000	1.200	1	**1.200**	**VH**
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Passage Impediments/Barriers	0.175	Bellota Weir	0.400	0.399	3	**1.197**	**VH**
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Passage Impediments/Barriers	0.175	New Hogan Dam	0.400	0.399	3	**1.197**	**VH**
Calaveras River	0.19	Adult Immigration and Holding	0.30	Water Quality	0.150	Ag, Urban in the Calaveras River	0.700	0.599	2	**1.197**	**VH**
Tuolumne River	0.16	Embryo Incubation	**0.20**	Flow Conditions	0.600	Flow Fluctuations	0.600	1.152	1	**1.152**	**VH**
Mokelumne River	0.15	Adult Immigration and Holding	0.15	Passage Impediments/Barriers	0.300	Pardee Reservoir Dam	0.340	0.230	5	**1.148**	**VH**
Stanislaus River	0.18	Adult Immigration and Holding	0.20	Flow Conditions	0.350	Low Flows - attraction, migratory cues in Stanislaus River	0.450	0.567	2	**1.134**	**VH**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Flow Conditions	0.125	Flow Dependent Habitat Availability in the Stanislaus River	0.400	0.225	5	**1.125**	**VH**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Water Temperature	0.200	San Joaquin River	0.450	0.360	3	**1.080**	**VH**
Merced River	0.16	Adult Immigration and Holding	0.20	Flow Conditions	0.300	Low Flows - attraction, migratory cues AND Flood Flows - non-natal area attraction in San Joaquin River	0.550	0.528	2	**1.056**	**VH**
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Flow Conditions	0.300	Reverse Flow Conditions	0.200	0.342	3	**1.026**	**VH**

Southern Sierra Nevada Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Water Temperature	0.150	San Joaquin River	0.500	0.338	3	**1.013**	**VH**
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Water Temperature	0.125	Calaveras River	0.700	0.499	2	**0.998**	**VH**
Mokelumne River	0.15	Embryo Incubation	**0.20**	Flow Conditions	0.325	Flow Fluctuations	1.000	0.975	1	**0.975**	**VH**
Stanislaus River	0.18	Adult Immigration and Holding	0.20	Passage Impediments/Barriers	0.300	Tulloch Dam	0.180	0.194	5	**0.972**	**VH**
Merced River	0.16	Embryo Incubation	**0.20**	Flow Conditions	0.550	Flow Fluctuations	0.550	0.968	1	**0.968**	**VH**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Flow Conditions	0.200	Flow Dependent Habitat Availability in the San Joaquin River	0.200	0.192	5	**0.960**	**VH**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Flow Conditions	0.200	Reverse Flow Conditions	0.200	0.192	5	**0.960**	**VH**
Merced River	0.16	Spawning	0.30	Physical Habitat Alteration	0.200	Limited Instream Gravel Supply	1.000	0.960	1	**0.960**	**VH**
Merced River	0.16	Adult Immigration and Holding	0.20	Passage Impediments/Barriers	0.300	New Exchequer Dam	0.200	0.192	5	**0.960**	**VH**
Merced River	0.16	Adult Immigration and Holding	0.20	Passage Impediments/Barriers	0.300	Stockton Deep Water Ship Channel	0.200	0.192	5	**0.960**	**VH**
Calaveras River	0.19	Embryo Incubation	**0.20**	Water Temperature	0.250	Water temperature in the Calaveras River	1.000	0.950	1	**0.950**	**VH**
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Water Quality	0.100	Ag, Urban in the Calaveras River	0.550	0.314	3	**0.941**	**VH**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Flow Conditions	0.200	Flow Dependent Habitat Availability in the Mokelumne River	0.400	0.300	3	**0.900**	**VH**
San Joaquin River	0.15	Adult Immigration and Holding	0.30	Flow Conditions	0.200	Low Flows - attraction, migratory cues AND Flood Flows - non-natal area attraction in San Joaquin River	1.000	0.900	1	**0.900**	**VH**
San Joaquin River	0.15	Juvenile Rearing and Outmigration	0.40	Flow Conditions	0.250	Reverse Flow Conditions	0.150	0.225	4	**0.900**	**VH**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Flow Conditions	0.125	Flow Dependent Habitat Availability in the Tuolumne River	0.350	0.175	5	**0.875**	**VH**
Merced River	0.16	Adult Immigration and Holding	0.20	Flow Conditions	0.300	Low Flows - attraction, migratory cues in the Merced River	0.450	0.432	2	**0.864**	**VH**
Calaveras River	0.19	Spawning	0.20	Spawning Habitat Availability	0.225	Habitat Suitability	1.000	0.855	1	**0.855**	**VH**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Flow Conditions	0.125	Changes in Hydrology	0.300	0.169	5	**0.844**	**VH**
San Joaquin River	0.15	Juvenile Rearing and Outmigration	0.40	Loss of Riparian Habitat and Instream Cover	0.100	San Joaquin River	0.700	0.420	2	**0.840**	**VH**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Water Temperature	0.200	Tuolumne River	0.350	0.280	3	**0.840**	**VH**
Mokelumne River	0.15	Embryo Incubation	**0.20**	Water Temperature	0.275	Water temperature in the Mokelumne River	1.000	0.825	1	**0.825**	**VH**

Southern Sierra Nevada Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Stanislaus River	0.18	Adult Immigration and Holding	0.20	Passage Impediments/Barriers	0.300	Stockton Deep Water Ship Channel	0.150	0.162	5	**0.810**	**VH**
San Joaquin River	0.15	Juvenile Rearing and Outmigration	0.40	Water Quality	0.150	DO, Ag, Urban, Heavy Metals in th Delta	0.300	0.270	3	**0.810**	**VH**
Merced River	0.16	Adult Immigration and Holding	0.20	Water Temperature	0.200	Merced River	0.400	0.256	3	**0.768**	**VH**
Tuolumne River	0.16	Adult Immigration and Holding	0.20	Water Temperature	0.200	San Joaquin River	0.400	0.256	3	**0.768**	**VH**
Merced River	0.16	Adult Immigration and Holding	0.20	Water Temperature	0.200	San Joaquin River	0.400	0.256	3	**0.768**	**VH**
Tuolumne River	0.16	Adult Immigration and Holding	0.20	Water Temperature	0.200	Tuolumne River	0.400	0.256	3	**0.768**	**VH**
Calaveras River	0.19	Spawning	0.20	Barrier	0.200	Redd superimposition, competition for habitat, hybridization/genetic integrity	1.000	0.760	1	**0.760**	**VH**
Calaveras River	0.19	Spawning	0.20	Flow Conditions	0.200	Flow Fluctuations	1.000	0.760	1	**0.760**	**VH**
Calaveras River	0.19	Spawning	0.20	Physical Habitat Alteration	0.200	Limited Instream Gravel Supply	1.000	0.760	1	**0.760**	**VH**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Loss of Riparian Habitat and Instream Cover	0.150	Delta	0.350	0.252	3	**0.756**	**VH**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Loss of Riparian Habitat and Instream Cover	0.150	San Joaquin River	0.350	0.252	3	**0.756**	**VH**
San Joaquin River	0.15	Spawning	0.20	Spawning Habitat Availability	0.250	Habitat Suitability	1.000	0.750	1	**0.750**	**VH**
Stanislaus River	0.18	Adult Immigration and Holding	0.20	Water Quality	0.150	Ag, Urban in the San Joaquin River	0.450	0.243	3	**0.729**	**VH**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Flow Conditions	0.200	Changes in Hydrology	0.150	0.144	5	**0.720**	**VH**
Merced River	0.16	Spawning	0.30	Flow Conditions	0.150	Flow Fluctuations	1.000	0.720	1	**0.720**	**VH**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Water Quality	0.100	Ag, Urban in the San Joaquin River	0.400	0.180	4	**0.720**	**VH**
Merced River	0.16	Spawning	0.30	Water Temperature	0.150	Water temperature in the Merced River	1.000	0.720	1	**0.720**	**VH**
Tuolumne River	0.16	Adult Immigration and Holding	0.20	Flow Conditions	0.200	Low Flows - attraction, migratory cues in Tuolumne River	0.550	0.352	2	**0.704**	**VH**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Entrainment	0.075	Jones and Banks Pumping Plants	0.500	0.141	5	**0.703**	**VH**
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Loss of Natural River Morphology	0.100	Calaveras River	0.600	0.342	2	**0.684**	**VH**
Calaveras River	0.19	Adult Immigration and Holding	0.30	Water Temperature	0.100	Calaveras River	0.600	0.342	2	**0.684**	**VH**
Mokelumne River	0.15	Adult Immigration and Holding	0.15	Flow Conditions	0.300	Low Flows - attraction, migratory cues AND Flood Flows - non-natal area attraction in the Mokelumne River	1.000	0.675	1	**0.675**	**VH**

Southern Sierra Nevada Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Flow Conditions	0.200	Changes in Hydrology	0.300	0.225	3	**0.675**	**VH**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Flow Conditions	0.200	Reverse Flow Conditions	0.300	0.225	3	**0.675**	**VH**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Entrainment	0.050	Jones and Banks Pumping Plants	0.450	0.108	6	**0.648**	**VH**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Water Temperature	0.100	San Joaquin River	0.450	0.216	3	**0.648**	**VH**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Loss of Riparian Habitat and Instream Cover	0.150	Merced River	0.300	0.216	3	**0.648**	**VH**
Stanislaus River	0.18	Adult Immigration and Holding	0.20	Water Quality	0.150	DO, Ag, Urban, Heavy Metals in th Delta	0.400	0.216	3	**0.648**	**VH**
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Predation	0.075	Predation in the Delta	0.500	0.214	3	**0.641**	**VH**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Water Temperature	0.150	Delta	0.300	0.203	3	**0.608**	**VH**
San Joaquin River	0.15	Juvenile Rearing and Outmigration	0.40	Entrainment	0.050	Jones and Banks Pumping Plants	0.400	0.120	5	**0.600**	**VH**
San Joaquin River	0.15	Spawning	0.20	Barrier	0.200	Redd superimposition, competition for habitat, hybridization/genetic integrity	1.000	0.600	1	**0.600**	**VH**
Mokelumne River	0.15	Spawning	0.40	Flow Conditions	0.100	Flow Fluctuations	1.000	0.600	1	**0.600**	**VH**
San Joaquin River	0.15	Juvenile Rearing and Outmigration	0.40	Loss of Floodplain Habitat	0.050	Delta	0.500	0.150	4	**0.600**	**VH**
San Joaquin River	0.15	Juvenile Rearing and Outmigration	0.40	Loss of Floodplain Habitat	0.050	San Joaquin River	0.500	0.150	4	**0.600**	**VH**
San Joaquin River	0.15	Juvenile Rearing and Outmigration	0.40	Loss of Tidal Marsh Habitat	0.050	Bays	0.500	0.150	4	**0.600**	**VH**
San Joaquin River	0.15	Juvenile Rearing and Outmigration	0.40	Loss of Tidal Marsh Habitat	0.050	Delta	0.500	0.150	4	**0.600**	**VH**
Mokelumne River	0.15	Spawning	0.40	Physical Habitat Alteration	0.100	Limited Instream Gravel Supply	1.000	0.600	1	**0.600**	**VH**
Mokelumne River	0.15	Spawning	0.40	Water Temperature	0.100	Water temperature in the Mokelumne River	1.000	0.600	1	**0.600**	**VH**
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Passage Impediments/Barriers	0.175	Tributary Barriers	0.200	0.200	3	**0.599**	**H**
Tuolumne River	0.16	Adult Immigration and Holding	0.20	Flow Conditions	0.200	Low Flows - attraction, migratory cues AND Flood Flows - non-natal area attraction in San Joaquin River	0.450	0.288	2	**0.576**	**H**
Tuolumne River	0.16	Adult Immigration and Holding	0.20	Water Quality	0.150	Ag, Urban in the San Joaquin River	0.400	0.192	3	**0.576**	**H**
Calaveras River	0.19	Embryo Incubation	**0.20**	Harvest/Angling Impacts	0.150	Redd disturbance	1.000	0.570	1.00	**0.570**	**H**
Tuolumne River	0.16	Spawning	0.35	Flow Conditions	0.100	Flow Fluctuations	1.000	0.560	1	**0.560**	**H**
Tuolumne River	0.16	Spawning	0.35	Water Temperature	0.100	Water temperature in the Tuolumne River	1.000	0.560	1	**0.560**	**H**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Entrainment	0.050	Jones and Banks Pumping Plants	0.400	0.090	6	**0.540**	**H**

Southern Sierra Nevada Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Loss of Riparian Habitat and Instream Cover	0.100	Stanislaus River	0.400	0.180	3	**0.540**	**H**
San Joaquin River	0.15	Juvenile Rearing and Outmigration	0.40	Predation	0.075	Predation in the Delta	0.400	0.180	3	**0.540**	**H**
San Joaquin River	0.15	Juvenile Rearing and Outmigration	0.40	Predation	0.075	Predation in the San Joaquin River	0.400	0.180	3	**0.540**	**H**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Water Quality	0.100	DO, Ag, Urban, Heavy Metals in th Delta	0.300	0.135	4	**0.540**	**H**
San Joaquin River	0.15	Adult Immigration and Holding	0.30	Water Quality	0.200	DO, Ag, Urban, Heavy Metals in th Delta	0.300	0.270	2	**0.540**	**H**
San Joaquin River	0.15	Juvenile Rearing and Outmigration	0.40	Water Temperature	0.150	Delta	0.300	0.270	2	**0.540**	**H**
San Joaquin River	0.15	Adult Immigration and Holding	0.30	Water Temperature	0.100	San Joaquin River	0.600	0.270	2	**0.540**	**H**
San Joaquin River	0.15	Spawning	0.20	Physical Habitat Alteration	0.175	Limited Instream Gravel Supply	1.000	0.525	1	**0.525**	**H**
Calaveras River	0.19	Adult Immigration and Holding	0.30	Harvest/Angling Impacts	0.050	Calaveras River	0.450	0.128	4	**0.513**	**H**
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Predation	0.075	Predation in the Calaveras River	0.400	0.171	3	**0.513**	**H**
Calaveras River	0.19	Adult Immigration and Holding	0.30	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Calaveras River	0.600	0.171	3	**0.513**	**H**
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Water Quality	0.100	DO, Ag, Urban, Heavy Metals in th Delta	0.300	0.171	3	**0.513**	**H**
Calaveras River	0.19	Adult Immigration and Holding	0.30	Water Quality	0.150	DO, Ag, Urban, Heavy Metals in th Delta	0.300	0.257	2	**0.513**	**H**
Mokelumne River	0.15	Adult Immigration and Holding	0.15	Passage Impediments/Barriers	0.300	Stockton Deep Water Ship Channel	0.150	0.101	5	**0.506**	**H**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Loss of Floodplain Habitat	0.100	Merced River	0.350	0.168	3	**0.504**	**H**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Loss of Floodplain Habitat	0.100	San Joaquin River	0.350	0.168	3	**0.504**	**H**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Loss of Natural River Morphology	0.100	Delta	0.350	0.168	3	**0.504**	**H**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Loss of Natural River Morphology	0.100	San Joaquin River	0.350	0.168	3	**0.504**	**H**
Tuolumne River	0.16	Adult Immigration and Holding	0.20	Water Quality	0.150	Ag, Urban in the Tuolumne River	0.350	0.168	3	**0.504**	**H**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Water Temperature	0.100	Merced River	0.350	0.168	3	**0.504**	**H**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Flow Conditions	0.125	Flow Dependent Habitat Availability in the San Joaquin River	0.200	0.100	5	**0.500**	**H**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Flow Conditions	0.125	Reverse Flow Conditions	0.200	0.100	5	**0.500**	**H**
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Entrainment	0.050	Jones and Banks Pumping Plants	0.350	0.100	5	**0.499**	**H**

Southern Sierra Nevada Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Calaveras River	0.19	Adult Immigration and Holding	0.30	Passage Impediments/Barriers	0.350	New Hogan Dam	0.050	0.100	5	**0.499**	**H**
Calaveras River	0.19	Adult Immigration and Holding	0.30	Passage Impediments/Barriers	0.350	Suisun Marsh Salinity Control Structure	0.050	0.100	5	**0.499**	**H**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Hatchery Effects	0.175	Delta	0.250	0.164	3	**0.492**	**H**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Flow Conditions	0.200	Diversion into Central Delta	0.100	0.096	5	**0.480**	**H**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Predation	0.050	Predation in the Merced River	0.500	0.120	4	**0.480**	**H**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Water Temperature	0.200	Delta	0.200	0.160	3	**0.480**	**H**
Mokelumne River	0.15	Adult Immigration and Holding	0.15	Harvest/Angling Impacts	0.100	Mokelumne River	0.525	0.118	4	**0.473**	**H**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Loss of Floodplain Habitat	0.100	San Joaquin River	0.350	0.158	3	**0.473**	**H**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Loss of Floodplain Habitat	0.100	Stanislaus River	0.350	0.158	3	**0.473**	**H**
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Loss of Natural River Morphology	0.100	Delta	0.400	0.228	2	**0.456**	**H**
Calaveras River	0.19	Adult Immigration and Holding	0.30	Water Temperature	0.100	Delta	0.400	0.228	2	**0.456**	**H**
San Joaquin River	0.15	Spawning	0.20	Flow Conditions	0.150	Flow Fluctuations	1.000	0.450	1	**0.450**	**H**
Mokelumne River	0.15	Embryo Incubation	**0.20**	Harvest/Angling Impacts	0.150	Redd disturbance	1.000	0.450	1.00	**0.450**	**H**
San Joaquin River	0.15	Adult Immigration and Holding	0.30	Passage Impediments/Barriers	0.400	Suisun Marsh Salinity Control Structure	0.050	0.090	5	**0.450**	**H**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Predation	0.050	Predation in the Stanislaus River	0.500	0.113	4	**0.450**	**H**
San Joaquin River	0.15	Juvenile Rearing and Outmigration	0.40	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the San Joaquin River	0.500	0.150	3	**0.450**	**H**
Mokelumne River	0.15	Embryo Incubation	**0.20**	Water Quality	0.150	Water Pollution	1.000	0.450	1.00	**0.450**	**H**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Water Temperature	0.100	Mokelumne River	0.600	0.225	2	**0.450**	**H**
Tuolumne River	0.16	Adult Immigration and Holding	0.20	Passage Impediments/Barriers	0.350	Stockton Deep Water Ship Channel	0.100	0.112	4	**0.448**	**H**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Passage Impediments/Barriers	0.050	Crocker Huffman	0.450	0.108	4	**0.432**	**H**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Loss of Floodplain Habitat	0.100	Delta	0.300	0.144	3	**0.432**	**H**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Loss of Natural River Morphology	0.100	Merced River	0.300	0.144	3	**0.432**	**H**
Stanislaus River	0.18	Adult Immigration and Holding	0.20	Water Temperature	0.100	Delta	0.400	0.144	3	**0.432**	**H**
Stanislaus River	0.18	Adult Immigration and Holding	0.20	Water Temperature	0.100	San Joaquin River	0.400	0.144	3	**0.432**	**H**

Southern Sierra Nevada Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Entrainment	0.050	Individual Diversions in the Calaveras River	0.300	0.086	5	**0.428**	**H**
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Water Temperature	0.125	Delta	0.300	0.214	2	**0.428**	**H**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Flow Conditions	0.125	Flow Dependent Habitat Availability in the San Joaquin River	0.150	0.084	5	**0.422**	**H**
San Joaquin River	0.15	Juvenile Rearing and Outmigration	0.40	Invasive Species/Food Web Disruption	0.050	Asian clam, A. aspera, Microcystis, etc. in the Delta	0.700	0.210	2	**0.420**	**H**
San Joaquin River	0.15	Juvenile Rearing and Outmigration	0.40	Passage Impediments/Barriers	0.050	Friant Dam	0.700	0.210	2	**0.420**	**H**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Water Quality	0.075	Ag, Urban in the San Joaquin River	0.350	0.105	4	**0.420**	**H**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Entrainment	0.050	Jones and Banks Pumping Plants	0.350	0.070	6	**0.420**	**H**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Loss of Floodplain Habitat	0.100	San Joaquin River	0.350	0.140	3	**0.420**	**H**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Loss of Floodplain Habitat	0.100	Tuolumne River	0.350	0.140	3	**0.420**	**H**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Loss of Natural River Morphology	0.100	Delta	0.350	0.140	3	**0.420**	**H**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Loss of Natural River Morphology	0.100	San Joaquin River	0.350	0.140	3	**0.420**	**H**
San Joaquin River	0.15	Embryo Incubation	**0.10**	Flow Conditions	0.275	Flow Fluctuations	1.000	0.413	1	**0.413**	**H**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Water Temperature	0.150	Stanislaus River	0.200	0.135	3	**0.405**	**H**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Loss of Floodplain Habitat	0.100	Delta	0.300	0.135	3	**0.405**	**H**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Loss of Natural River Morphology	0.100	Delta	0.300	0.135	3	**0.405**	**H**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Loss of Natural River Morphology	0.100	San Joaquin River	0.300	0.135	3	**0.405**	**H**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Loss of Riparian Habitat and Instream Cover	0.100	Delta	0.300	0.135	3	**0.405**	**H**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Loss of Riparian Habitat and Instream Cover	0.100	San Joaquin River	0.300	0.135	3	**0.405**	**H**
San Joaquin River	0.15	Juvenile Rearing and Outmigration	0.40	Water Quality	0.150	Ag, Urban, Heavy Metals in the Bays	0.150	0.135	3	**0.405**	**H**
Calaveras River	0.19	Adult Immigration and Holding	0.30	Harvest/Angling Impacts	0.050	Delta	0.350	0.100	4	**0.399**	**H**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the San Joaquin River	0.400	0.096	4	**0.384**	**H**
Merced River	0.16	Adult Immigration and Holding	0.20	Water Quality	0.100	Ag, Urban in the San Joaquin River	0.400	0.128	3	**0.384**	**H**
Tuolumne River	0.16	Adult Immigration and Holding	0.20	Water Temperature	0.200	Delta	0.200	0.128	3	**0.384**	**H**

Southern Sierra Nevada Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Merced River	0.16	Adult Immigration and Holding	0.20	Water Temperature	0.200	Delta	0.200	0.128	3	**0.384**	**H**
Calaveras River	0.19	Embryo Incubation	**0.20**	Water Quality	0.100	Water Pollution	1.000	0.380	1.00	**0.380**	**H**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Flow Conditions	0.125	Changes in Hydrology	0.150	0.075	5	**0.375**	**H**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Loss of Riparian Habitat and Instream Cover	0.100	Delta	0.500	0.188	2	**0.375**	**H**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Loss of Riparian Habitat and Instream Cover	0.100	Mokelumne River	0.500	0.188	2	**0.375**	**H**
San Joaquin River	0.15	Embryo Incubation	**0.10**	Water Quality	0.250	Water Pollution	1.000	0.375	1.00	**0.375**	**H**
San Joaquin River	0.15	Embryo Incubation	**0.10**	Water Temperature	0.250	Water temperature in the San Joaquin River	1.000	0.375	1	**0.375**	**H**
Stanislaus River	0.18	Adult Immigration and Holding	0.20	Harvest/Angling Impacts	0.050	Stanislaus River	0.400	0.072	5	**0.360**	**H**
San Joaquin River	0.15	Adult Immigration and Holding	0.30	Harvest/Angling Impacts	0.050	San Joaquin River	0.400	0.090	4	**0.360**	**H**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Loss of Floodplain Habitat	0.100	Delta	0.300	0.120	3	**0.360**	**H**
San Joaquin River	0.15	Juvenile Rearing and Outmigration	0.40	Loss of Natural River Morphology	0.050	San Joaquin River	0.600	0.180	2	**0.360**	**H**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Loss of Natural River Morphology	0.100	Tuolumne River	0.300	0.120	3	**0.360**	**H**
San Joaquin River	0.15	Juvenile Rearing and Outmigration	0.40	Loss of Riparian Habitat and Instream Cover	0.100	Delta	0.300	0.180	2	**0.360**	**H**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Predation	0.075	Predation in the San Joaquin River	0.300	0.090	4	**0.360**	**H**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Predation	0.075	Predation in the Tuolumne River	0.300	0.090	4	**0.360**	**H**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the San Joaquin River	0.400	0.090	4	**0.360**	**H**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Water Quality	0.100	Ag, Urban in the Stanislaus River	0.200	0.090	4	**0.360**	**H**
Tuolumne River	0.16	Adult Immigration and Holding	0.20	Water Quality	0.150	DO, Ag, Urban, Heavy Metals in th Delta	0.250	0.120	3	**0.360**	**H**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Water Quality	0.075	DO, Ag, Urban, Heavy Metals in th Delta	0.300	0.090	4	**0.360**	**H**
San Joaquin River	0.15	Adult Immigration and Holding	0.30	Water Temperature	0.100	Delta	0.400	0.180	2	**0.360**	**H**
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Loss of Riparian Habitat and Instream Cover	0.050	Calaveras River	0.600	0.171	2	**0.342**	**H**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Invasive Species/Food Web Disruption	0.050	Asian clam, A. aspera, Microcystis, etc. in the Delta	0.700	0.168	2	**0.336**	**H**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Passage Impediments/Barriers	0.050	McSwain Dam	0.350	0.084	4	**0.336**	**H**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Water Quality	0.050	Ag, Urban in the San Joaquin River	0.350	0.084	4	**0.336**	**H**

Southern Sierra Nevada Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Merced River	0.16	Adult Immigration and Holding	0.20	Water Quality	0.100	DO, Ag, Urban, Heavy Metals in th Delta	0.350	0.112	3	**0.336**	**H**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the San Joaquin River	0.400	0.080	4	**0.320**	**H**
Stanislaus River	0.18	Spawning	0.35	Harvest/Angling Impacts	0.050	Recreational, Poaching, Angler Impacts	1.000	0.315	1	**0.315**	**H**
Stanislaus River	0.18	Spawning	0.35	Water Quality	0.050	Water quality in Stanislaus River	1.000	0.315	1	**0.315**	**H**
Stanislaus River	0.18	Spawning	0.35	Water Temperature	0.050	Water temperature in the Stanislaus River	1.000	0.315	1	**0.315**	**H**
Mokelumne River	0.15	Adult Immigration and Holding	0.15	Harvest/Angling Impacts	0.100	Delta	0.350	0.079	4	**0.315**	**H**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Invasive Species/Food Web Disruption	0.050	Asian clam, A. aspera, Microcystis, etc. in the Delta	0.700	0.158	2	**0.315**	**H**
San Joaquin River	0.15	Juvenile Rearing and Outmigration	0.40	Entrainment	0.050	Individual Diversions in the Delta	0.200	0.060	5	**0.300**	**M**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Entrainment	0.050	Individual Diversions in the San Joaquin River	0.250	0.050	6	**0.300**	**M**
San Joaquin River	0.15	Juvenile Rearing and Outmigration	0.40	Entrainment	0.050	Individual Diversions in the San Joaquin River	0.200	0.060	5	**0.300**	**M**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Passage Impediments/Barriers	0.050	Don Pedro	0.500	0.100	3	**0.300**	**M**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Passage Impediments/Barriers	0.050	La Grange	0.500	0.100	3	**0.300**	**M**
San Joaquin River	0.15	Juvenile Rearing and Outmigration	0.40	Flow Conditions	0.250	Diversion into Central Delta	0.050	0.075	4	**0.300**	**M**
Mokelumne River	0.15	Spawning	0.40	Harvest/Angling Impacts	0.050	Recreational, Poaching, Angler Impacts	1.000	0.300	1	**0.300**	**M**
Mokelumne River	0.15	Embryo Incubation	**0.20**	Short-term Inwater Construction	0.100	Sedimentation, turbidity, acoustic effects, hazardous spills, physical disturbance	1.000	0.300	1	**0.300**	**M**
Mokelumne River	0.15	Spawning	0.40	Water Quality	0.050	Water quality in the Mokelumne River	1.000	0.300	1	**0.300**	**M**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Water Temperature	0.100	Delta	0.400	0.150	2	**0.300**	**M**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Passage Impediments/Barriers	0.050	Goodwin Dam	0.330	0.074	4	**0.297**	**M**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Passage Impediments/Barriers	0.050	New Melones	0.330	0.074	4	**0.297**	**M**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Passage Impediments/Barriers	0.050	Tulloch Dam	0.330	0.074	4	**0.297**	**M**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Entrainment	0.050	Individual Diversions in the San Joaquin River	0.200	0.048	6	**0.288**	**M**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Loss of Tidal Marsh Habitat	0.050	Delta	0.600	0.144	2	**0.288**	**M**

Southern Sierra Nevada Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.300	0.072	4	**0.288**	**M**
Stanislaus River	0.18	Adult Immigration and Holding	0.20	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the San Joaquin River	0.400	0.072	4	**0.288**	**M**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Water Quality	0.050	DO, Ag, Urban, Heavy Metals in th Delta	0.300	0.072	4	**0.288**	**M**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Water Temperature	0.100	Delta	0.200	0.096	3	**0.288**	**M**
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Entrainment	0.050	Individual Diversions in the Delta	0.200	0.057	5	**0.285**	**M**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Entrainment	0.075	Individual Diversions in the Mokelumne River	0.200	0.056	5	**0.281**	**M**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Flow Conditions	0.125	Reverse Flow Conditions	0.100	0.056	5	**0.281**	**M**
Merced River	0.16	Adult Immigration and Holding	0.20	Harvest/Angling Impacts	0.050	Merced River	0.350	0.056	5	**0.280**	**M**
Tuolumne River	0.16	Spawning	0.35	Harvest/Angling Impacts	0.050	Recreational, Poaching, Angler Impacts	1.000	0.280	1	**0.280**	**M**
Tuolumne River	0.16	Adult Immigration and Holding	0.20	Harvest/Angling Impacts	0.050	Tuolumne River	0.350	0.056	5	**0.280**	**M**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Invasive Species/Food Web Disruption	0.050	Asian clam, A. aspera, Microcystis, etc. in the Delta	0.700	0.140	2	**0.280**	**M**
Tuolumne River	0.16	Spawning	0.35	Water Quality	0.050	Water quality in Tuolumne River	1.000	0.280	1	**0.280**	**M**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Entrainment	0.050	Individual Diversions in the San Joaquin River	0.200	0.045	6	**0.270**	**M**
San Joaquin River	0.15	Juvenile Rearing and Outmigration	0.40	Hatchery Effects	0.025	Delta	0.600	0.090	3	**0.270**	**M**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Loss of Natural River Morphology	0.100	Stanislaus River	0.200	0.090	3	**0.270**	**M**
San Joaquin River	0.15	Juvenile Rearing and Outmigration	0.40	Predation	0.075	Predation in the Bays	0.200	0.090	3	**0.270**	**M**
San Joaquin River	0.15	Juvenile Rearing and Outmigration	0.40	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.300	0.090	3	**0.270**	**M**
San Joaquin River	0.15	Adult Immigration and Holding	0.30	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the San Joaquin River	0.400	0.090	3	**0.270**	**M**
San Joaquin River	0.15	Adult Immigration and Holding	0.30	Harvest/Angling Impacts	0.050	Delta	0.300	0.068	4	**0.270**	**M**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Loss of Tidal Marsh Habitat	0.050	Delta	0.600	0.135	2	**0.270**	**M**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.300	0.068	4	**0.270**	**M**

Southern Sierra Nevada Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Mokelumne River	0.15	Adult Immigration and Holding	0.15	Water Temperature	0.100	Mokelumne River	0.600	0.135	2	**0.270**	**M**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Invasive Species/Food Web Disruption	0.050	Asian clam, A. aspera, Microcystis, etc. in the Delta	0.700	0.131	2	**0.263**	**M**
Calaveras River	0.19	Adult Immigration and Holding	0.30	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.300	0.086	3	**0.257**	**M**
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Water Quality	0.100	Ag, Urban, Heavy Metals in the Bays	0.150	0.086	3	**0.257**	**M**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Predation	0.050	Predation in the Delta	0.450	0.084	3	**0.253**	**M**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Predation	0.050	Predation in the Mokelumne River	0.450	0.084	3	**0.253**	**M**
Mokelumne River	0.15	Adult Immigration and Holding	0.15	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Mokelumne River	0.750	0.084	3	**0.253**	**M**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Flow Conditions	0.125	Diversion into Central Delta	0.100	0.050	5	**0.250**	**M**
Stanislaus River	0.18	Adult Immigration and Holding	0.20	Water Quality	0.150	Ag, Urban in the Stanislaus River	0.150	0.081	3	**0.243**	**M**
Merced River	0.16	Spawning	0.30	Harvest/Angling Impacts	0.050	Recreational, Poaching, Angler Impacts	1.000	0.240	1	**0.240**	**M**
San Joaquin River	0.15	Juvenile Rearing and Outmigration	0.40	Loss of Natural River Morphology	0.050	Delta	0.400	0.120	2	**0.240**	**M**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Predation	0.075	Predation in the Bays	0.200	0.060	4	**0.240**	**M**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Predation	0.075	Predation in the Delta	0.200	0.060	4	**0.240**	**M**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Predation	0.050	Predation in the San Joaquin River	0.250	0.060	4	**0.240**	**M**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Water Quality	0.075	Ag, Urban in the Tuolumne River	0.200	0.060	4	**0.240**	**M**
Merced River	0.16	Spawning	0.30	Water Quality	0.050	Water quality in Merced River	1.000	0.240	1	**0.240**	**M**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Entrainment	0.050	Individual Diversions in the Delta	0.200	0.040	6	**0.240**	**M**
Merced River	0.16	Adult Immigration and Holding	0.20	Harvest/Angling Impacts	0.050	San Joaquin River	0.300	0.048	5	**0.240**	**M**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Loss of Tidal Marsh Habitat	0.050	Delta	0.600	0.120	2	**0.240**	**M**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.300	0.060	4	**0.240**	**M**
Merced River	0.16	Adult Immigration and Holding	0.20	Water Quality	0.100	Ag, Urban in the Merced River	0.250	0.080	3	**0.240**	**M**
Merced River	0.16	Adult Immigration and Holding	0.20	Passage Impediments/Barriers	0.300	Suisun Marsh Salinity Control Structure	0.050	0.048	5	**0.240**	**M**

Southern Sierra Nevada Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
San Joaquin River	0.15	Adult Immigration and Holding	0.30	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.350	0.079	3	**0.236**	**M**
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Loss of Floodplain Habitat	0.025	Delta	0.800	0.114	2	**0.228**	**M**
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Loss of Riparian Habitat and Instream Cover	0.050	Delta	0.400	0.114	2	**0.228**	**M**
Stanislaus River	0.18	Adult Immigration and Holding	0.20	Harvest/Angling Impacts	0.050	San Joaquin River	0.250	0.045	5	**0.225**	**M**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Loss of Floodplain Habitat	0.050	Mokelumne River	0.600	0.113	2	**0.225**	**M**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Loss of Natural River Morphology	0.050	Mokelumne River	0.600	0.113	2	**0.225**	**M**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Loss of Tidal Marsh Habitat	0.050	Delta	0.600	0.113	2	**0.225**	**M**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Passage Impediments/Barriers	0.050	Camanche Dam	0.300	0.056	4	**0.225**	**M**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Passage Impediments/Barriers	0.050	Woodbridge Dam	0.300	0.056	4	**0.225**	**M**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Predation	0.050	Predation in the San Joaquin River	0.250	0.056	4	**0.225**	**M**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Water Quality	0.050	Ag, Urban in the Mokelumne River	0.400	0.075	3	**0.225**	**M**
Mokelumne River	0.15	Adult Immigration and Holding	0.15	Water Quality	0.100	Ag, Urban in the Mokelumne River	0.500	0.113	2	**0.225**	**M**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Water Quality	0.050	DO, Ag, Urban, Heavy Metals in th Delta	0.400	0.075	3	**0.225**	**M**
Mokelumne River	0.15	Adult Immigration and Holding	0.15	Water Quality	0.100	DO, Ag, Urban, Heavy Metals in th Delta	0.500	0.113	2	**0.225**	**M**
San Joaquin River	0.15	Spawning	0.20	Water Quality	0.075	Water quality in the San Joaquin River	1.000	0.225	1	**0.225**	**M**
San Joaquin River	0.15	Spawning	0.20	Water Temperature	0.075	Water temperature in the San Joaquin River	1.000	0.225	1	**0.225**	**M**
Stanislaus River	0.18	Embryo Incubation	**0.20**	Water Temperature	0.250	Water Temperature in the Stanislaus River	0.250	0.225	1	**0.225**	**M**
Tuolumne River	0.16	Adult Immigration and Holding	0.20	Passage Impediments/Barriers	0.350	Suisun Marsh Salinity Control Structure	0.050	0.056	4	**0.224**	**M**
Tuolumne River	0.16	Adult Immigration and Holding	0.20	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the San Joaquin River	0.350	0.056	4	**0.224**	**M**
Merced River	0.16	Adult Immigration and Holding	0.20	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the San Joaquin River	0.350	0.056	4	**0.224**	**M**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Entrainment	0.050	Individual Diversions in the Merced River	0.150	0.036	6	**0.216**	**M**
Stanislaus River	0.18	Adult Immigration and Holding	0.20	Water Temperature	0.100	Stanislaus River	0.200	0.072	3	**0.216**	**M**

Southern Sierra Nevada Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Stanislaus River	0.18	Adult Immigration and Holding	0.20	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.300	0.054	4	**0.216**	**M**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Loss of Riparian Habitat and Instream Cover	0.050	Delta	0.350	0.070	3	**0.210**	**M**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Loss of Riparian Habitat and Instream Cover	0.050	San Joaquin River	0.350	0.070	3	**0.210**	**M**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Entrainment	0.050	Individual Diversions in the Delta	0.150	0.034	6	**0.203**	**M**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Entrainment	0.050	Individual Diversions in the Stanislaus River	0.150	0.034	6	**0.203**	**M**
Tuolumne River	0.16	Adult Immigration and Holding	0.20	Harvest/Angling Impacts	0.050	San Joaquin River	0.250	0.040	5	**0.200**	**M**
Merced River	0.16	Embryo Incubation	**0.20**	Water Temperature	0.250	Water temperature in the Merced River	0.250	0.200	1	**0.200**	**M**
Tuolumne River	0.16	Embryo Incubation	**0.20**	Water Temperature	0.250	Water Temperature in the Tuolumne River	0.250	0.200	1	**0.200**	**M**
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Invasive Species/Food Web Disruption	0.025	Asian clam, A. aspera, Microcystis, etc. in the Delta	0.700	0.100	2	**0.200**	**M**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Hatchery Effects	0.175	Bays	0.100	0.066	3	**0.197**	**M**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Loss of Tidal Marsh Habitat	0.050	Bays	0.400	0.096	2	**0.192**	**M**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bays	0.200	0.048	4	**0.192**	**M**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Water Quality	0.050	Ag, Urban in the Merced River	0.200	0.048	4	**0.192**	**M**
Tuolumne River	0.16	Adult Immigration and Holding	0.20	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.300	0.048	4	**0.192**	**M**
Merced River	0.16	Adult Immigration and Holding	0.20	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.300	0.048	4	**0.192**	**M**
Calaveras River	0.19	Spawning	0.20	Harvest/Angling Impacts	0.050	Recreational, Poaching, Angler Impacts	1.000	0.190	1	**0.190**	**M**
Calaveras River	0.19	Embryo Incubation	**0.20**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills, physical disturbance	1.000	0.190	1	**0.190**	**M**
Calaveras River	0.19	Spawning	0.20	Water Quality	0.050	Water quality in the Calaveras River	1.000	0.190	1	**0.190**	**M**
Calaveras River	0.19	Spawning	0.20	Water Temperature	0.050	Water temperature in the Calaveras River	1.000	0.190	1	**0.190**	**M**
Stanislaus River	0.18	Adult Immigration and Holding	0.20	Harvest/Angling Impacts	0.050	Delta	0.200	0.036	5	**0.180**	**M**
San Joaquin River	0.15	Juvenile Rearing and Outmigration	0.40	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bays	0.200	0.060	3	**0.180**	**M**

Southern Sierra Nevada Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Entrainment	0.050	Individual Diversions in the Tuolumne River	0.150	0.030	6	**0.180**	**M**
San Joaquin River	0.15	Adult Immigration and Holding	0.30	Harvest/Angling Impacts	0.050	Bays	0.200	0.045	4	**0.180**	**M**
San Joaquin River	0.15	Juvenile Rearing and Outmigration	0.40	Invasive Species/Food Web Disruption	0.050	Asian clam, A. aspera, Microcystis, etc. in the Bays	0.300	0.090	2	**0.180**	**M**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Loss of Riparian Habitat and Instream Cover	0.050	Tuolumne River	0.300	0.060	3	**0.180**	**M**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Loss of Tidal Marsh Habitat	0.050	Bays	0.400	0.090	2	**0.180**	**M**
San Joaquin River	0.15	Juvenile Rearing and Outmigration	0.40	Passage Impediments/Barriers	0.050	Tributary Barriers	0.300	0.090	2	**0.180**	**M**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bays	0.200	0.045	4	**0.180**	**M**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Water Quality	0.100	Ag, Urban, Heavy Metals in the Bays	0.100	0.045	4	**0.180**	**M**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Water Quality	0.075	Ag, Urban, Heavy Metals in the Bays	0.150	0.045	4	**0.180**	**M**
Mokelumne River	0.15	Adult Immigration and Holding	0.15	Water Temperature	0.100	Delta	0.400	0.090	2	**0.180**	**M**
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Short-term Inwater Construction	0.025	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.400	0.057	3	**0.171**	**L**
Calaveras River	0.19	Adult Immigration and Holding	0.30	Harvest/Angling Impacts	0.050	Bays	0.150	0.043	4	**0.171**	**L**
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Loss of Tidal Marsh Habitat	0.025	Delta	0.600	0.086	2	**0.171**	**L**
Mokelumne River	0.15	Adult Immigration and Holding	0.15	Passage Impediments/Barriers	0.300	Suisun Marsh Salinity Control Structure	0.050	0.034	5	**0.169**	**L**
San Joaquin River	0.15	Adult Immigration and Holding	0.30	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bay	0.250	0.056	3	**0.169**	**L**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Short-term Inwater Construction	0.025	Sedimentation, turbidity, acoustic effects, hazardous spills in the Mokelumne River	0.600	0.056	3	**0.169**	**L**
Tuolumne River	0.16	Adult Immigration and Holding	0.20	Harvest/Angling Impacts	0.050	Delta	0.200	0.032	5	**0.160**	**L**
Merced River	0.16	Adult Immigration and Holding	0.20	Harvest/Angling Impacts	0.050	Delta	0.200	0.032	5	**0.160**	**L**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Loss of Tidal Marsh Habitat	0.050	Bays	0.400	0.080	2	**0.160**	**L**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bays	0.200	0.040	4	**0.160**	**L**
San Joaquin River	0.15	Juvenile Rearing and Outmigration	0.40	Entrainment	0.050	Contra Costa Power Plant	0.100	0.030	5	**0.150**	**L**

Southern Sierra Nevada Steelhead Diversity Group Stressor Matrix

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San Joaquin River	0.15	Juvenile Rearing and Outmigration	0.40	Entrainment	0.050	Pittsburg Power Plant	0.100	0.030	5	**0.150**	**L**
San Joaquin River	0.15	Spawning	0.20	Harvest/Angling Impacts	0.050	Recreational, Poaching, Angler Impacts	1.000	0.150	1	**0.150**	**L**
San Joaquin River	0.15	Spawning	0.20	Hatchery Effects	0.050	Redd superimposition, competition for habitat, Genetic Integrity	1.000	0.150	1	**0.150**	**L**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Loss of Floodplain Habitat	0.050	Delta	0.400	0.075	2	**0.150**	**L**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Loss of Natural River Morphology	0.050	Delta	0.400	0.075	2	**0.150**	**L**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Loss of Tidal Marsh Habitat	0.050	Bays	0.400	0.075	2	**0.150**	**L**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Passage Impediments/Barriers	0.050	Pardee Reservoir Dam	0.200	0.038	4	**0.150**	**L**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Passage Impediments/Barriers	0.050	Tributary Barriers	0.200	0.038	4	**0.150**	**L**
San Joaquin River	0.15	Embryo Incubation	**0.10**	Short-term Inwater Construction	0.100	Sedimentation, turbidity, acoustic effects, hazardous spills, physical disturbance	1.000	0.150	1	**0.150**	**L**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Entrainment	0.050	Individual Diversions in the Delta	0.100	0.024	6	**0.144**	**L**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Invasive Species/Food Web Disruption	0.050	Asian clam, A. aspera, Microcystis, etc. in the Bays	0.300	0.072	2	**0.144**	**L**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Passage Impediments/Barriers	0.050	New Exchequer Dam	0.150	0.036	4	**0.144**	**L**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Predation	0.050	Predation in the Delta	0.150	0.036	4	**0.144**	**L**
Stanislaus River	0.18	Adult Immigration and Holding	0.20	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Stanislaus River	0.200	0.036	4	**0.144**	**L**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Water Quality	0.050	Ag, Urban, Heavy Metals in the Bays	0.150	0.036	4	**0.144**	**L**
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Entrainment	0.050	Contra Costa Power Plant	0.100	0.029	5	**0.143**	**L**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Entrainment	0.075	Contra Costa Power Plant	0.100	0.028	5	**0.141**	**L**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Entrainment	0.075	Individual Diversions in the Delta	0.100	0.028	5	**0.141**	**L**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Entrainment	0.075	Pittsburg Power Plant	0.100	0.028	5	**0.141**	**L**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Flow Conditions	0.125	Diversion into Central Delta	0.050	0.028	5	**0.141**	**L**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Invasive Species/Food Web Disruption	0.050	Asian clam, A. aspera, Microcystis, etc. in the Bays	0.300	0.068	2	**0.135**	**L**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Predation	0.050	Predation in the Delta	0.150	0.034	4	**0.135**	**L**

Southern Sierra Nevada Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Predation	0.075	Predation in the Bays	0.100	0.043	3	**0.128**	**L**
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Short-term Inwater Construction	0.025	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bays	0.300	0.043	3	**0.128**	**L**
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Short-term Inwater Construction	0.025	Sedimentation, turbidity, acoustic effects, hazardous spills in the Calaveras River	0.300	0.043	3	**0.128**	**L**
Merced River	0.16	Adult Immigration and Holding	0.20	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Merced River	0.200	0.032	4	**0.128**	**L**
Tuolumne River	0.16	Adult Immigration and Holding	0.20	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Tuolumne River	0.200	0.032	4	**0.128**	**L**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Invasive Species/Food Web Disruption	0.050	Asian clam, A. aspera, Microcystis, etc. in the Bays	0.300	0.060	2	**0.120**	**L**
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Loss of Tidal Marsh Habitat	0.025	Bays	0.400	0.057	2	**0.114**	**L**
San Joaquin River	0.15	Embryo Incubation	**0.10**	Hatchery Effects	0.075	Density dependent impacts - Redd superimposition, fungus	1.000	0.113	1	**0.113**	**L**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Invasive Species/Food Web Disruption	0.050	Asian clam, A. aspera, Microcystis, etc. in the Bays	0.300	0.056	2	**0.113**	**L**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Water Quality	0.050	Ag, Urban, Heavy Metals in the Bays	0.200	0.038	3	**0.113**	**L**
Stanislaus River	0.18	Adult Immigration and Holding	0.20	Passage Impediments/Barriers	0.300	Suisun Marsh Salinity Control Structure	0.020	0.022	5	**0.108**	**L**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Predation	0.050	Predation in the Bays	0.100	0.024	4	**0.096**	**L**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Merced River	0.100	0.024	4	**0.096**	**L**
Tuolumne River	0.16	Adult Immigration and Holding	0.20	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bay	0.150	0.024	4	**0.096**	**L**
Merced River	0.16	Adult Immigration and Holding	0.20	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bay	0.150	0.024	4	**0.096**	**L**
Calaveras River	0.19	Spawning	0.20	Hatchery Effects	0.025	Redd superimposition, competition for habitat, Genetic Integrity	1.000	0.095	1	**0.095**	**L**
Stanislaus River	0.18	Adult Immigration and Holding	0.20	Harvest/Angling Impacts	0.050	Bays	0.100	0.018	5	**0.090**	**L**
San Joaquin River	0.15	Juvenile Rearing and Outmigration	0.40	Hatchery Effects	0.025	Bays	0.200	0.030	3	**0.090**	**L**
San Joaquin River	0.15	Juvenile Rearing and Outmigration	0.40	Hatchery Effects	0.025	San Joaquin River	0.200	0.030	3	**0.090**	**L**
Mokelumne River	0.15	Adult Immigration and Holding	0.15	Harvest/Angling Impacts	0.100	Bays	0.100	0.023	4	**0.090**	**L**

Southern Sierra Nevada Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
San Joaquin River	0.15	Adult Immigration and Holding	0.30	Harvest/Angling Impacts	0.050	Ocean	0.100	0.023	4	**0.090**	**L**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Predation	0.050	Predation in the Bays	0.100	0.023	4	**0.090**	**L**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Stanislaus River	0.100	0.023	4	**0.090**	**L**
Calaveras River	0.19	Adult Immigration and Holding	0.30	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bay	0.100	0.029	3	**0.086**	**L**
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Invasive Species/Food Web Disruption	0.025	Asian clam, A. aspera, Microcystis, etc. in the Bays	0.300	0.043	2	**0.086**	**L**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Short-term Inwater Construction	0.025	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.300	0.028	3	**0.084**	**L**
Tuolumne River	0.16	Adult Immigration and Holding	0.20	Harvest/Angling Impacts	0.050	Bays	0.100	0.016	5	**0.080**	**L**
Merced River	0.16	Adult Immigration and Holding	0.20	Harvest/Angling Impacts	0.050	Bays	0.100	0.016	5	**0.080**	**L**
Tuolumne River	0.16	Adult Immigration and Holding	0.20	Harvest/Angling Impacts	0.050	Ocean	0.100	0.016	5	**0.080**	**L**
Merced River	0.16	Adult Immigration and Holding	0.20	Harvest/Angling Impacts	0.050	Ocean	0.100	0.016	5	**0.080**	**L**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Tuolumne River	0.100	0.020	4	**0.080**	**L**
San Joaquin River	0.15	Embryo Incubation	**0.10**	Harvest/Angling Impacts	0.050	Redd disturbance	1.000	0.075	1.00	**0.075**	**L**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Entrainment	0.050	Contra Costa Power Plant	0.050	0.012	6	**0.072**	**L**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Entrainment	0.050	Pittsburg Power Plant	0.050	0.012	6	**0.072**	**L**
Stanislaus River	0.18	Adult Immigration and Holding	0.20	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bay	0.100	0.018	4	**0.072**	**L**
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Entrainment	0.050	Pittsburg Power Plant	0.050	0.014	5	**0.071**	**L**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Entrainment	0.050	Contra Costa Power Plant	0.050	0.011	6	**0.068**	**L**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Entrainment	0.050	Pittsburg Power Plant	0.050	0.011	6	**0.068**	**L**
Mokelumne River	0.15	Adult Immigration and Holding	0.15	Passage Impediments/Barriers	0.300	Woodbridge Dam	0.020	0.014	5	**0.068**	**L**
Mokelumne River	0.15	Adult Immigration and Holding	0.15	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.200	0.023	3	**0.068**	**L**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Entrainment	0.050	Contra Costa Power Plant	0.050	0.010	6	**0.060**	**L**

Southern Sierra Nevada Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Entrainment	0.050	Pittsburg Power Plant	0.050	0.010	6	**0.060**	**L**
Calaveras River	0.19	Adult Immigration and Holding	0.30	Harvest/Angling Impacts	0.050	Ocean	0.050	0.014	4	**0.057**	**L**
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Loss of Floodplain Habitat	0.025	Calaveras River	0.200	0.029	2	**0.057**	**L**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Predation	0.050	Predation in the Bays	0.100	0.019	3	**0.056**	**L**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Passage Impediments/Barriers	0.050	Tributary Barriers	0.050	0.012	4	**0.048**	**L**
Stanislaus River	0.18	Adult Immigration and Holding	0.20	Harvest/Angling Impacts	0.050	Ocean	0.050	0.009	5	**0.045**	**L**
Merced River	0.16	Embryo Incubation	**0.20**	Water Quality	0.100	Water Pollution	0.100	0.032	1.00	**0.032**	**L**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Short-term Inwater Construction	0.025	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bays	0.100	0.009	3	**0.028**	**L**
Mokelumne River	0.15	Adult Immigration and Holding	0.15	Harvest/Angling Impacts	0.100	Ocean	0.025	0.006	4	**0.023**	**L**
Mokelumne River	0.15	Adult Immigration and Holding	0.15	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bay	0.050	0.006	3	**0.017**	**L**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Hatchery Effects	0.025	Bays	0.025	0.003	4	**0.010**	**L**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Hatchery Effects	0.025	Delta	0.025	0.003	4	**0.010**	**L**
Stanislaus River	0.18	Embryo Incubation	**0.20**	Harvest/Angling Impacts	0.050	Redd disturbance	0.050	0.009	1.00	**0.009**	**L**
Stanislaus River	0.18	Embryo Incubation	**0.20**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills, physical disturbance	0.050	0.009	1	**0.009**	**L**
Stanislaus River	0.18	Embryo Incubation	**0.20**	Water Quality	0.050	Water Pollution	0.050	0.009	1.00	**0.009**	**L**
Tuolumne River	0.16	Embryo Incubation	**0.20**	Harvest/Angling Impacts	0.050	Redd disturbance	0.050	0.008	1.00	**0.008**	**L**
Merced River	0.16	Embryo Incubation	**0.20**	Harvest/Angling Impacts	0.050	Redd disturbance	0.050	0.008	1.00	**0.008**	**L**
Tuolumne River	0.16	Embryo Incubation	**0.20**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills, physical disturbance	0.050	0.008	1	**0.008**	**L**
Merced River	0.16	Embryo Incubation	**0.20**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills, physical disturbance	0.050	0.008	1	**0.008**	**L**
Tuolumne River	0.16	Embryo Incubation	**0.20**	Water Quality	0.050	Water Pollution	0.050	0.008	1.00	**0.008**	**L**
Tuolumne River	0.16	Spawning	0.35	Barrier	0.000	Redd superimposition, competition for habitat, hybridization/genetic integrity	1.000	0.000	1	**0.000**	
Merced River	0.16	Spawning	0.30	Barrier	0.000	Redd superimposition, competition for habitat, hybridization/genetic integrity	1.000	0.000	1	**0.000**	

Southern Sierra Nevada Steelhead Diversity Group Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Tuolumne River	0.16	Spawning	0.35	Hatchery Effects	0.000	Redd superimposition, competition for habitat, Genetic Integrity	1.000	0.000	1	**0.000**	
Merced River	0.16	Spawning	0.30	Hatchery Effects	0.000	Redd superimposition, competition for habitat, Genetic Integrity	1.000	0.000	1	**0.000**	
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Hatchery Effects	0.025	Bays	0.000	0.000	4	**0.000**	
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Hatchery Effects	0.000	Bays	0.000	0.000	4	**0.000**	
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Hatchery Effects	0.025	Bays	0.000	0.000	3	**0.000**	
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Hatchery Effects	0.025	Calaveras River	0.000	0.000	3	**0.000**	
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Hatchery Effects	0.025	Delta	0.000	0.000	4	**0.000**	
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Hatchery Effects	0.000	Delta	0.000	0.000	4	**0.000**	
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Hatchery Effects	0.025	Delta	0.000	0.000	3	**0.000**	
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Hatchery Effects	0.000	Merced River	0.000	0.000	4	**0.000**	
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Hatchery Effects	0.025	San Joaquin River	0.000	0.000	4	**0.000**	
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Hatchery Effects	0.025	San Joaquin River	0.000	0.000	4	**0.000**	
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Hatchery Effects	0.000	San Joaquin River	0.000	0.000	4	**0.000**	
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Hatchery Effects	0.025	Stanislaus River	0.000	0.000	4	**0.000**	
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Hatchery Effects	0.025	Tuolumne River	0.000	0.000	4	**0.000**	
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Passage Impediments/Barriers	0.050	Tributary Barriers	0.000	0.000	4	**0.000**	
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Passage Impediments/Barriers	0.050	Tributary Barriers	0.000	0.000	3	**0.000**	

American River Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
American River	0.06	Spawning	0.40	Barrier	0.450	Historical spawning habitat blocked	1.000	1.080	1	**1.080**	**VH**
American River	0.06	Adult Immigration and Holding	0.10	Passage Impediments/Barriers	0.500	Nimbus/Folsom Dams	0.980	0.294	3	**0.882**	**VH**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Water Temperature	0.200	American River	0.700	0.294	3	**0.882**	**VH**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Predation	0.150	Predation in the American River	0.600	0.189	4	**0.756**	**VH**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Loss of Riparian Habitat and Instream Cover	0.150	American River	0.750	0.236	3	**0.709**	**VH**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Loss of Floodplain Habitat	0.100	American River	0.500	0.105	5	**0.525**	**VH**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Loss of Natural River Morphology	0.100	American River	0.700	0.147	3	**0.441**	**VH**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Loss of Tidal Marsh Habitat	0.050	Delta	0.800	0.084	5	**0.420**	**VH**
American River	0.06	Spawning	0.40	Hatchery Effects	0.150	Competition for habitat, Genetic Integrity	1.000	0.360	1	**0.360**	**VH**
American River	0.06	Embryo Incubation	**0.15**	Flow Conditions	0.375	Flow Fluctuations	1.000	0.338	1	**0.338**	**VH**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Water Temperature	0.200	Delta	0.250	0.105	3	**0.315**	**VH**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Loss of Floodplain Habitat	0.100	Lower Sacramento River	0.300	0.063	5	**0.315**	**VH**
American River	0.06	Spawning	0.40	Physical Habitat Alteration	0.125	Limited Instream Gravel Supply	1.000	0.300	1	**0.300**	**VH**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Entrainment	0.100	Individual Diversions in the Delta	0.275	0.058	5	**0.289**	**VH**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Entrainment	0.100	Jones and Banks Pumping Plants	0.275	0.058	5	**0.289**	**VH**
American River	0.06	Adult Immigration and Holding	0.10	Water Temperature	0.200	American River	0.800	0.096	3	**0.288**	**VH**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Entrainment	0.100	Individual Diversions in the lower Sacramento River	0.250	0.053	5	**0.263**	**VH**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.600	0.063	4	**0.252**	**VH**
American River	0.06	Spawning	0.40	Spawning Habitat Availability	0.100	Habitat Suitability	1.000	0.240	1	**0.240**	**VH**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Flow Conditions	0.050	Changes in Hydrology	0.450	0.047	5	**0.236**	**H**
American River	0.06	Adult Immigration and Holding	0.10	Harvest/Angling Impacts	0.100	American River	0.750	0.045	5	**0.225**	**H**
American River	0.06	Embryo Incubation	**0.15**	Water Temperature	0.250	Water Temperature in the American River	1.000	0.225	1	**0.225**	**H**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Predation	0.150	Predation in the Delta	0.150	0.047	4	**0.189**	**H**

American River Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
American River	0.06	Juvenile Rearing and Outmigration	0.35	Predation	0.150	Predation in the lower Sacramento River	0.150	0.047	4	**0.189**	**H**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Flow Conditions	0.050	Flow Dependent Habitat Availability in the American River	0.350	0.037	5	**0.184**	**H**
American River	0.06	Spawning	0.40	Flow Conditions	0.075	Flow Fluctuations	1.000	0.180	1	**0.180**	**H**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Hatchery Effects	0.050	American River	0.400	0.042	4	**0.168**	**H**
American River	0.06	Adult Immigration and Holding	0.10	Flow Conditions	0.150	Low Flows - attraction, migratory cues in the American River	0.800	0.072	2	**0.144**	**H**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Loss of Riparian Habitat and Instream Cover	0.150	Delta	0.150	0.047	3	**0.142**	**H**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Hatchery Effects	0.050	Delta	0.300	0.032	4	**0.126**	**H**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Loss of Natural River Morphology	0.100	Delta	0.200	0.042	3	**0.126**	**H**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Predation	0.150	Predation in the Bays	0.100	0.032	4	**0.126**	**H**
American River	0.06	Spawning	0.40	Water Temperature	0.050	American River	1.000	0.120	1	**0.120**	**H**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Invasive Species/Food Web Disruption	0.040	Asian clam, A. aspera, Microcystis, etc. in the Delta	0.700	0.059	2	**0.118**	**H**
American River	0.06	Embryo Incubation	**0.15**	Harvest/Angling Impacts	0.125	Redd disturbance	1.000	0.113	1.00	**0.113**	**H**
American River	0.06	Embryo Incubation	**0.15**	Short-term Inwater Construction	0.125	Sedimentation, turbidity, acoustic effects, hazardous spills, physical disturbance	1.000	0.113	1	**0.113**	**H**
American River	0.06	Embryo Incubation	**0.15**	Water Quality	0.125	Water Pollution	1.000	0.113	1.00	**0.113**	**H**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Entrainment	0.100	Contra Costa Power Plant	0.100	0.021	5	**0.105**	**H**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Entrainment	0.100	Pittsburg Power Plant	0.100	0.021	5	**0.105**	**H**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Hatchery Effects	0.050	Lower Sacramento River	0.250	0.026	4	**0.105**	**H**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Loss of Floodplain Habitat	0.100	Delta	0.100	0.021	5	**0.105**	**H**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Loss of Tidal Marsh Habitat	0.050	Bays	0.200	0.021	5	**0.105**	**H**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Loss of Riparian Habitat and Instream Cover	0.150	Lower Sacramento River	0.100	0.032	3	**0.095**	**M**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the American River	0.200	0.021	4	**0.084**	**M**
American River	0.06	Spawning	0.40	Harvest/Angling Impacts	0.030	Recreational, Poaching, Angler Impacts	1.000	0.072	1	**0.072**	**M**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Loss of Natural River Morphology	0.100	Lower Sacramento River	0.100	0.021	3	**0.063**	**M**

American River Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
American River	0.06	Juvenile Rearing and Outmigration	0.35	Short-term Inwater Construction	0.150	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bays	0.050	0.016	4	**0.063**	**M**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.150	0.016	4	**0.063**	**M**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Water Temperature	0.200	Lower Sacramento River	0.050	0.021	3	**0.063**	**M**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Water Quality	0.010	Ag, Urban in the lower Sacramento River	0.650	0.014	4	**0.055**	**M**
American River	0.06	Adult Immigration and Holding	0.10	Water Temperature	0.200	Lower Sacramento River	0.150	0.018	3	**0.054**	**M**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Flow Conditions	0.050	Diversion into Central Delta	0.100	0.011	5	**0.053**	**M**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Invasive Species/Food Web Disruption	0.040	Asian clam, A. aspera, Microcystis, etc. in the Bays	0.300	0.025	2	**0.050**	**M**
American River	0.06	Spawning	0.40	Water Quality	0.020	American River	1.000	0.048	1	**0.048**	**M**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Passage Impediments/Barriers	0.010	Nimbus/Folsom Dam	0.900	0.019	2	**0.038**	**M**
American River	0.06	Adult Immigration and Holding	0.10	Flow Conditions	0.150	Low Flows - attraction, migratory cues AND Flood Flows - non-natal area attraction in Lower Sacramento River	0.200	0.018	2	**0.036**	**M**
American River	0.06	Adult Immigration and Holding	0.10	Harvest/Angling Impacts	0.100	Lower Sacramento River	0.100	0.006	5	**0.030**	**M**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Flow Conditions	0.050	Flow Dependent Habitat Availability in the lower Sacramento River	0.050	0.005	5	**0.026**	**M**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Flow Conditions	0.050	Reverse Flow Conditions	0.050	0.005	5	**0.026**	**M**
American River	0.06	Adult Immigration and Holding	0.10	Water Quality	0.030	Ag, Urban in the lower Sacramento River	0.400	0.007	3	**0.022**	**M**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Hatchery Effects	0.050	Bays	0.050	0.005	4	**0.021**	**M**
American River	0.06	Adult Immigration and Holding	0.10	Short-term Inwater Construction	0.020	Sedimentation, turbidity, acoustic effects, hazardous spills in the American River	0.400	0.005	4	**0.019**	**L**
American River	0.06	Adult Immigration and Holding	0.10	Water Temperature	0.200	Delta	0.050	0.006	3	**0.018**	**L**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Water Quality	0.010	DO, Ag, Urban, Heavy Metals in th Delta	0.200	0.004	4	**0.017**	**L**
American River	0.06	Adult Immigration and Holding	0.10	Water Quality	0.030	Ag, Urban in the American River	0.300	0.005	3	**0.016**	**L**
American River	0.06	Adult Immigration and Holding	0.10	Water Quality	0.030	DO, Ag, Urban, Heavy Metals in th Delta	0.300	0.005	3	**0.016**	**L**

American River Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
American River	0.06	Adult Immigration and Holding	0.10	Harvest/Angling Impacts	0.100	Bays	0.050	0.003	5	**0.015**	**L**
American River	0.06	Adult Immigration and Holding	0.10	Harvest/Angling Impacts	0.100	Delta	0.050	0.003	5	**0.015**	**L**
American River	0.06	Adult Immigration and Holding	0.10	Harvest/Angling Impacts	0.100	Ocean	0.050	0.003	5	**0.015**	**L**
American River	0.06	Adult Immigration and Holding	0.10	Short-term Inwater Construction	0.020	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.300	0.004	4	**0.014**	**L**
American River	0.06	Adult Immigration and Holding	0.10	Short-term Inwater Construction	0.020	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.200	0.002	4	**0.010**	**L**
American River	0.06	Adult Immigration and Holding	0.10	Passage Impediments/Barriers	0.500	Sacramento Deep Water Ship Channel	0.010	0.003	3	**0.009**	**L**
American River	0.06	Adult Immigration and Holding	0.10	Passage Impediments/Barriers	0.500	Suisun Marsh Salinity Control Structure	0.010	0.003	3	**0.009**	**L**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Water Quality	0.010	Ag, Urban in the American River	0.100	0.002	4	**0.008**	**L**
American River	0.06	Adult Immigration and Holding	0.10	Short-term Inwater Construction	0.020	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bay	0.100	0.001	4	**0.005**	**L**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Passage Impediments/Barriers	0.010	Tributary Barriers	0.100	0.002	2	**0.004**	**L**
American River	0.06	Juvenile Rearing and Outmigration	0.35	Water Quality	0.010	Ag, Urban, Heavy Metals in the Bays	0.050	0.001	4	**0.004**	**L**

Dry Creek Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Dry Creek drainage (Sacramento Region)	0.07	Adult Immigration and Holding	0.20	Passage Impediments/Barriers	0.450	Impediments/Barriers in the Dry Creek drainage	0.900	0.567	3	**1.701**	**VH**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Water Quality	0.200	Ag, Urban in the Dry Creek drainage	0.700	0.294	4	**1.176**	**VH**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Water Temperature	0.150	Dry Creek drainage	0.800	0.252	3	**0.756**	**VH**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Flow Conditions	0.100	Flow Dependent Habitat Availability in the Dry Creek drainage	0.600	0.126	5	**0.630**	**VH**
Dry Creek drainage (Sacramento Region)	0.07	Spawning	0.40	Barrier	0.200	Redd superimposition, competition for habitat, hybridization/genetic integrity	1.000	0.560	1	**0.560**	**VH**
Dry Creek drainage (Sacramento Region)	0.07	Spawning	0.40	Spawning Habitat Availability	0.200	Habitat Suitability	1.000	0.560	1	**0.560**	**VH**
Dry Creek drainage (Sacramento Region)	0.07	Adult Immigration and Holding	0.20	Water Temperature	0.150	Dry Creek drainage	0.750	0.158	3	**0.473**	**VH**
Dry Creek drainage (Sacramento Region)	0.07	Adult Immigration and Holding	0.20	Flow Conditions	0.200	Low Flows - attraction, migratory cues in the Dry Creek drainage	0.800	0.224	2	**0.448**	**VH**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Loss of Natural River Morphology	0.100	Dry Creek drainage	0.700	0.147	3	**0.441**	**VH**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Loss of Riparian Habitat and Instream Cover	0.100	Dry Creek drainage	0.700	0.147	3	**0.441**	**VH**
Dry Creek drainage (Sacramento Region)	0.07	Spawning	0.40	Physical Habitat Alteration	0.150	Limited Instream Gravel Supply	1.000	0.420	1	**0.420**	**VH**
Dry Creek drainage (Sacramento Region)	0.07	Spawning	0.40	Water Quality	0.150	Dry Creek drainage	1.000	0.420	1	**0.420**	**VH**
Dry Creek drainage (Sacramento Region)	0.07	Adult Immigration and Holding	0.20	Water Quality	0.100	Ag, Urban in the Dry Creek drainage	0.850	0.119	3	**0.357**	**VH**
Dry Creek drainage (Sacramento Region)	0.07	Spawning	0.40	Flow Conditions	0.100	Flow Fluctuations	1.000	0.280	1	**0.280**	**VH**
Dry Creek drainage (Sacramento Region)	0.07	Spawning	0.40	Water Temperature	0.100	Dry Creek drainage	1.000	0.280	1	**0.280**	**VH**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Dry Creek drainage	0.600	0.063	4	**0.252**	**VH**
Dry Creek drainage (Sacramento Region)	0.07	Embryo Incubation	**0.10**	Water Quality	0.350	Water Pollution	1.000	0.245	1.00	**0.245**	**VH**
Dry Creek drainage (Sacramento Region)	0.07	Embryo Incubation	**0.10**	Water Temperature	0.350	Water Temperature in the Dry Creek drainage	1.000	0.245	1	**0.245**	**VH**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Flow Conditions	0.100	Changes in Hydrology	0.200	0.042	5	**0.210**	**VH**
Dry Creek drainage (Sacramento Region)	0.07	Adult Immigration and Holding	0.20	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Dry Creek drainage	0.700	0.049	4	**0.196**	**VH**

Dry Creek Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Dry Creek drainage (Sacramento Region)	0.07	Adult Immigration and Holding	0.20	Harvest/Angling Impacts	0.050	Dry Creek drainage	0.500	0.035	5	**0.175**	**H**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Water Quality	0.200	Ag, Urban in the lower Sacramento River	0.100	0.042	4	**0.168**	**H**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Water Quality	0.200	Ag, Urban, Heavy Metals in the Bays	0.100	0.042	4	**0.168**	**H**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Water Quality	0.200	DO, Ag, Urban, Heavy Metals in th Delta	0.100	0.042	4	**0.168**	**H**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Water Temperature	0.150	Lower Sacramento River	0.150	0.047	3	**0.142**	**H**
Dry Creek drainage (Sacramento Region)	0.07	Embryo Incubation	**0.10**	Flow Conditions	0.200	Flow Fluctuations	1.000	0.140	1	**0.140**	**H**
Dry Creek drainage (Sacramento Region)	0.07	Spawning	0.40	Harvest/Angling Impacts	0.050	Recreational, Poaching, Angler Impacts	1.000	0.140	1	**0.140**	**H**
Dry Creek drainage (Sacramento Region)	0.07	Spawning	0.40	Hatchery Effects	0.050	Redd superimposition, competition for habitat, Genetic Integrity	1.000	0.140	1	**0.140**	**H**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Loss of Natural River Morphology	0.100	Delta	0.200	0.042	3	**0.126**	**H**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Loss of Riparian Habitat and Instream Cover	0.100	Lower Sacramento River	0.200	0.042	3	**0.126**	**H**
Dry Creek drainage (Sacramento Region)	0.07	Adult Immigration and Holding	0.20	Water Temperature	0.150	Lower Sacramento River	0.200	0.042	3	**0.126**	**H**
Dry Creek drainage (Sacramento Region)	0.07	Adult Immigration and Holding	0.20	Flow Conditions	0.200	Low Flows - attraction, migratory cues AND Flood Flows - non-natal area attraction in the lower Sacramento River	0.200	0.056	2	**0.112**	**H**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Flow Conditions	0.100	Flow Dependent Habitat Availability in the lower Sacramento River	0.100	0.021	5	**0.105**	**H**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Entrainment	0.020	Jones and Banks Pumping Plants	0.400	0.017	6	**0.101**	**H**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Predation	0.020	Predation in the Dry Creek drainage	0.600	0.025	4	**0.101**	**H**
Dry Creek drainage (Sacramento Region)	0.07	Adult Immigration and Holding	0.20	Passage Impediments/Barriers	0.450	Sacramento Deep Water Ship Channel	0.050	0.032	3	**0.095**	**H**
Dry Creek drainage (Sacramento Region)	0.07	Adult Immigration and Holding	0.20	Passage Impediments/Barriers	0.450	Suisun Marsh Salinity Control Structure	0.050	0.032	3	**0.095**	**H**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Loss of Tidal Marsh Habitat	0.010	Delta	0.900	0.019	5	**0.095**	**H**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.200	0.021	4	**0.084**	**H**

Dry Creek Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Loss of Floodplain Habitat	0.020	Lower Sacramento River	0.400	0.017	5	**0.084**	**H**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Entrainment	0.020	Individual Diversions in the Delta	0.300	0.013	6	**0.076**	**M**
Dry Creek drainage (Sacramento Region)	0.07	Adult Immigration and Holding	0.20	Harvest/Angling Impacts	0.050	Delta	0.200	0.014	5	**0.070**	**M**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Hatchery Effects	0.020	Dry Creek drainage	0.400	0.017	4	**0.067**	**M**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Loss of Natural River Morphology	0.100	Lower Sacramento River	0.100	0.021	3	**0.063**	**M**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Loss of Riparian Habitat and Instream Cover	0.100	Delta	0.100	0.021	3	**0.063**	**M**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Loss of Floodplain Habitat	0.020	Delta	0.300	0.013	5	**0.063**	**M**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Loss of Floodplain Habitat	0.020	Dry Creek drainage	0.300	0.013	5	**0.063**	**M**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Flow Conditions	0.100	Diversion into Central Delta	0.050	0.011	5	**0.053**	**M**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Flow Conditions	0.100	Reverse Flow Conditions	0.050	0.011	5	**0.053**	**M**
Dry Creek drainage (Sacramento Region)	0.07	Adult Immigration and Holding	0.20	Harvest/Angling Impacts	0.050	Ocean	0.150	0.011	5	**0.053**	**M**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Hatchery Effects	0.020	Delta	0.300	0.013	4	**0.050**	**M**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Water Temperature	0.150	Delta	0.050	0.016	3	**0.047**	**M**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bays	0.100	0.011	4	**0.042**	**M**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.100	0.011	4	**0.042**	**M**
Dry Creek drainage (Sacramento Region)	0.07	Adult Immigration and Holding	0.20	Water Quality	0.100	Ag, Urban in the lower Sacramento River	0.100	0.014	3	**0.042**	**M**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Invasive Species/Food Web Disruption	0.010	Asian clam, A. aspera, Microcystis, etc. in the Delta	0.900	0.019	2	**0.038**	**M**
Dry Creek drainage (Sacramento Region)	0.07	Adult Immigration and Holding	0.20	Harvest/Angling Impacts	0.050	Lower Sacramento River	0.100	0.007	5	**0.035**	**M**
Dry Creek drainage (Sacramento Region)	0.07	Embryo Incubation	**0.10**	Harvest/Angling Impacts	0.050	Redd disturbance	1.000	0.035	1.00	**0.035**	**M**
Dry Creek drainage (Sacramento Region)	0.07	Embryo Incubation	**0.10**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills, physical disturbance	1.000	0.035	1	**0.035**	**M**

Dry Creek Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Hatchery Effects	0.020	Lower Sacramento River	0.200	0.008	4	**0.034**	**M**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Predation	0.020	Predation in the Delta	0.200	0.008	4	**0.034**	**M**
Dry Creek drainage (Sacramento Region)	0.07	Adult Immigration and Holding	0.20	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bay	0.100	0.007	4	**0.028**	**L**
Dry Creek drainage (Sacramento Region)	0.07	Adult Immigration and Holding	0.20	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.100	0.007	4	**0.028**	**L**
Dry Creek drainage (Sacramento Region)	0.07	Adult Immigration and Holding	0.20	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.100	0.007	4	**0.028**	**L**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Entrainment	0.020	Individual Diversions in the Dry Creek drainage	0.100	0.004	6	**0.025**	**L**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Entrainment	0.020	Individual Diversions in the lower Sacramento River	0.100	0.004	6	**0.025**	**L**
Dry Creek drainage (Sacramento Region)	0.07	Adult Immigration and Holding	0.20	Water Quality	0.100	DO, Ag, Urban, Heavy Metals in th Delta	0.050	0.007	3	**0.021**	**L**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Passage Impediments/Barriers	0.010	Impediments/Barriers in the Dry Creek drainage	0.500	0.011	2	**0.021**	**L**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Passage Impediments/Barriers	0.010	Tributary Barriers	0.500	0.011	2	**0.021**	**L**
Dry Creek drainage (Sacramento Region)	0.07	Adult Immigration and Holding	0.20	Harvest/Angling Impacts	0.050	Bays	0.050	0.004	5	**0.018**	**L**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Hatchery Effects	0.020	Bays	0.100	0.004	4	**0.017**	**L**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Predation	0.020	Predation in the Bays	0.100	0.004	4	**0.017**	**L**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Predation	0.020	Predation in the lower Sacramento River	0.100	0.004	4	**0.017**	**L**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Entrainment	0.020	Contra Costa Power Plant	0.050	0.002	6	**0.013**	**L**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Entrainment	0.020	Pittsburg Power Plant	0.050	0.002	6	**0.013**	**L**
Dry Creek drainage (Sacramento Region)	0.07	Adult Immigration and Holding	0.20	Water Temperature	0.050	Delta	0.050	0.004	3	**0.011**	**L**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Loss of Tidal Marsh Habitat	0.010	Bays	0.100	0.002	5	**0.011**	**L**
Dry Creek drainage (Sacramento Region)	0.07	Juvenile Rearing and Outmigration	0.30	Invasive Species/Food Web Disruption	0.010	Asian clam, A. aspera, Microcystis, etc. in the Bays	0.100	0.002	2	**0.004**	**L**

Auburn/Coon Creek Drainage Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Auburn Ravine and Coon Creek drainage	0.07	Adult Immigration and Holding	0.40	Passage Impediments/Barriers	0.850	Impediments/Barriers in the Auburn Ravine and Coon Creek drainage	0.990	2.356	3	**7.07**	**VH**
Auburn Ravine and Coon Creek drainage	0.07	Spawning	0.30	Passage Impediments/Barriers	0.350	Impediments/Barriers in the Auburn Ravine and Coon Creek drainage	1.000	0.735	1	**0.74**	**VH**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Entrainment	0.200	Individual Diversions in the Auburn Ravine and Coon Creek drainage	0.450	0.126	5	**0.63**	**VH**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Flow Conditions	0.150	Flow Dependent Habitat Availability in the Auburn Ravine and Coon Creek drainage	0.600	0.126	5	**0.63**	**VH**
Auburn Ravine and Coon Creek drainage	0.07	Adult Immigration and Holding	0.40	Flow Conditions	0.100	Low Flows - attraction, migratory cues in the Auburn Ravine and Coon Creek drainage	0.900	0.252	2	**0.50**	**VH**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Water Quality	0.100	Ag, Urban in the Auburn Ravine and Coon Creek drainage	0.800	0.112	4	**0.45**	**VH**
Auburn Ravine and Coon Creek drainage	0.07	Spawning	0.30	Flow Conditions	0.200	Flow Fluctuations	1.000	0.420	1	**0.42**	**VH**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Loss of Natural River Morphology	0.125	Auburn Ravine and Coon Creek drainage	0.800	0.140	3	**0.42**	**VH**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Loss of Riparian Habitat and Instream Cover	0.125	Auburn Ravine and Coon Creek drainage	0.800	0.140	3	**0.42**	**VH**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Water Temperature	0.100	Auburn Ravine and Coon Creek drainage	0.900	0.126	3	**0.38**	**VH**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Predation	0.100	Predation in the Auburn Ravine and Coon Creek drainage	0.650	0.091	4	**0.36**	**VH**
Auburn Ravine and Coon Creek drainage	0.07	Embryo Incubation	**0.10**	Flow Conditions	0.450	Flow Fluctuations	1.000	0.315	1	**0.32**	**VH**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Entrainment	0.200	Individual Diversions in the Delta	0.200	0.056	5	**0.28**	**VH**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Entrainment	0.200	Jones and Banks Pumping Plants	0.200	0.056	5	**0.28**	**VH**
Auburn Ravine and Coon Creek drainage	0.07	Embryo Incubation	**0.10**	Water Temperature	0.350	Water Temperature in the Auburn Ravine and Coon Creek drainage	1.000	0.245	1	**0.25**	**VH**
Auburn Ravine and Coon Creek drainage	0.07	Spawning	0.30	Hatchery Effects	0.100	Redd superimposition, competition for habitat, Genetic Integrity	1.000	0.210	1	**0.21**	**VH**
Auburn Ravine and Coon Creek drainage	0.07	Spawning	0.30	Physical Habitat Alteration	0.100	Limited Instream Gravel Supply	1.000	0.210	1	**0.21**	**VH**
Auburn Ravine and Coon Creek drainage	0.07	Spawning	0.30	Spawning Habitat Availability	0.100	Habitat Suitability	1.000	0.210	1	**0.21**	**VH**
Auburn Ravine and Coon Creek drainage	0.07	Adult Immigration and Holding	0.40	Water Temperature	0.020	Auburn Ravine and Coon Creek drainage	0.800	0.045	3	**0.13**	**VH**

Auburn/Coon Creek Drainage Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Flow Conditions	0.150	Changes in Delta Hydrology	0.125	0.026	5	**0.13**	**H**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Flow Conditions	0.150	Diversion into Central Delta	0.125	0.026	5	**0.13**	**H**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Passage Impediments/Barriers	0.050	Impediments/Barriers in the Auburn Ravine and Coon Creek drainage	0.900	0.063	2	**0.13**	**H**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Predation	0.100	Predation in the Delta	0.200	0.028	4	**0.11**	**H**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Flow Conditions	0.150	Reverse Flow Conditions	0.100	0.021	5	**0.11**	**H**
Auburn Ravine and Coon Creek drainage	0.07	Spawning	0.30	Harvest/Angling Impacts	0.050	Recreational, Poaching, Angler Impacts	1.000	0.105	1	**0.11**	**H**
Auburn Ravine and Coon Creek drainage	0.07	Spawning	0.30	Water Quality	0.050	Auburn Ravine and Coon Creek drainage	1.000	0.105	1	**0.11**	**H**
Auburn Ravine and Coon Creek drainage	0.07	Spawning	0.30	Water Temperature	0.050	Auburn Ravine and Coon Creek drainage	1.000	0.105	1	**0.11**	**H**
Auburn Ravine and Coon Creek drainage	0.07	Adult Immigration and Holding	0.40	Harvest/Angling Impacts	0.010	Auburn Ravine and Coon Creek drainage	0.650	0.018	5	**0.09**	**H**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Loss of Natural River Morphology	0.125	Delta	0.150	0.026	3	**0.08**	**H**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Loss of Riparian Habitat and Instream Cover	0.125	Lower Sacramento River	0.150	0.026	3	**0.08**	**H**
Auburn Ravine and Coon Creek drainage	0.07	Adult Immigration and Holding	0.40	Short-term Inwater Construction	0.010	Sedimentation, turbidity, acoustic effects, hazardous spills in the Auburn Ravine and Coon Creek drainage	0.650	0.018	4	**0.07**	**H**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Entrainment	0.200	Contra Costa Power Plant	0.050	0.014	5	**0.07**	**H**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Entrainment	0.200	Individual Diversions in the lower Sacramento River	0.050	0.014	5	**0.07**	**H**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Entrainment	0.200	Pittsburg Power Plant	0.050	0.014	5	**0.07**	**H**
Auburn Ravine and Coon Creek drainage	0.07	Adult Immigration and Holding	0.40	Water Quality	0.010	Ag, Urban in the Auburn Ravine and Coon Creek drainage	0.800	0.022	3	**0.07**	**H**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Loss of Tidal Marsh Habitat	0.010	Delta	0.900	0.013	5	**0.06**	**H**
Auburn Ravine and Coon Creek drainage	0.07	Adult Immigration and Holding	0.40	Flow Conditions	0.100	Low Flows - attraction, migratory cues AND Flood Flows - non-natal area attraction in the lower Sacramento River	0.100	0.028	2	**0.06**	**H**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Predation	0.100	Predation in the lower Sacramento River	0.100	0.014	4	**0.06**	**H**

Auburn/Coon Creek Drainage Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Water Quality	0.100	Ag, Urban in the lower Sacramento River	0.100	0.014	4	**0.06**	**H**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Water Quality	0.100	DO, Ag, Urban, Heavy Metals in th Delta	0.100	0.014	4	**0.06**	**H**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Flow Conditions	0.150	Flow Dependent Habitat Availability in the lower Sacramento River	0.050	0.011	5	**0.05**	**M**
Auburn Ravine and Coon Creek drainage	0.07	Embryo Incubation	**0.10**	Harvest/Angling Impacts	0.075	Redd disturbance	1.000	0.053	1.00	**0.05**	**M**
Auburn Ravine and Coon Creek drainage	0.07	Embryo Incubation	**0.10**	Short-term Inwater Construction	0.075	Sedimentation, turbidity, acoustic effects, hazardous spills, physical disturbance	1.000	0.053	1	**0.05**	**M**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Loss of Floodplain Habitat	0.010	Lower Sacramento River	0.550	0.008	5	**0.04**	**M**
Auburn Ravine and Coon Creek drainage	0.07	Adult Immigration and Holding	0.40	Passage Impediments/Barriers	0.850	Sacramento Deep Water Ship Channel	0.005	0.012	3	**0.04**	**M**
Auburn Ravine and Coon Creek drainage	0.07	Adult Immigration and Holding	0.40	Passage Impediments/Barriers	0.850	Suisun Marsh Salinity Control Structure	0.005	0.012	3	**0.04**	**M**
Auburn Ravine and Coon Creek drainage	0.07	Embryo Incubation	**0.10**	Water Quality	0.050	Water Pollution	1.000	0.035	1.00	**0.04**	**M**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Short-term Inwater Construction	0.010	Sedimentation, turbidity, acoustic effects, hazardous spills in the Auburn Ravine and Coon Creek drainage	0.600	0.008	4	**0.03**	**M**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Loss of Floodplain Habitat	0.010	Auburn Ravine and Coon Creek drainage	0.400	0.006	5	**0.03**	**M**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Predation	0.100	Predation in the Bays	0.050	0.007	4	**0.03**	**M**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Loss of Natural River Morphology	0.125	Lower Sacramento River	0.050	0.009	3	**0.03**	**M**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Loss of Riparian Habitat and Instream Cover	0.125	Delta	0.050	0.009	3	**0.03**	**M**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Invasive Species/Food Web Disruption	0.010	Asian clam, A. aspera, Microcystis, etc. in the Delta	0.900	0.013	2	**0.03**	**M**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Hatchery Effects	0.010	Auburn Ravine and Coon Creek drainage	0.400	0.006	4	**0.02**	**M**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Hatchery Effects	0.010	Delta	0.400	0.006	4	**0.02**	**M**
Auburn Ravine and Coon Creek drainage	0.07	Adult Immigration and Holding	0.40	Short-term Inwater Construction	0.010	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.200	0.006	4	**0.02**	**M**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Water Temperature	0.100	Delta	0.050	0.007	3	**0.02**	**M**

Auburn/Coon Creek Drainage Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Water Temperature	0.100	Lower Sacramento River	0.050	0.007	3	**0.02**	**M**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Short-term Inwater Construction	0.010	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.300	0.004	4	**0.02**	**M**
Auburn Ravine and Coon Creek drainage	0.07	Adult Immigration and Holding	0.40	Water Temperature	0.020	Delta	0.100	0.006	3	**0.02**	**M**
Auburn Ravine and Coon Creek drainage	0.07	Adult Immigration and Holding	0.40	Water Temperature	0.020	Lower Sacramento River	0.100	0.006	3	**0.02**	**M**
Auburn Ravine and Coon Creek drainage	0.07	Adult Immigration and Holding	0.40	Harvest/Angling Impacts	0.010	Delta	0.100	0.003	5	**0.01**	**L**
Auburn Ravine and Coon Creek drainage	0.07	Adult Immigration and Holding	0.40	Harvest/Angling Impacts	0.010	Lower Sacramento River	0.100	0.003	5	**0.01**	**L**
Auburn Ravine and Coon Creek drainage	0.07	Adult Immigration and Holding	0.40	Harvest/Angling Impacts	0.010	Ocean	0.100	0.003	5	**0.01**	**L**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Passage Impediments/Barriers	0.050	Tributary Barriers	0.100	0.007	2	**0.01**	**L**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Hatchery Effects	0.010	Lower Sacramento River	0.200	0.003	4	**0.01**	**L**
Auburn Ravine and Coon Creek drainage	0.07	Adult Immigration and Holding	0.40	Short-term Inwater Construction	0.010	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.100	0.003	4	**0.01**	**L**
Auburn Ravine and Coon Creek drainage	0.07	Adult Immigration and Holding	0.40	Water Quality	0.010	Ag, Urban in the lower Sacramento River	0.100	0.003	3	**0.01**	**L**
Auburn Ravine and Coon Creek drainage	0.07	Adult Immigration and Holding	0.40	Water Quality	0.010	DO, Ag, Urban, Heavy Metals in th Delta	0.100	0.003	3	**0.01**	**L**
Auburn Ravine and Coon Creek drainage	0.07	Adult Immigration and Holding	0.40	Harvest/Angling Impacts	0.010	Bays	0.050	0.001	5	**0.01**	**L**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Loss of Tidal Marsh Habitat	0.010	Bays	0.100	0.001	5	**0.01**	**L**
Auburn Ravine and Coon Creek drainage	0.07	Adult Immigration and Holding	0.40	Short-term Inwater Construction	0.010	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bay	0.050	0.001	4	**0.01**	**L**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Short-term Inwater Construction	0.010	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.100	0.001	4	**0.01**	**L**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Loss of Floodplain Habitat	0.010	Delta	0.050	0.001	5	**0.00**	**L**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Invasive Species/Food Web Disruption	0.010	Asian clam, A. aspera, Microcystis, etc. in the Bays	0.100	0.001	2	**0.00**	**L**
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Hatchery Effects	0.010	Bays	0.000	0.000	4	**0.00**	

Auburn/Coon Creek Drainage Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Short-term Inwater Construction	0.010	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bays	0.000	0.000	4	**0.00**	
Auburn Ravine and Coon Creek drainage	0.07	Juvenile Rearing and Outmigration	0.20	Water Quality	0.100	Ag, Urban, Heavy Metals in the Bays	0.000	0.000	4	**0.00**	

Bear River Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Bear River	0.06	Adult Immigration and Holding	0.20	Water Temperature	0.500	Bear River	0.950	0.570	4	**2.280**	**VH**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Flow Conditions	0.300	Flow Dependent Habitat Availability in the Bear River	0.550	0.297	6	**1.782**	**VH**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Water Temperature	0.250	Bear River	0.850	0.383	4	**1.530**	**VH**
Bear River	0.06	Adult Immigration and Holding	0.20	Flow Conditions	0.450	Low Flows - attraction, migratory cues in the Bear River	0.850	0.459	3	**1.377**	**VH**
Bear River	0.06	Spawning	0.30	Flow Conditions	0.350	Flow Fluctuations	1.000	0.630	1	**0.630**	**VH**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Entrainment	0.050	Individual Diversions in the Bear River	0.950	0.086	7	**0.599**	**VH**
Bear River	0.06	Embryo Incubation	0.20	Water Temperature	0.450	Water Temperature in the Bear River	1.000	0.540	1	**0.540**	**VH**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Loss of Floodplain Habitat	0.075	Bear River	0.600	0.081	6	**0.486**	**VH**
Bear River	0.06	Embryo Incubation	0.20	Flow Conditions	0.400	Flow Fluctuations	1.000	0.480	1	**0.480**	**VH**
Bear River	0.06	Spawning	0.30	Physical Habitat Alteration	0.200	Limited Instream Gravel Supply	1.000	0.360	1	**0.360**	**VH**
Bear River	0.06	Spawning	0.30	Spawning Habitat Availability	0.200	Habitat Suitability	1.000	0.360	1	**0.360**	**VH**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Flow Conditions	0.300	Changes in Delta Hydrology	0.100	0.054	6	**0.324**	**VH**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Flow Conditions	0.300	Diversion into Central Delta	0.100	0.054	6	**0.324**	**VH**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Flow Conditions	0.300	Flow Dependent Habitat Availability in the lower Sacramento River	0.100	0.054	6	**0.324**	**VH**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Flow Conditions	0.300	Reverse Flow Conditions	0.100	0.054	6	**0.324**	**VH**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Loss of Natural River Morphology	0.075	Bear River	0.600	0.081	4	**0.324**	**VH**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Loss of Riparian Habitat and Instream Cover	0.075	Bear River	0.600	0.081	4	**0.324**	**VH**
Bear River	0.06	Spawning	0.30	Water Temperature	0.150	Water Temperature in the Bear River	1.000	0.270	1	**0.270**	**VH**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Predation	0.050	Predation in the Bear River	0.400	0.036	5	**0.180**	**VH**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Water Quality	0.025	Bear River	0.800	0.036	5	**0.180**	**VH**
Bear River	0.06	Adult Immigration and Holding	0.20	Flow Conditions	0.450	Low Flows - attraction, migratory cues in the Feather River	0.100	0.054	3	**0.162**	**VH**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Flow Conditions	0.300	Flow Dependent Habitat Availability in the Feather River	0.050	0.027	6	**0.162**	**VH**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Loss of Floodplain Habitat	0.075	Delta	0.200	0.027	6	**0.162**	**VH**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Loss of Tidal Marsh Habitat	0.025	Delta	0.600	0.027	6	**0.162**	**VH**

Bear River Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Predation	0.050	Predation in the Feather River	0.350	0.032	5	**0.158**	**H**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Short-term Inwater Construction	0.025	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bear River	0.650	0.029	5	**0.146**	**H**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Loss of Tidal Marsh Habitat	0.025	Bays	0.400	0.018	6	**0.108**	**H**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Loss of Natural River Morphology	0.075	Delta	0.200	0.027	4	**0.108**	**H**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Loss of Riparian Habitat and Instream Cover	0.075	Delta	0.200	0.027	4	**0.108**	**H**
Bear River	0.06	Adult Immigration and Holding	0.20	Water Temperature	0.500	Feather River	0.040	0.024	4	**0.096**	**H**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Water Temperature	0.250	Delta	0.050	0.023	4	**0.090**	**H**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Water Temperature	0.250	Feather River	0.050	0.023	4	**0.090**	**H**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Water Temperature	0.250	Lower Sacramento River	0.050	0.023	4	**0.090**	**H**
Bear River	0.06	Adult Immigration and Holding	0.20	Water Quality	0.020	Bear River	0.900	0.022	4	**0.086**	**H**
Bear River	0.06	Adult Immigration and Holding	0.20	Flow Conditions	0.450	Low Flows - attraction, migratory cues AND Flood Flows - non-natal area attraction in Lower Sacramento River	0.050	0.027	3	**0.081**	**H**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Loss of Floodplain Habitat	0.075	Feather River	0.100	0.014	6	**0.081**	**H**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Loss of Floodplain Habitat	0.075	Lower Sacramento River	0.100	0.014	6	**0.081**	**H**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Hatchery Effects	0.025	Delta	0.300	0.014	5	**0.068**	**H**
Bear River	0.06	Adult Immigration and Holding	0.20	Passage Impediments/Barriers	0.020	Bear River	0.700	0.017	4	**0.067**	**H**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Hatchery Effects	0.025	Feather River	0.275	0.012	5	**0.062**	**H**
Bear River	0.06	Embryo Incubation	0.20	Harvest/Angling Impacts	0.050	Redd disturbance	1.000	0.060	1.00	**0.060**	**H**
Bear River	0.06	Embryo Incubation	0.20	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills, physical disturbance	1.000	0.060	1	**0.060**	**H**
Bear River	0.06	Embryo Incubation	0.20	Water Quality	0.050	Water Pollution in the Bear River	1.000	0.060	1.00	**0.060**	**H**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Invasive Species/Food Web Disruption	0.025	Asian clam, A. aspera, Microcystis, etc. in the Delta	0.600	0.027	2	**0.054**	**H**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Loss of Natural River Morphology	0.075	Feather River	0.100	0.014	4	**0.054**	**H**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Loss of Natural River Morphology	0.075	Lower Sacramento River	0.100	0.014	4	**0.054**	**H**

Bear River Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Loss of Riparian Habitat and Instream Cover	0.075	Feather River	0.100	0.014	4	**0.054**	**H**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Loss of Riparian Habitat and Instream Cover	0.075	Lower Sacramento River	0.100	0.014	4	**0.054**	**H**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Hatchery Effects	0.025	Bear River	0.200	0.009	5	**0.045**	**M**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Hatchery Effects	0.025	Lower Sacramento River	0.200	0.009	5	**0.045**	**M**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Predation	0.050	Predation in the Delta	0.100	0.009	5	**0.045**	**M**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Predation	0.050	Predation in the lower Sacramento River	0.100	0.009	5	**0.045**	**M**
Bear River	0.06	Spawning	0.30	Barrier	0.025	Redd superimposition, competition for habitat, hybridization/genetic integrity	1.000	0.045	1	**0.045**	**M**
Bear River	0.06	Spawning	0.30	Harvest/Angling Impacts	0.025	Recreational, Poaching, Angler Impacts	1.000	0.045	1	**0.045**	**M**
Bear River	0.06	Spawning	0.30	Hatchery Effects	0.025	Redd superimposition, competition for habitat, genetic integrity	1.000	0.045	1	**0.045**	**M**
Bear River	0.06	Spawning	0.30	Water Quality	0.025	Water Quality in the Bear River	1.000	0.045	1	**0.045**	**M**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Invasive Species/Food Web Disruption	0.025	Asian clam, A. aspera, Microcystis, etc. in the Bays	0.400	0.018	2	**0.036**	**M**
Bear River	0.06	Adult Immigration and Holding	0.20	Water Temperature	0.500	Lower Sacramento River	0.010	0.006	4	**0.024**	**M**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Predation	0.050	Predation in the Bays	0.050	0.005	5	**0.023**	**M**
Bear River	0.06	Adult Immigration and Holding	0.20	Short-term Inwater Construction	0.005	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bear River	0.750	0.005	5	**0.023**	**M**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Short-term Inwater Construction	0.025	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.100	0.005	5	**0.023**	**M**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Short-term Inwater Construction	0.025	Sedimentation, turbidity, acoustic effects, hazardous spills in the Feather River	0.100	0.005	5	**0.023**	**M**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Short-term Inwater Construction	0.025	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.100	0.005	5	**0.023**	**M**
Bear River	0.06	Adult Immigration and Holding	0.20	Passage Impediments/Barriers	0.020	Yolo Bypass - Freemont Weir	0.200	0.005	4	**0.019**	**M**
Bear River	0.06	Adult Immigration and Holding	0.20	Harvest/Angling Impacts	0.005	Bear River	0.600	0.004	5	**0.018**	**M**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Entrainment	0.050	Jones and Banks Pumping Plants	0.020	0.002	7	**0.013**	**M**

Bear River Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Short-term Inwater Construction	0.025	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bays	0.050	0.002	5	**0.011**	**M**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Water Quality	0.025	Ag, Urban in the lower Sacramento River	0.050	0.002	5	**0.011**	**M**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Water Quality	0.025	Ag, Urban in the Feather River	0.050	0.002	5	**0.011**	**M**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Water Quality	0.025	Ag, Urban, Heavy Metals in the Bays	0.050	0.002	5	**0.011**	**M**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Water Quality	0.025	DO, Ag, Urban, Heavy Metals in th Delta	0.050	0.002	5	**0.011**	**M**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Entrainment	0.050	Individual Diversions in the Delta	0.010	0.001	7	**0.006**	**L**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Hatchery Effects	0.025	Bays	0.025	0.001	5	**0.006**	**L**
Bear River	0.06	Adult Immigration and Holding	0.20	Passage Impediments/Barriers	0.020	Sacramento Deep Water Ship Channel	0.050	0.001	4	**0.005**	**L**
Bear River	0.06	Adult Immigration and Holding	0.20	Passage Impediments/Barriers	0.020	Suisun Marsh Salinity Control Structure	0.050	0.001	4	**0.005**	**L**
Bear River	0.06	Adult Immigration and Holding	0.20	Water Quality	0.020	Ag, Urban in the Feather River	0.050	0.001	4	**0.005**	**L**
Bear River	0.06	Adult Immigration and Holding	0.20	Harvest/Angling Impacts	0.005	Ocean	0.150	0.001	5	**0.005**	**L**
Bear River	0.06	Adult Immigration and Holding	0.20	Water Quality	0.020	Ag, Urban in the lower Sacramento River	0.040	0.001	4	**0.004**	**L**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Entrainment	0.050	Contra Costa Power Plant	0.005	0.000	7	**0.003**	**L**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Entrainment	0.050	Individual Diversions in the Feather River	0.005	0.000	7	**0.003**	**L**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Entrainment	0.050	Individual Diversions in the lower Sacramento River	0.005	0.000	7	**0.003**	**L**
Bear River	0.06	Juvenile Rearing and Outmigration	0.30	Entrainment	0.050	Pittsburg Power Plant	0.005	0.000	7	**0.003**	**L**
Bear River	0.06	Adult Immigration and Holding	0.20	Harvest/Angling Impacts	0.005	Delta	0.100	0.001	5	**0.003**	**L**
Bear River	0.06	Adult Immigration and Holding	0.20	Harvest/Angling Impacts	0.005	Lower Sacramento River	0.100	0.001	5	**0.003**	**L**
Bear River	0.06	Adult Immigration and Holding	0.20	Short-term Inwater Construction	0.005	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.100	0.001	5	**0.003**	**L**
Bear River	0.06	Adult Immigration and Holding	0.20	Harvest/Angling Impacts	0.005	Bays	0.050	0.000	5	**0.002**	**L**
Bear River	0.06	Adult Immigration and Holding	0.20	Short-term Inwater Construction	0.005	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bay	0.050	0.000	5	**0.002**	**L**

Bear River Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Bear River	0.06	Adult Immigration and Holding	0.20	Short-term Inwater Construction	0.005	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.050	0.000	5	**0.002**	**L**
Bear River	0.06	Adult Immigration and Holding	0.20	Short-term Inwater Construction	0.005	Sedimentation, turbidity, acoustic effects, hazardous spills in the Feather River	0.050	0.000	5	**0.002**	**L**
Bear River	0.06	Adult Immigration and Holding	0.20	Water Quality	0.020	DO, Ag, Urban, Heavy Metals in th Delta	0.010	0.000	4	**0.001**	**L**
Bear River	0.06	Adult Immigration and Holding	0.20	Water Temperature	0.500	Delta	0.000	0.000	4	**0.000**	

Yuba River Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Yuba River	0.11	Adult Immigration and Holding	0.15	Passage Impediments/Barriers	0.400	Englebright Dam	0.650	0.43	5	**2.15**	**VH**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Loss of Natural River Morphology	0.150	Yuba River	0.350	0.25	4	**0.98**	**VH**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Loss of Riparian Habitat and Instream Cover	0.150	Yuba River	0.350	0.25	4	**0.98**	**VH**
Yuba River	0.11	Spawning	0.275	Barrier	0.300	Englebright Dam - Redd superimposition, competition for habitat, hybridization/genetic integrity	1.000	0.91	1	**0.91**	**VH**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Loss of Floodplain Habitat	0.125	Delta	0.375	0.22	4	**0.88**	**VH**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Predation	0.125	Predation in the Delta	0.300	0.18	5	**0.88**	**VH**
Yuba River	0.11	Embryo Incubation	0.15	Flow Conditions	0.525	Flow Fluctuations, Flood Events	1.000	0.87	1.00	**0.87**	**VH**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Loss of Riparian Habitat and Instream Cover	0.150	Delta	0.300	0.21	4	**0.84**	**VH**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Predation	0.125	Predation in the Yuba River	0.250	0.15	5	**0.73**	**VH**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Loss of Natural River Morphology	0.150	Delta	0.250	0.18	4	**0.70**	**VH**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Loss of Natural River Morphology	0.150	Lower Sacramento River	0.250	0.18	4	**0.70**	**VH**
Yuba River	0.11	Adult Immigration and Holding	0.15	Passage Impediments/Barriers	0.400	Daguerre Point Dam	0.200	0.13	5	**0.66**	**VH**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Entrainment	0.075	Individual Diversions in the Yuba River and DPD	0.250	0.09	7	**0.61**	**VH**
Yuba River	0.11	Spawning	0.275	Hatchery Effects	0.200	Redd superimposition, competition for habitat, genetic integrity	1.000	0.61	1	**0.61**	**VH**
Yuba River	0.11	Spawning	0.275	Physical Habitat Alteration	0.200	Limited Instream Gravel Supply	1.000	0.61	1	**0.61**	**VH**
Yuba River	0.11	Adult Immigration and Holding	0.15	Harvest/Angling Impacts	0.150	Ocean	0.400	0.10	6	**0.59**	**VH**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Predation	0.125	Predation in the Feather River	0.200	0.12	5	**0.58**	**VH**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Predation	0.125	Predation in the lower Sacramento River	0.200	0.12	5	**0.58**	**VH**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Loss of Floodplain Habitat	0.125	Lower Sacramento River	0.250	0.15	4	**0.58**	**VH**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Loss of Riparian Habitat and Instream Cover	0.150	Lower Sacramento River	0.200	0.14	4	**0.56**	**VH**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Entrainment	0.075	Individual Diversions in the Delta	0.200	0.07	7	**0.49**	**VH**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Entrainment	0.075	Individual Diversions in the lower Sacramento River	0.200	0.07	7	**0.49**	**VH**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Entrainment	0.075	Jones and Banks Pumping Plants	0.200	0.07	7	**0.49**	**VH**

Yuba River Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Loss of Floodplain Habitat	0.125	Yuba River	0.200	0.12	4	**0.47**	**VH**
Yuba River	0.11	Spawning	0.275	Spawning Habitat Availability	0.150	Habitat Suitability	1.000	0.45	1	**0.45**	**H**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Loss of Natural River Morphology	0.150	Feather River	0.150	0.11	4	**0.42**	**H**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Loss of Riparian Habitat and Instream Cover	0.150	Feather River	0.150	0.11	4	**0.42**	**H**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Water Temperature	0.075	Delta	0.300	0.11	4	**0.42**	**H**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Water Temperature	0.075	Feather River	0.300	0.11	4	**0.42**	**H**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Water Temperature	0.075	Lower Sacramento River	0.300	0.11	4	**0.42**	**H**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Loss of Floodplain Habitat	0.125	Feather River	0.175	0.10	4	**0.41**	**H**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.350	0.08	5	**0.41**	**H**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Water Quality	0.050	DO, Ag, Urban, Heavy Metals in the Delta	0.350	0.08	5	**0.41**	**H**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Flow Conditions	0.050	Flow Dependent Habitat Availability in the Yuba River	0.225	0.05	6	**0.32**	**H**
Yuba River	0.11	Adult Immigration and Holding	0.15	Harvest/Angling Impacts	0.150	Yuba River	0.200	0.05	6	**0.30**	**H**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.250	0.06	5	**0.29**	**H**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Water Quality	0.050	Ag, Urban in the lower Sacramento River	0.250	0.06	5	**0.29**	**H**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Water Quality	0.050	Ag, Urban, Heavy Metals in the Bays	0.250	0.06	5	**0.29**	**H**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Flow Conditions	0.050	Diversion into Central Delta	0.200	0.05	6	**0.28**	**H**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Flow Conditions	0.050	Reverse Flow Conditions	0.200	0.05	6	**0.28**	**H**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Invasive Species/Food Web Disruption	0.050	Asian clam, A. aspera, Microcystis, water hyacinth, etc. in the Delta	0.600	0.14	2	**0.28**	**H**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Loss of Tidal Marsh Habitat	0.050	Delta	0.600	0.14	2	**0.28**	**H**
Yuba River	0.11	Adult Immigration and Holding	0.15	Water Temperature	0.125	Feather River	0.300	0.06	4	**0.25**	**H**
Yuba River	0.11	Adult Immigration and Holding	0.15	Water Temperature	0.125	Lower Sacramento River	0.300	0.06	4	**0.25**	**H**

Yuba River Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Entrainment	0.075	Individual Diversions in the Feather River	0.100	0.04	7	**0.25**	**H**
Yuba River	0.11	Adult Immigration and Holding	0.15	Short-term Inwater Construction	0.125	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.225	0.05	5	**0.23**	**H**
Yuba River	0.11	Adult Immigration and Holding	0.15	Short-term Inwater Construction	0.125	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.225	0.05	5	**0.23**	**H**
Yuba River	0.11	Spawning	0.275	Flow Conditions	0.075	Flow Fluctuations	1.000	0.23	1	**0.23**	**H**
Yuba River	0.11	Adult Immigration and Holding	0.15	Water Temperature	0.125	Delta	0.275	0.06	4	**0.23**	**H**
Yuba River	0.11	Adult Immigration and Holding	0.15	Flow Conditions	0.100	Low Flows - attraction, migratory cues in the Yuba River	0.450	0.07	3	**0.22**	**M**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Flow Conditions	0.050	Changes in Delta Hydrology	0.150	0.04	6	**0.21**	**M**
Yuba River	0.11	Embryo Incubation	0.15	Harvest/Angling Impacts	0.125	Redd disturbance	1.000	0.21	1.00	**0.21**	**M**
Yuba River	0.11	Adult Immigration and Holding	0.15	Short-term Inwater Construction	0.125	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bay	0.200	0.04	5	**0.21**	**M**
Yuba River	0.11	Adult Immigration and Holding	0.15	Short-term Inwater Construction	0.125	Sedimentation, turbidity, acoustic effects, hazardous spills in the Yuba River	0.200	0.04	5	**0.21**	**M**
Yuba River	0.11	Embryo Incubation	0.15	Short-term Inwater Construction	0.125	Sedimentation, turbidity, acoustic effects, hazardous spills, physical disturbance	1.000	0.21	1.00	**0.21**	**M**
Yuba River	0.11	Embryo Incubation	0.15	Water Quality	0.125	Water Pollution above Daguerre Point Dam	1.000	0.21	1.00	**0.21**	**M**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Hatchery Effects	0.025	Feather River	0.350	0.04	5	**0.20**	**M**
Yuba River	0.11	Adult Immigration and Holding	0.15	Flow Conditions	0.100	Low Flows - attraction, migratory cues in the Feather River	0.400	0.07	3	**0.20**	**M**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Invasive Species/Food Web Disruption	0.050	Asian clam, A. aspera, Microcystis, etc. in the Bays	0.400	0.09	2	**0.19**	**M**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Loss of Tidal Marsh Habitat	0.050	Bays	0.400	0.09	2	**0.19**	**M**
Yuba River	0.11	Adult Immigration and Holding	0.15	Harvest/Angling Impacts	0.150	Delta	0.125	0.03	6	**0.19**	**M**
Yuba River	0.11	Adult Immigration and Holding	0.15	Harvest/Angling Impacts	0.150	Lower Sacramento River	0.125	0.03	6	**0.19**	**M**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Flow Conditions	0.050	Flow Dependent Habitat Availability in the lower Sacramento River	0.125	0.03	6	**0.18**	**M**

Yuba River Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Feather River	0.150	0.04	5	**0.18**	**M**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Yuba River	0.150	0.04	5	**0.18**	**M**
Yuba River	0.11	Adult Immigration and Holding	0.15	Passage Impediments/Barriers	0.400	Sacramento Deep Water Ship Channel	0.050	0.03	5	**0.17**	**M**
Yuba River	0.11	Adult Immigration and Holding	0.15	Passage Impediments/Barriers	0.400	Suisun Marsh Salinity Control Structure	0.050	0.03	5	**0.17**	**M**
Yuba River	0.11	Adult Immigration and Holding	0.15	Passage Impediments/Barriers	0.400	Yolo Bypass - Freemont Weir	0.050	0.03	5	**0.17**	**M**
Yuba River	0.11	Adult Immigration and Holding	0.15	Water Quality	0.100	Ag, Urban in the Feather River	0.250	0.04	4	**0.17**	**M**
Yuba River	0.11	Adult Immigration and Holding	0.15	Water Quality	0.100	Ag, Urban in the lower Sacramento River	0.250	0.04	4	**0.17**	**M**
Yuba River	0.11	Adult Immigration and Holding	0.15	Water Quality	0.100	DO, Ag, Urban, Heavy Metals in the Delta	0.250	0.04	4	**0.17**	**M**
Yuba River	0.11	Adult Immigration and Holding	0.15	Water Quality	0.100	Yuba River	0.250	0.04	4	**0.17**	**M**
Yuba River	0.11	Embryo Incubation	0.15	Water Temperature	0.100	Water Temperature above Daguerre Point Dam	1.000	0.17	1.00	**0.17**	**M**
Yuba River	0.11	Adult Immigration and Holding	0.15	Short-term Inwater Construction	0.125	Sedimentation, turbidity, acoustic effects, hazardous spills in the Feather River	0.150	0.03	5	**0.15**	**L**
Yuba River	0.11	Spawning	0.275	Water Temperature	0.050	Water Temperature in the Yuba River	1.000	0.15	1	**0.15**	**L**
Yuba River	0.11	Adult Immigration and Holding	0.15	Harvest/Angling Impacts	0.150	Bays	0.100	0.02	6	**0.15**	**L**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Hatchery Effects	0.025	Lower Sacramento River	0.250	0.03	5	**0.15**	**L**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Hatchery Effects	0.025	Yuba River	0.250	0.03	5	**0.15**	**L**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Predation	0.125	Predation in the Bay	0.050	0.03	5	**0.15**	**L**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Flow Conditions	0.050	Flow Dependent Habitat Availability in the Feather River	0.100	0.02	6	**0.14**	**L**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Passage Impediments/Barriers	0.025	Daguerre Point Dam	0.600	0.07	2	**0.14**	**L**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Water Temperature	0.075	Yuba River	0.100	0.04	4	**0.14**	**L**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bays	0.100	0.02	5	**0.12**	**L**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Water Quality	0.050	Ag, Urban in the Feather River	0.100	0.02	5	**0.12**	**L**

Yuba River Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Yuba River	0.11	Adult Immigration and Holding	0.15	Water Temperature	0.125	Yuba River	0.125	0.03	4	**0.10**	**L**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Passage Impediments/Barriers	0.025	Englebright Dam	0.400	0.05	2	**0.09**	**L**
Yuba River	0.11	Spawning	0.275	Harvest/Angling Impacts	0.025	Recreational, Poaching, Angler Impacts	1.000	0.08	1	**0.08**	**L**
Yuba River	0.11	Adult Immigration and Holding	0.15	Flow Conditions	0.100	Low Flows - attraction, migratory cues AND Flood Flows - non-natal area attraction in Lower Sacramento River	0.150	0.02	3	**0.07**	**L**
Yuba River	0.11	Adult Immigration and Holding	0.15	Harvest/Angling Impacts	0.150	Feather River	0.050	0.01	6	**0.07**	**L**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Entrainment	0.075	Contra Costa Power Plant	0.025	0.01	7	**0.06**	**L**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Entrainment	0.075	Pittsburg Power Plant	0.025	0.01	7	**0.06**	**L**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Hatchery Effects	0.025	Delta	0.100	0.01	5	**0.06**	**L**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Water Quality	0.050	Yuba River	0.050	0.01	5	**0.06**	**L**
Yuba River	0.11	Juvenile Rearing and Outmigration	0.425	Hatchery Effects	0.025	Bays	0.050	0.01	5	**0.03**	**L**

Feather River Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Feather River	0.10	Adult Immigration and Holding	0.150	Passage Impediments/Barriers	0.400	Fish Barrier/Oroville Dam	0.850	0.51	4	**2.04**	**VH**
Feather River	0.10	Spawning	0.350	Barrier	0.300	Fish Barrier Dam/Oroville Dam - Redd superimposition, competition for habitat, hybridization/genetic integrity	1.000	1.05	1	**1.05**	**VH**
Feather River	0.10	Spawning	0.350	Hatchery Effects	0.200	Redd superimposition, competition for habitat, Genetic Integrity	1.000	0.70	1	**0.70**	**VH**
Feather River	0.10	Spawning	0.350	Physical Habitat Alteration	0.200	Limited Instream Gravel Supply	1.000	0.70	1	**0.70**	**VH**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Loss of Riparian Habitat and Instream Cover	0.150	Delta	0.400	0.21	3	**0.63**	**VH**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Predation	0.125	Predation in the Delta	0.350	0.15	4	**0.61**	**VH**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Loss of Floodplain Habitat	0.125	Delta	0.425	0.19	3	**0.56**	**VH**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Loss of Natural River Morphology	0.150	Delta	0.350	0.18	3	**0.55**	**VH**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Loss of Natural River Morphology	0.150	Lower Sacramento River	0.350	0.18	3	**0.55**	**VH**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Predation	0.125	Predation in the Feather River	0.300	0.13	4	**0.53**	**VH**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Loss of Riparian Habitat and Instream Cover	0.150	Lower Sacramento River	0.325	0.17	3	**0.51**	**VH**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Loss of Natural River Morphology	0.150	Feather River	0.300	0.16	3	**0.47**	**VH**
Feather River	0.10	Adult Immigration and Holding	0.150	Harvest/Angling Impacts	0.150	Ocean	0.400	0.09	5	**0.45**	**VH**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Predation	0.125	Predation in the lower Sacramento River	0.250	0.11	4	**0.44**	**VH**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Loss of Riparian Habitat and Instream Cover	0.150	Feather River	0.275	0.14	3	**0.43**	**VH**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Loss of Floodplain Habitat	0.125	Lower Sacramento River	0.325	0.14	3	**0.43**	**VH**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Water Quality	0.075	DO, Ag, Urban, Heavy Metals in the Delta	0.350	0.09	4	**0.37**	**VH**
Feather River	0.10	Spawning	0.350	Spawning Habitat Availability	0.100	Habitat Suitability	1.000	0.35	1	**0.35**	**VH**
Feather River	0.10	Spawning	0.350	Water Temperature	0.100	Water Temperature	1.000	0.35	1	**0.35**	**VH**
Feather River	0.10	Adult Immigration and Holding	0.150	Water Temperature	0.150	Feather River	0.500	0.11	3	**0.34**	**H**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Loss of Floodplain Habitat	0.125	Feather River	0.250	0.11	3	**0.33**	**H**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Water Temperature	0.075	Feather River	0.400	0.11	3	**0.32**	**H**
Feather River	0.10	Adult Immigration and Holding	0.150	Harvest/Angling Impacts	0.150	Feather River	0.275	0.06	5	**0.31**	**H**

Feather River Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Entrainment	0.050	Individual Diversions in the Delta	0.250	0.04	6	**0.26**	**H**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Entrainment	0.050	Individual Diversions in the lower Sacramento River	0.250	0.04	6	**0.26**	**H**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Entrainment	0.050	Jones and Banks Pumping Plants	0.250	0.04	6	**0.26**	**H**
Feather River	0.10	Adult Immigration and Holding	0.150	Flow Conditions	0.125	Low Flows - attraction, migratory cues in the Feather River	0.700	0.13	2	**0.26**	**H**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.375	0.07	4	**0.26**	**H**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Water Quality	0.075	Ag, Urban in the lower Sacramento River	0.250	0.07	4	**0.26**	**H**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Water Quality	0.075	Ag, Urban, Heavy Metals in the Bays	0.250	0.07	4	**0.26**	**H**
Feather River	0.10	Embryo Incubation	0.125	Flow Conditions	0.200	Flow Fluctuations, Flooding	1.000	0.25	1.00	**0.25**	**H**
Feather River	0.10	Embryo Incubation	0.125	Harvest/Angling Impacts	0.200	Redd disturbance	1.000	0.25	1.00	**0.25**	**H**
Feather River	0.10	Embryo Incubation	0.125	Short-term Inwater Construction	0.200	Sedimentation, turbidity, acoustic effects, hazardous spills, physical disturbance	1.000	0.25	1.00	**0.25**	**H**
Feather River	0.10	Embryo Incubation	0.125	Water Quality	0.200	Water Pollution	1.000	0.25	1.00	**0.25**	**H**
Feather River	0.10	Embryo Incubation	0.125	Water Temperature	0.200	Water Temperature in the Feather River	1.000	0.25	1.00	**0.25**	**H**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Water Temperature	0.075	Delta	0.300	0.08	3	**0.24**	**H**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Water Temperature	0.075	Lower Sacramento River	0.300	0.08	3	**0.24**	**H**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Invasive Species/Food Web Disruption	0.050	Asian clam, A. aspera, Microcystis, etc. in the Delta	0.600	0.11	2	**0.21**	**H**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Loss of Tidal Marsh Habitat	0.050	Delta	0.600	0.11	2	**0.21**	**H**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.300	0.05	4	**0.21**	**H**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Entrainment	0.050	Individual Diversions in the Feather River	0.200	0.04	6	**0.21**	**H**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Flow Conditions	0.050	Diversion into Central Delta	0.225	0.04	5	**0.20**	**M**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Flow Conditions	0.050	Flow Dependent Habitat Availability in the Feather River	0.225	0.04	5	**0.20**	**M**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Flow Conditions	0.050	Reverse Flow Conditions	0.225	0.04	5	**0.20**	**M**
Feather River	0.10	Spawning	0.350	Flow Conditions	0.050	Flow Fluctuations	1.000	0.18	1	**0.18**	**M**
Feather River	0.10	Spawning	0.350	Harvest/Angling Impacts	0.050	Recreational, Poaching, Angler Impacts	1.000	0.18	1	**0.18**	**M**

Feather River Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Passage Impediments/Barriers	0.025	Fish Barrier/Oroville Dam	1.000	0.09	2	**0.18**	**M**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Predation	0.125	Predation in the Bays	0.100	0.04	4	**0.18**	**M**
Feather River	0.10	Adult Immigration and Holding	0.150	Water Temperature	0.150	Delta	0.250	0.06	3	**0.17**	**M**
Feather River	0.10	Adult Immigration and Holding	0.150	Water Temperature	0.150	Lower Sacramento River	0.250	0.06	3	**0.17**	**M**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Water Quality	0.075	Ag, Urban in the Feather River	0.150	0.04	4	**0.16**	**M**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Flow Conditions	0.050	Changes in Delta Hydrology	0.175	0.03	5	**0.15**	**M**
Feather River	0.10	Adult Immigration and Holding	0.150	Water Quality	0.100	Ag, Urban in the Feather River	0.333	0.05	3	**0.15**	**M**
Feather River	0.10	Adult Immigration and Holding	0.150	Water Quality	0.100	Ag, Urban in the lower Sacramento River	0.333	0.05	3	**0.15**	**M**
Feather River	0.10	Adult Immigration and Holding	0.150	Water Quality	0.100	DO, Ag, Urban, Heavy Metals in the Delta	0.333	0.05	3	**0.15**	**M**
Feather River	0.10	Adult Immigration and Holding	0.150	Harvest/Angling Impacts	0.150	Delta	0.125	0.03	5	**0.14**	**M**
Feather River	0.10	Adult Immigration and Holding	0.150	Harvest/Angling Impacts	0.150	Lower Sacramento River	0.125	0.03	5	**0.14**	**M**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Invasive Species/Food Web Disruption	0.050	Asian clam, A. aspera, Microcystis, etc. in the Bays	0.400	0.07	2	**0.14**	**M**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Loss of Tidal Marsh Habitat	0.050	Bays	0.400	0.07	2	**0.14**	**M**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Feather River	0.200	0.04	4	**0.14**	**M**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Flow Conditions	0.050	Flow Dependent Habitat Availability in the lower Sacramento River	0.150	0.03	5	**0.13**	**L**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Hatchery Effects	0.025	Feather River	0.375	0.03	4	**0.13**	**L**
Feather River	0.10	Adult Immigration and Holding	0.150	Short-term Inwater Construction	0.075	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.275	0.03	4	**0.12**	**L**
Feather River	0.10	Adult Immigration and Holding	0.150	Short-term Inwater Construction	0.075	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.275	0.03	4	**0.12**	**L**
Feather River	0.10	Adult Immigration and Holding	0.150	Passage Impediments/Barriers	0.400	Sacramento Deep Water Ship Channel	0.050	0.03	4	**0.12**	**L**
Feather River	0.10	Adult Immigration and Holding	0.150	Passage Impediments/Barriers	0.400	Suisun Marsh Salinity Control Structure	0.050	0.03	4	**0.12**	**L**
Feather River	0.10	Adult Immigration and Holding	0.150	Passage Impediments/Barriers	0.400	Yolo Bypass - Freemont Weir	0.050	0.03	4	**0.12**	**L**

Feather River Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Hatchery Effects	0.025	Lower Sacramento River	0.325	0.03	4	**0.11**	**L**
Feather River	0.10	Adult Immigration and Holding	0.150	Flow Conditions	0.125	Low Flows - attraction, migratory cues AND Flood Flows - non-natal area attraction in Lower Sacramento River	0.300	0.06	2	**0.11**	**L**
Feather River	0.10	Adult Immigration and Holding	0.150	Short-term Inwater Construction	0.075	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bay	0.250	0.03	4	**0.11**	**L**
Feather River	0.10	Adult Immigration and Holding	0.150	Short-term Inwater Construction	0.075	Sedimentation, turbidity, acoustic effects, hazardous spills in the Feather River	0.200	0.02	4	**0.09**	**L**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bays	0.125	0.02	4	**0.09**	**L**
Feather River	0.10	Adult Immigration and Holding	0.150	Harvest/Angling Impacts	0.150	Bays	0.075	0.02	5	**0.08**	**L**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Hatchery Effects	0.025	Delta	0.175	0.02	4	**0.06**	**L**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Hatchery Effects	0.025	Bays	0.125	0.01	4	**0.04**	**L**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Entrainment	0.050	Contra Costa Power Plant	0.025	0.00	6	**0.03**	**L**
Feather River	0.10	Juvenile Rearing and Outmigration	0.350	Entrainment	0.050	Pittsburg Power Plant	0.025	0.00	6	**0.03**	**L**

Butte Creek Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Butte Creek	0.07	Adult Immigration and Holding	**0.25**	Water Temperature	0.275	Butte Creek	0.800	0.39	3	**1.16**	**VH**
Butte Creek	0.07	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.150	Butte Creek Diversion Dams and Weirs	0.600	0.16	6	**0.95**	**VH**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Predation	0.150	Predation in the Delta	0.350	0.13	4	**0.51**	**VH**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Loss of Natural River Morphology	0.160	Delta	0.425	0.17	3	**0.50**	**VH**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Loss of Riparian Habitat and Instream Cover	0.160	Delta	0.400	0.16	3	**0.47**	**VH**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Loss of Floodplain Habitat	0.150	Delta	0.425	0.16	3	**0.47**	**VH**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Predation	0.150	Predation in the lower Sacramento River	0.300	0.11	4	**0.44**	**VH**
Butte Creek	0.07	Spawning	**0.25**	Spawning Habitat Availability	0.225	Habitat Availability/Suitability	1.000	0.39	1	**0.39**	**VH**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.080	Butte Creek - stocked rainbow trout fishery - competition for habitat and resources	0.500	0.10	4	**0.39**	**H**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Loss of Natural River Morphology	0.160	Lower Sacramento River	0.325	0.13	3	**0.38**	**VH**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Loss of Riparian Habitat and Instream Cover	0.160	Lower Sacramento River	0.325	0.13	3	**0.38**	**VH**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Predation	0.150	Predation in Butte Creek	0.250	0.09	4	**0.37**	**VH**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Loss of Floodplain Habitat	0.150	Lower Sacramento River	0.325	0.12	3	**0.36**	**VH**
Butte Creek	0.07	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Ocean	0.400	0.07	5	**0.35**	**VH**
Butte Creek	0.07	Spawning	**0.25**	Hatchery Effects	0.200	Stocked rainbow trout fishery, competition for habitat, genetic integrity	1.000	0.35	1	**0.35**	**VH**
Butte Creek	0.07	Adult Immigration and Holding	**0.25**	Recreational Impacts (Summer inner tubing)	0.200	Summer inner tubing and swimming in Butte Creek	1.000	0.35	1	**0.35**	**VH**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Loss of Riparian Habitat and Instream Cover	0.160	Butte Creek	0.275	0.11	3	**0.32**	**VH**
Butte Creek	0.07	Embryo Incubation	**0.15**	Flow Conditions	0.300	Flow Fluctuations	1.000	0.32	1.00	**0.32**	**VH**
Butte Creek	0.07	Spawning	**0.25**	Flow Conditions	0.175	Flow Fluctuations	1.000	0.31	1	**0.31**	**VH**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Loss of Natural River Morphology	0.160	Butte Creek	0.250	0.10	3	**0.29**	**VH**
Butte Creek	0.07	Embryo Incubation	**0.15**	Water Quality	0.275	Water Quality, Turbidity in Butte Creek	1.000	0.29	1.00	**0.29**	**VH**
Butte Creek	0.07	Embryo Incubation	**0.15**	Water Temperature	0.275	Water Temperature in Butte Creek	1.000	0.29	1.00	**0.29**	**VH**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Loss of Floodplain Habitat	0.150	Butte Creek	0.250	0.09	3	**0.28**	**H**

Butte Creek Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.070	Individual Diversions in the Delta	0.250	0.04	6	**0.26**	**H**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.070	Individual Diversions in the lower Sacramento River	0.250	0.04	6	**0.26**	**H**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.070	Jones and Banks Pumping Plants	0.250	0.04	6	**0.26**	**H**
Butte Creek	0.07	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Butte Creek	0.275	0.05	5	**0.24**	**H**
Butte Creek	0.07	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.150	Yolo Bypass - Freemont Weir	0.150	0.04	6	**0.24**	**H**
Butte Creek	0.07	Spawning	**0.25**	Harvest/Angling Impacts	0.125	Recreational, Poaching, Angler Impacts	1.000	0.22	1	**0.22**	**H**
Butte Creek	0.07	Spawning	**0.25**	Water Temperature	0.125	Water Temperature in Butte Creek	1.000	0.22	1	**0.22**	**H**
Butte Creek	0.07	Adult Immigration and Holding	**0.25**	Water Quality	0.125	Ag, Urban in Butte Creek	0.333	0.07	3	**0.22**	**H**
Butte Creek	0.07	Adult Immigration and Holding	**0.25**	Water Quality	0.125	Ag, Urban in the lower Sacramento River	0.333	0.07	3	**0.22**	**H**
Butte Creek	0.07	Adult Immigration and Holding	**0.25**	Water Quality	0.125	DO, Ag, Urban, Heavy Metals in the Delta	0.333	0.07	3	**0.22**	**H**
Butte Creek	0.07	Adult Immigration and Holding	**0.25**	Flow Conditions	0.100	Low Flows - attraction, migratory cues AND Flood Flows - non-natal area attraction in the lower Sacramento River	0.600	0.11	2	**0.21**	**H**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.070	Individual Diversions in Butte Creek	0.200	0.03	6	**0.21**	**H**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.060	DO, Ag, Urban, Heavy Metals in the Delta	0.350	0.05	4	**0.21**	**H**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.375	0.05	4	**0.18**	**H**
Butte Creek	0.07	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.150	Centerville Head Dam	0.100	0.03	6	**0.16**	**H**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.080	Delta	0.200	0.04	4	**0.16**	**H**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.080	Lower Sacramento River	0.200	0.04	4	**0.16**	**H**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Loss of Tidal Marsh Habitat	0.050	Delta	0.600	0.07	2	**0.15**	**H**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Predation	0.150	Predation in the Bays	0.100	0.04	4	**0.15**	**H**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.300	0.04	4	**0.15**	**H**

Butte Creek Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.060	Ag, Urban in the lower Sacramento River	0.250	0.04	4	**0.15**	**H**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.060	Ag, Urban, Heavy Metals in the Bays	0.250	0.04	4	**0.15**	**H**
Butte Creek	0.07	Adult Immigration and Holding	**0.25**	Water Temperature	0.275	Delta	0.100	0.05	3	**0.14**	**M**
Butte Creek	0.07	Adult Immigration and Holding	**0.25**	Water Temperature	0.275	Lower Sacramento River	0.100	0.05	3	**0.14**	**M**
Butte Creek	0.07	Adult Immigration and Holding	**0.25**	Flow Conditions	0.100	Low Flows - attraction, migratory cues in Butte Creek	0.400	0.07	2	**0.14**	**M**
Butte Creek	0.07	Spawning	**0.25**	Water Quality	0.075	Water Quality, Turbidity in Butte Creek	1.000	0.13	1	**0.13**	**M**
Butte Creek	0.07	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Delta	0.125	0.02	5	**0.11**	**M**
Butte Creek	0.07	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Lower Sacramento River	0.125	0.02	5	**0.11**	**M**
Butte Creek	0.07	Embryo Incubation	**0.15**	Harvest/Angling Impacts	0.100	Redd disturbance	1.000	0.11	1.00	**0.11**	**M**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Loss of Tidal Marsh Habitat	0.050	Bays	0.400	0.05	2	**0.10**	**M**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in Butte Creek	0.200	0.02	4	**0.10**	**M**
Butte Creek	0.07	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.275	0.02	4	**0.10**	**M**
Butte Creek	0.07	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.275	0.02	4	**0.10**	**M**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.060	Ag, Urban in Butte Creek	0.150	0.02	4	**0.09**	**M**
Butte Creek	0.07	Spawning	**0.25**	Barrier	0.050	Centerville Head Dam - Redd superimposition, competition for habitat, hybridization/genetic integrity	1.000	0.09	1	**0.09**	**M**
Butte Creek	0.07	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bay	0.250	0.02	4	**0.09**	**M**
Butte Creek	0.07	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.150	Sacramento Deep Water Ship Channel	0.050	0.01	6	**0.08**	**M**
Butte Creek	0.07	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.150	Suisun Marsh Salinity Control Structure	0.050	0.01	6	**0.08**	**M**
Butte Creek	0.07	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.150	Sutter Bypass - Tisdale Weir	0.050	0.01	6	**0.08**	**M**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.080	Bays	0.100	0.02	4	**0.08**	**M**

Butte Creek Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Water Temperature	0.025	Butte Creek	0.400	0.02	3	**0.07**	**M**
Butte Creek	0.07	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in Butte Creek	0.200	0.02	4	**0.07**	**M**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.025	Diversion into Central Delta	0.225	0.01	5	**0.07**	**M**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.025	Flow Dependent Habitat Availability in Butte Creek	0.225	0.01	5	**0.07**	**M**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.025	Reverse Flow Conditions	0.225	0.01	5	**0.07**	**M**
Butte Creek	0.07	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Bays	0.075	0.01	5	**0.07**	**L**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bays	0.125	0.02	4	**0.06**	**L**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Water Temperature	0.025	Delta	0.300	0.02	3	**0.06**	**L**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Water Temperature	0.025	Lower Sacramento River	0.300	0.02	3	**0.06**	**L**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.025	Changes in Delta Hydrology	0.175	0.01	5	**0.05**	**L**
Butte Creek	0.07	Embryo Incubation	**0.15**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills, physical disturbance	1.000	0.05	1.00	**0.05**	**L**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.025	Flow Dependent Habitat Availability in the lower Sacramento River	0.150	0.01	5	**0.05**	**L**
Butte Creek	0.07	Spawning	**0.25**	Physical Habitat Alteration	0.025	Limited Instream Gravel Supply	1.000	0.04	1	**0.04**	**L**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Passage Impediments/Barriers	0.010	Agricultural, Wildlife and Terminal Diversions	0.800	0.02	2	**0.04**	**L**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Invasive Species/Food Web Disruption	0.010	Asian clam, A. aspera, Microcystis, etc. in the Delta	0.600	0.01	2	**0.03**	**L**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.070	Contra Costa Power Plant	0.025	0.00	6	**0.03**	**L**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.070	Pittsburg Power Plant	0.025	0.00	6	**0.03**	**L**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Invasive Species/Food Web Disruption	0.010	Asian clam, A. aspera, Microcystis, etc. in the Bays	0.400	0.01	2	**0.02**	**L**
Butte Creek	0.07	Juvenile Rearing and Outmigration	**0.35**	Passage Impediments/Barriers	0.010	Tributary Barriers	0.200	0.00	2	**0.01**	**L**

Big Chico Creek Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Big Chico Creek	0.08	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.250	Iron Canyon, City of Chico Swimming Holes and Associated Dams	0.750	0.38	5	**1.88**	**VH**
Big Chico Creek	0.08	Adult Immigration and Holding	**0.25**	Water Temperature	0.300	Big Chico Creek	0.700	0.42	4	**1.68**	**VH**
Big Chico Creek	0.08	Spawning	**0.25**	Spawning Habitat Availability	0.400	Habitat Suitability	1.000	0.80	1	**0.80**	**VH**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Loss of Riparian Habitat and Instream Cover	0.150	Lower Sacramento River	0.350	0.15	4	**0.59**	**VH**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Loss of Riparian Habitat and Instream Cover	0.150	Middle Sacramento River	0.350	0.15	4	**0.59**	**VH**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Loss of Floodplain Habitat	0.150	Delta	0.300	0.13	4	**0.50**	**VH**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Loss of Floodplain Habitat	0.150	Lower Sacramento River	0.300	0.13	4	**0.50**	**VH**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Loss of Natural River Morphology	0.150	Delta	0.300	0.13	4	**0.50**	**VH**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Loss of Natural River Morphology	0.150	Lower Sacramento River	0.300	0.13	4	**0.50**	**VH**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.100	Jones and Banks Pumping Plants	0.250	0.07	7	**0.49**	**VH**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Predation	0.100	Predation in the Delta	0.300	0.08	5	**0.42**	**VH**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Predation	0.100	Predation in the lower Sacramento River	0.300	0.08	5	**0.42**	**VH**
Big Chico Creek	0.08	Spawning	**0.25**	Water Temperature	0.200	Water Temperature in Big Chico Creek	1.000	0.40	1	**0.40**	**VH**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.100	Individual Diversions in the Delta	0.200	0.06	7	**0.39**	**VH**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.100	Individual Diversions in the lower Sacramento River	0.200	0.06	7	**0.39**	**VH**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.100	Individual Diversions in the middle Sacramento River	0.200	0.06	7	**0.39**	**VH**
Big Chico Creek	0.08	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Ocean	0.300	0.06	6	**0.36**	**VH**
Big Chico Creek	0.08	Embryo Incubation	**0.15**	Water Temperature	0.300	Water Temperature in Big Chico Creek	1.000	0.36	1.00	**0.36**	**VH**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Predation	0.100	Predation in the middle Sacramento River	0.250	0.07	5	**0.35**	**VH**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Loss of Floodplain Habitat	0.150	Big Chico Creek	0.200	0.08	4	**0.34**	**VH**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Loss of Floodplain Habitat	0.150	Middle Sacramento River	0.200	0.08	4	**0.34**	**VH**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Loss of Natural River Morphology	0.150	Big Chico Creek	0.200	0.08	4	**0.34**	**VH**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Loss of Natural River Morphology	0.150	Middle Sacramento River	0.200	0.08	4	**0.34**	**VH**

Big Chico Creek Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Loss of Riparian Habitat and Instream Cover	0.150	Delta	0.200	0.08	4	**0.34**	**VH**
Big Chico Creek	0.08	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.100	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.300	0.06	5	**0.30**	**H**
Big Chico Creek	0.08	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.100	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.300	0.06	5	**0.30**	**H**
Big Chico Creek	0.08	Embryo Incubation	**0.15**	Watershed disturbance	0.250	Sedimentation	1.000	0.30	1.00	**0.30**	**H**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Invasive Species/Food Web Disruption	0.075	Asian clam, A. aspera, Microcystis, etc. in the Delta	0.600	0.13	2	**0.25**	**H**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Loss of Tidal Marsh Habitat	0.075	Delta	0.600	0.13	2	**0.25**	**H**
Big Chico Creek	0.08	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.250	Yolo Bypass - Freemont Weir	0.100	0.05	5	**0.25**	**H**
Big Chico Creek	0.08	Embryo Incubation	**0.15**	Flow Conditions	0.200	Flow Fluctuations	1.000	0.24	1.00	**0.24**	**H**
Big Chico Creek	0.08	Adult Immigration and Holding	**0.25**	Flow Conditions	0.100	Low Flows - attraction, migratory cues AND Flood Flows - non-natal area attraction in Lower Sacramento River	0.400	0.08	3	**0.24**	**H**
Big Chico Creek	0.08	Adult Immigration and Holding	**0.25**	Flow Conditions	0.100	Low Flows - attraction, migratory cues in the middle Sacramento River	0.400	0.08	3	**0.24**	**H**
Big Chico Creek	0.08	Adult Immigration and Holding	**0.25**	Water Quality	0.100	Ag, Urban in the lower Sacramento River	0.300	0.06	4	**0.24**	**H**
Big Chico Creek	0.08	Adult Immigration and Holding	**0.25**	Water Quality	0.100	Ag, Urban in the middle Sacramento River	0.300	0.06	4	**0.24**	**H**
Big Chico Creek	0.08	Adult Immigration and Holding	**0.25**	Water Quality	0.100	DO, Ag, Urban, Heavy Metals in the Delta	0.300	0.06	4	**0.24**	**H**
Big Chico Creek	0.08	Embryo Incubation	**0.15**	Water Quality	0.200	Water Quality in Big Chico Creek	1.000	0.24	1.00	**0.24**	**H**
Big Chico Creek	0.08	Adult Immigration and Holding	**0.25**	Water Temperature	0.300	Delta	0.100	0.06	4	**0.24**	**H**
Big Chico Creek	0.08	Adult Immigration and Holding	**0.25**	Water Temperature	0.300	Lower Sacramento River	0.100	0.06	4	**0.24**	**H**
Big Chico Creek	0.08	Adult Immigration and Holding	**0.25**	Water Temperature	0.300	Middle Sacramento River	0.100	0.06	4	**0.24**	**H**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.300	0.04	5	**0.21**	**H**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.300	0.04	5	**0.21**	**H**

Big Chico Creek Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Big Chico Creek	0.08	Spawning	**0.25**	Barrier	0.100	Redd superimposition, competition for habitat, hybridization/genetic integrity	1.000	0.20	1	**0.20**	**H**
Big Chico Creek	0.08	Spawning	**0.25**	Flow Conditions	0.100	Flow Fluctuations	1.000	0.20	1	**0.20**	**H**
Big Chico Creek	0.08	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.100	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bay	0.200	0.04	5	**0.20**	**H**
Big Chico Creek	0.08	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Bays	0.150	0.03	6	**0.18**	**H**
Big Chico Creek	0.08	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Delta	0.150	0.03	6	**0.18**	**H**
Big Chico Creek	0.08	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Lower Sacramento River	0.150	0.03	6	**0.18**	**H**
Big Chico Creek	0.08	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Middle Sacramento River	0.150	0.03	6	**0.18**	**H**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Invasive Species/Food Web Disruption	0.075	Asian clam, A. aspera, Microcystis, etc. in the Bays	0.400	0.08	2	**0.17**	**M**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Loss of Riparian Habitat and Instream Cover	0.150	Big Chico Creek	0.100	0.04	4	**0.17**	**M**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Loss of Tidal Marsh Habitat	0.075	Bays	0.400	0.08	2	**0.17**	**M**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Predation	0.100	Predation in Big Chico Creek	0.100	0.03	5	**0.14**	**M**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the middle Sacramento River	0.200	0.03	5	**0.14**	**M**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Passage Impediments/Barriers	0.050	Tributary Barriers	1.000	0.14	1	**0.14**	**M**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Water Temperature	0.025	Big Chico Creek	0.500	0.04	4	**0.14**	**M**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.025	Diversion into Central Delta	0.300	0.02	6	**0.13**	**M**
Big Chico Creek	0.08	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.250	Sacramento Deep Water Ship Channel	0.050	0.03	5	**0.13**	**M**
Big Chico Creek	0.08	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.250	Suisun Marsh Salinity Control Structure	0.050	0.03	5	**0.13**	**M**
Big Chico Creek	0.08	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.250	Sutter Bypass - Tisdale Weir	0.050	0.03	5	**0.13**	**M**
Big Chico Creek	0.08	Adult Immigration and Holding	**0.25**	Flow Conditions	0.100	Low Flows - attraction, migratory cues in Big Chico Creek	0.200	0.04	3	**0.12**	**M**
Big Chico Creek	0.08	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Big Chico Creek	0.100	0.02	6	**0.12**	**M**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.025	Delta	0.300	0.02	5	**0.11**	**M**

Big Chico Creek Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.025	Lower Sacramento River	0.300	0.02	5	**0.11**	**M**
Big Chico Creek	0.08	Spawning	**0.25**	Harvest/Angling Impacts	0.050	Recreational, Poaching, Angler Impacts	1.000	0.10	1	**0.10**	**M**
Big Chico Creek	0.08	Spawning	**0.25**	Hatchery Effects	0.050	Redd superimposition, competition for habitat, Genetic Integrity	1.000	0.10	1	**0.10**	**M**
Big Chico Creek	0.08	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.100	Sedimentation, turbidity, acoustic effects, hazardous spills in Big Chico Creek	0.100	0.02	5	**0.10**	**M**
Big Chico Creek	0.08	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.100	Sedimentation, turbidity, acoustic effects, hazardous spills in the middle Sacramento River	0.100	0.02	5	**0.10**	**M**
Big Chico Creek	0.08	Spawning	**0.25**	Water Quality	0.050	Water Quality in Big Chico Creek	1.000	0.10	1	**0.10**	**M**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.100	Contra Costa Power Plant	0.050	0.01	7	**0.10**	**M**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.100	Individual Diversions in Big Chico Creek	0.050	0.01	7	**0.10**	**M**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.100	Pittsburg Power Plant	0.050	0.01	7	**0.10**	**M**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.025	Changes in Hydrology	0.200	0.01	6	**0.08**	**M**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.025	Reverse Flow Conditions	0.200	0.01	6	**0.08**	**M**
Big Chico Creek	0.08	Adult Immigration and Holding	**0.25**	Water Quality	0.100	Ag, Urban in Big Chico Creek	0.100	0.02	4	**0.08**	**L**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Predation	0.100	Predation in the Bays	0.050	0.01	5	**0.07**	**L**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in Big Chico Creek	0.100	0.01	5	**0.07**	**L**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bays	0.100	0.01	5	**0.07**	**L**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.025	Ag, Urban in the lower Sacramento River	0.200	0.01	5	**0.07**	**L**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.025	Ag, Urban in the middle Sacramento River	0.200	0.01	5	**0.07**	**L**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.025	Ag, Urban in Big Chico Creek	0.200	0.01	5	**0.07**	**L**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.025	Ag, Urban, Heavy Metals in the Bays	0.200	0.01	5	**0.07**	**L**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.025	DO, Ag, Urban, Heavy Metals in the Delta	0.200	0.01	5	**0.07**	**L**
Big Chico Creek	0.08	Embryo Incubation	**0.15**	Harvest/Angling Impacts	0.050	Redd disturbance	1.000	0.06	1.00	**0.06**	**L**

Big Chico Creek Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Water Temperature	0.025	Lower Sacramento River	0.200	0.01	4	**0.06**	**L**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Water Temperature	0.025	Middle Sacramento River	0.200	0.01	4	**0.06**	**L**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.025	Middle Sacramento River	0.150	0.01	5	**0.05**	**L**
Big Chico Creek	0.08	Spawning	**0.25**	Physical Habitat Alteration	0.050	Limited Instream Gravel Supply	0.500	0.05	1	**0.05**	**L**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.025	Flow Dependent Habitat Availability in Big Chico Creek	0.100	0.01	6	**0.04**	**L**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.025	Flow Dependent Habitat Availability in the lower Sacramento River	0.100	0.01	6	**0.04**	**L**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.025	Flow Dependent Habitat Availability in the middle Sacramento River	0.100	0.01	6	**0.04**	**L**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.025	Bays	0.100	0.01	5	**0.04**	**L**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.025	Big Chico Creek	0.100	0.01	5	**0.04**	**L**
Big Chico Creek	0.08	Juvenile Rearing and Outmigration	**0.35**	Water Temperature	0.025	Delta	0.100	0.01	4	**0.03**	**L**

Mill Creek Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Mill Creek	0.13	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.250	Agricultural Diversion Dam(s) in Mill Creek	0.600	0.49	5	**2.44**	**VH**
Mill Creek	0.13	Adult Immigration and Holding	**0.25**	Water Temperature	0.250	Mill Creek	0.700	0.57	4	**2.28**	**VH**
Mill Creek	0.13	Embryo Incubation	**0.15**	Water Quality	0.665	Turbidity and sedimentation in Mill Creek	1.000	1.30	1.00	**1.30**	**VH**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Floodplain Habitat	0.160	Lower Sacramento River	0.350	0.25	4	**1.02**	**VH**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Natural River Morphology	0.160	Lower Sacramento River	0.350	0.25	4	**1.02**	**VH**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Natural River Morphology	0.160	Middle Sacramento River	0.350	0.25	4	**1.02**	**VH**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Riparian Habitat and Instream Cover	0.160	Lower Sacramento River	0.350	0.25	4	**1.02**	**VH**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Riparian Habitat and Instream Cover	0.160	Middle Sacramento River	0.350	0.25	4	**1.02**	**VH**
Mill Creek	0.13	Spawning	**0.25**	Hatchery Effects	0.275	Stocked trout fishery in upper Mill Creek drainage competition for habitat, Genetic Integrity	1.000	0.89	1	**0.89**	**VH**
Mill Creek	0.13	Spawning	**0.25**	Water Quality	0.275	Turbidity and Sedimentation in Mill Creek	1.000	0.89	1	**0.89**	**VH**
Mill Creek	0.13	Adult Immigration and Holding	**0.25**	Flow Conditions	0.150	Low Flows - attraction, migratory cues in Mill Creek	0.600	0.29	3	**0.88**	**VH**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Floodplain Habitat	0.160	Delta	0.300	0.22	4	**0.87**	**VH**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Predation	0.125	Predation in the Delta	0.300	0.17	5	**0.85**	**VH**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Predation	0.125	Predation in the lower Sacramento River	0.300	0.17	5	**0.85**	**VH**
Mill Creek	0.13	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Ocean	0.400	0.13	6	**0.78**	**VH**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Predation	0.125	Predation in the middle Sacramento River	0.250	0.14	5	**0.71**	**VH**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.075	Diversion into Central Delta	0.300	0.10	6	**0.61**	**VH**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Floodplain Habitat	0.160	Middle Sacramento River	0.200	0.15	4	**0.58**	**VH**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Natural River Morphology	0.160	Delta	0.200	0.15	4	**0.58**	**VH**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Riparian Habitat and Instream Cover	0.160	Delta	0.200	0.15	4	**0.58**	**VH**
Mill Creek	0.13	Spawning	**0.25**	Physical Habitat Alteration	0.175	Gravel embeddedness and fines	1.000	0.57	1	**0.57**	**VH**
Mill Creek	0.13	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.100	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.300	0.10	5	**0.49**	**VH**

Mill Creek Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.070	Individual Diversions in the Delta	0.200	0.06	7	**0.45**	**VH**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.070	Individual Diversions in the lower Sacramento River	0.200	0.06	7	**0.45**	**VH**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.070	Individual Diversions in the middle Sacramento River	0.200	0.06	7	**0.45**	**VH**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.070	Jones and Banks Pumping Plants	0.200	0.06	7	**0.45**	**VH**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Floodplain Habitat	0.160	Mill Creek	0.150	0.11	4	**0.44**	**H**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.075	Changes in Hydrology	0.200	0.07	6	**0.41**	**H**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.075	Reverse Flow Conditions	0.200	0.07	6	**0.41**	**H**
Mill Creek	0.13	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.250	Sacramento Deep Water Ship Channel	0.100	0.08	5	**0.41**	**H**
Mill Creek	0.13	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.250	Suisun Marsh Salinity Control Structure	0.100	0.08	5	**0.41**	**H**
Mill Creek	0.13	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.250	Sutter Bypass - Tisdale Weir	0.100	0.08	5	**0.41**	**H**
Mill Creek	0.13	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.250	Yolo Bypass - Freemont Weir	0.100	0.08	5	**0.41**	**H**
Mill Creek	0.13	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.100	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.250	0.08	5	**0.41**	**H**
Mill Creek	0.13	Adult Immigration and Holding	**0.25**	Water Quality	0.100	Ag, Urban in the lower Sacramento River	0.250	0.08	5	**0.41**	**H**
Mill Creek	0.13	Adult Immigration and Holding	**0.25**	Water Quality	0.100	Ag, Urban in the middle Sacramento River	0.250	0.08	5	**0.41**	**H**
Mill Creek	0.13	Adult Immigration and Holding	**0.25**	Water Quality	0.100	DO, Ag, Urban, Heavy Metals in the Delta	0.250	0.08	5	**0.41**	**H**
Mill Creek	0.13	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Mill Creek	0.200	0.07	6	**0.39**	**H**
Mill Creek	0.13	Adult Immigration and Holding	**0.25**	Water Quality	0.150	DO, Ag, Urban, Heavy Metals in the Bay	0.150	0.07	5	**0.37**	**H**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Passage Impediments/Barriers	0.050	Tributary Barriers	0.800	0.18	2	**0.36**	**H**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Temperature	0.050	Lower Sacramento River	0.400	0.09	4	**0.36**	**H**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.300	0.07	5	**0.34**	**H**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.300	0.07	5	**0.34**	**H**

Mill Creek Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Mill Creek	0.13	Spawning	**0.25**	Harvest/Angling Impacts	0.100	Recreational, Poaching, Angler Impacts	1.000	0.33	1	**0.33**	**H**
Mill Creek	0.13	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.100	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bay	0.200	0.07	5	**0.33**	**H**
Mill Creek	0.13	Adult Immigration and Holding	**0.25**	Water Temperature	0.250	Delta	0.100	0.08	4	**0.33**	**H**
Mill Creek	0.13	Adult Immigration and Holding	**0.25**	Water Temperature	0.250	Lower Sacramento River	0.100	0.08	4	**0.33**	**H**
Mill Creek	0.13	Adult Immigration and Holding	**0.25**	Water Temperature	0.250	Middle Sacramento River	0.100	0.08	4	**0.33**	**H**
Mill Creek	0.13	Adult Immigration and Holding	**0.25**	Flow Conditions	0.150	Low Flows - attraction, migratory cues AND Flood Flows - non-natal area attraction in lower Sacramento River	0.200	0.10	3	**0.29**	**H**
Mill Creek	0.13	Adult Immigration and Holding	**0.25**	Flow Conditions	0.150	Low Flows - attraction, migratory cues in the middle Sacramento River	0.200	0.10	3	**0.29**	**H**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Natural River Morphology	0.160	Mill Creek	0.100	0.07	4	**0.29**	**H**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Riparian Habitat and Instream Cover	0.160	Mill Creek	0.100	0.07	4	**0.29**	**H**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Predation	0.125	Predation in the Bays	0.100	0.06	5	**0.28**	**M**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Temperature	0.050	Middle Sacramento River	0.300	0.07	4	**0.27**	**M**
Mill Creek	0.13	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.100	Sedimentation, turbidity, acoustic effects, hazardous spills in the middle Sacramento River	0.150	0.05	5	**0.24**	**M**
Mill Creek	0.13	Embryo Incubation	**0.15**	Flow Conditions	0.125	Flow Fluctuations	1.000	0.24	1.00	**0.24**	**M**
Mill Creek	0.13	Spawning	**0.25**	Water Temperature	0.075	Water Temperature in Mill Creek	1.000	0.24	1	**0.24**	**M**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the middle Sacramento River	0.200	0.05	5	**0.23**	**M**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.050	Ag, Urban in the lower Sacramento River	0.200	0.05	5	**0.23**	**M**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.050	Ag, Urban in the middle Sacramento River	0.200	0.05	5	**0.23**	**M**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.050	Ag, Urban in Mill Creek	0.200	0.05	5	**0.23**	**M**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.050	Ag, Urban, Heavy Metals in the Bays	0.200	0.05	5	**0.23**	**M**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.050	DO, Ag, Urban, Heavy Metals in the Delta	0.200	0.05	5	**0.23**	**M**

Mill Creek Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.070	Individual Diversions in Mill Creek	0.100	0.03	7	**0.22**	**M**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.075	Flow Dependent Habitat Availability in Mill Creek	0.100	0.03	6	**0.20**	**M**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.075	Flow Dependent Habitat Availability in the lower Sacramento River	0.100	0.03	6	**0.20**	**M**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.075	Flow Dependent Habitat Availability in the middle Sacramento River	0.100	0.03	6	**0.20**	**M**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.030	Delta	0.300	0.04	5	**0.20**	**M**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.030	Lower Sacramento River	0.300	0.04	5	**0.20**	**M**
Mill Creek	0.13	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Bays	0.100	0.03	6	**0.20**	**M**
Mill Creek	0.13	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Delta	0.100	0.03	6	**0.20**	**M**
Mill Creek	0.13	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Lower Sacramento River	0.100	0.03	6	**0.20**	**M**
Mill Creek	0.13	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Middle Sacramento River	0.100	0.03	6	**0.20**	**M**
Mill Creek	0.13	Embryo Incubation	**0.15**	Short-term Inwater Construction	0.100	Sedimentation, turbidity, acoustic effects, hazardous spills, physical disturbance	1.000	0.20	1.00	**0.20**	**M**
Mill Creek	0.13	Embryo Incubation	**0.15**	Water Temperature	0.100	Water Temperature in Mill Creek	1.000	0.20	1.00	**0.20**	**M**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Temperature	0.050	Mill Creek	0.200	0.05	4	**0.18**	**M**
Mill Creek	0.13	Spawning	**0.25**	Flow Conditions	0.050	Flow Fluctuations	1.000	0.16	1	**0.16**	**L**
Mill Creek	0.13	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.100	Sedimentation, turbidity, acoustic effects, hazardous spills in Mill Creek	0.100	0.03	5	**0.16**	**L**
Mill Creek	0.13	Spawning	**0.25**	Spawning Habitat Availability	0.050	Habitat Suitability	1.000	0.16	1	**0.16**	**L**
Mill Creek	0.13	Adult Immigration and Holding	**0.25**	Water Quality	0.100	Mill Creek	0.100	0.03	5	**0.16**	**L**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Predation	0.125	Predation in Mill Creek	0.050	0.03	5	**0.14**	**L**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in Mill Creek	0.100	0.02	5	**0.11**	**L**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bays	0.100	0.02	5	**0.11**	**L**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.070	Contra Costa Power Plant	0.050	0.02	7	**0.11**	**L**

Mill Creek Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.070	Pittsburg Power Plant	0.050	0.02	7	**0.11**	**L**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.030	Middle Sacramento River	0.150	0.02	5	**0.10**	**L**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Passage Impediments/Barriers	0.050	Dam(s)	0.200	0.05	2	**0.09**	**L**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Temperature	0.050	Delta	0.100	0.02	4	**0.09**	**L**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.030	Bays	0.100	0.01	5	**0.07**	**L**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.030	Mill Creek	0.100	0.01	5	**0.07**	**L**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Invasive Species/Food Web Disruption	0.010	Asian clam, A. aspera, Microcystis, etc. in the Delta	0.600	0.03	2	**0.05**	**L**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Tidal Marsh Habitat	0.010	Delta	0.600	0.03	2	**0.05**	**L**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Invasive Species/Food Web Disruption	0.010	Asian clam, A. aspera, Microcystis, etc. in the Bays	0.400	0.02	2	**0.04**	**L**
Mill Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Tidal Marsh Habitat	0.010	Bays	0.400	0.02	2	**0.04**	**L**
Mill Creek	0.13	Embryo Incubation	**0.15**	Harvest/Angling Impacts	0.010	Redd disturbance	1.000	0.02	1.00	**0.02**	**L**

Deer Creek Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Deer Creek	0.13	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.250	Agricultural Diversion Dam(s) in Deer Creek	0.600	0.49	5	**2.44**	**VH**
Deer Creek	0.13	Adult Immigration and Holding	**0.25**	Water Temperature	0.250	Deer Creek	0.700	0.57	4	**2.28**	**VH**
Deer Creek	0.13	Embryo Incubation	**0.15**	Water Quality	0.665	Turbidity, sedimentation, hazardous spills (HWY 32) in Deer Creek	1.000	1.30	1.00	**1.30**	**VH**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Floodplain Habitat	0.160	Lower Sacramento River	0.350	0.25	4	**1.02**	**VH**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Natural River Morphology	0.160	Lower Sacramento River	0.350	0.25	4	**1.02**	**VH**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Natural River Morphology	0.160	Middle Sacramento River	0.350	0.25	4	**1.02**	**VH**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Riparian Habitat and Instream Cover	0.160	Lower Sacramento River	0.350	0.25	4	**1.02**	**VH**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Riparian Habitat and Instream Cover	0.160	Middle Sacramento River	0.350	0.25	4	**1.02**	**VH**
Deer Creek	0.13	Adult Immigration and Holding	**0.25**	Water Quality	0.150	Deer Creek	0.400	0.20	5	**0.98**	**VH**
Deer Creek	0.13	Spawning	**0.25**	Hatchery Effects	0.275	Put-and-take rainbow trout fishery in upper Deer Creek, Genetic Integrity	1.000	0.89	1	**0.89**	**VH**
Deer Creek	0.13	Adult Immigration and Holding	**0.25**	Flow Conditions	0.150	Low Flows - attraction, migratory cues in Deer Creek	0.600	0.29	3	**0.88**	**VH**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Floodplain Habitat	0.160	Delta	0.300	0.22	4	**0.87**	**VH**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Predation	0.125	Predation in the Delta	0.300	0.17	5	**0.85**	**VH**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Predation	0.125	Predation in the lower Sacramento River	0.300	0.17	5	**0.85**	**VH**
Deer Creek	0.13	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Ocean	0.400	0.13	6	**0.78**	**VH**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Predation	0.125	Predation in the middle Sacramento River	0.250	0.14	5	**0.71**	**VH**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.050	Ag, Urban, Hazardous Spills (Hwy 32) in Deer Creek	0.600	0.14	5	**0.68**	**VH**
Deer Creek	0.13	Spawning	**0.25**	Spawning Habitat Availability	0.200	Habitat Availability	1.000	0.65	1	**0.65**	**VH**
Deer Creek	0.13	Spawning	**0.25**	Water Quality	0.200	Turbidity, Sedimentation, Hazardous Spills (Hwy 32) in Deer Creek	1.000	0.65	1	**0.65**	**VH**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.075	Diversion into Central Delta	0.300	0.10	6	**0.61**	**VH**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Floodplain Habitat	0.160	Middle Sacramento River	0.200	0.15	4	**0.58**	**VH**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Natural River Morphology	0.160	Delta	0.200	0.15	4	**0.58**	**VH**

Deer Creek Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Riparian Habitat and Instream Cover	0.160	Delta	0.200	0.15	4	**0.58**	**VH**
Deer Creek	0.13	Spawning	**0.25**	Physical Habitat Alteration	0.175	Gravel embeddedness and fines	1.000	0.57	1	**0.57**	**VH**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.050	Deer Creek	0.450	0.10	5	**0.51**	**H**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Floodplain Habitat	0.160	Deer Creek	0.150	0.11	4	**0.44**	**H**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.075	Changes in Hydrology	0.200	0.07	6	**0.41**	**H**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.075	Reverse Flow Conditions	0.200	0.07	6	**0.41**	**H**
Deer Creek	0.13	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.250	Sacramento Deep Water Ship Channel	0.100	0.08	5	**0.41**	**H**
Deer Creek	0.13	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.250	Suisun Marsh Salinity Control Structure	0.100	0.08	5	**0.41**	**H**
Deer Creek	0.13	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.250	Sutter Bypass - Tisdale Weir	0.100	0.08	5	**0.41**	**H**
Deer Creek	0.13	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.250	Yolo Bypass - Freemont Weir	0.100	0.08	5	**0.41**	**H**
Deer Creek	0.13	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Deer Creek	0.200	0.07	6	**0.39**	**H**
Deer Creek	0.13	Adult Immigration and Holding	**0.25**	Water Quality	0.150	Ag, Urban in the lower Sacramento River	0.150	0.07	5	**0.37**	**H**
Deer Creek	0.13	Adult Immigration and Holding	**0.25**	Water Quality	0.150	Ag, Urban in the middle Sacramento River	0.150	0.07	5	**0.37**	**H**
Deer Creek	0.13	Adult Immigration and Holding	**0.25**	Water Quality	0.150	DO, Ag, Urban, Heavy Metals in the Bay	0.150	0.07	5	**0.37**	**H**
Deer Creek	0.13	Adult Immigration and Holding	**0.25**	Water Quality	0.150	DO, Ag, Urban, Heavy Metals in the Delta	0.150	0.07	5	**0.37**	**H**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Passage Impediments/Barriers	0.050	Tributary Barriers	0.800	0.18	2	**0.36**	**H**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Temperature	0.050	Lower Sacramento River	0.400	0.09	4	**0.36**	**H**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.300	0.07	5	**0.34**	**H**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.300	0.07	5	**0.34**	**H**
Deer Creek	0.13	Adult Immigration and Holding	**0.25**	Water Temperature	0.250	Delta	0.100	0.08	4	**0.33**	**H**
Deer Creek	0.13	Adult Immigration and Holding	**0.25**	Water Temperature	0.250	Lower Sacramento River	0.100	0.08	4	**0.33**	**H**
Deer Creek	0.13	Adult Immigration and Holding	**0.25**	Water Temperature	0.250	Middle Sacramento River	0.100	0.08	4	**0.33**	**H**

Deer Creek Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.050	Individual Diversions in the Delta	0.200	0.05	7	**0.32**	**H**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.050	Individual Diversions in the lower Sacramento River	0.200	0.05	7	**0.32**	**H**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.050	Individual Diversions in the middle Sacramento River	0.200	0.05	7	**0.32**	**H**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.050	Jones and Banks Pumping Plants	0.200	0.05	7	**0.32**	**H**
Deer Creek	0.13	Adult Immigration and Holding	**0.25**	Flow Conditions	0.150	Low Flows - attraction, migratory cues AND Flood Flows - non-natal area attraction in lower Sacramento River	0.200	0.10	3	**0.29**	**M**
Deer Creek	0.13	Adult Immigration and Holding	**0.25**	Flow Conditions	0.150	Low Flows - attraction, migratory cues in the middle Sacramento River	0.200	0.10	3	**0.29**	**M**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Natural River Morphology	0.160	Deer Creek	0.100	0.07	4	**0.29**	**M**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Riparian Habitat and Instream Cover	0.160	Deer Creek	0.100	0.07	4	**0.29**	**M**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Predation	0.125	Predation in the Bays	0.100	0.06	5	**0.28**	**M**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Temperature	0.050	Middle Sacramento River	0.300	0.07	4	**0.27**	**M**
Deer Creek	0.13	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.300	0.05	5	**0.24**	**M**
Deer Creek	0.13	Embryo Incubation	**0.15**	Flow Conditions	0.125	Flow Fluctuations	1.000	0.24	1.00	**0.24**	**M**
Deer Creek	0.13	Spawning	**0.25**	Water Temperature	0.075	Water Temperature in Deer Creek	1.000	0.24	1	**0.24**	**M**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the middle Sacramento River	0.200	0.05	5	**0.23**	**M**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.075	Flow Dependent Habitat Availability in Deer Creek	0.100	0.03	6	**0.20**	**M**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.075	Flow Dependent Habitat Availability in the lower Sacramento River	0.100	0.03	6	**0.20**	**M**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.075	Flow Dependent Habitat Availability in the middle Sacramento River	0.100	0.03	6	**0.20**	**M**
Deer Creek	0.13	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.250	0.04	5	**0.20**	**M**

Deer Creek Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Deer Creek	0.13	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Bays	0.100	0.03	6	**0.20**	**M**
Deer Creek	0.13	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Delta	0.100	0.03	6	**0.20**	**M**
Deer Creek	0.13	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Lower Sacramento River	0.100	0.03	6	**0.20**	**M**
Deer Creek	0.13	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Middle Sacramento River	0.100	0.03	6	**0.20**	**M**
Deer Creek	0.13	Embryo Incubation	**0.15**	Short-term Inwater Construction	0.100	Sedimentation, turbidity, acoustic effects, hazardous spills, physical disturbance	1.000	0.20	1.00	**0.20**	**M**
Deer Creek	0.13	Embryo Incubation	**0.15**	Water Temperature	0.100	Water Temperature in Deer Creek	1.000	0.20	1.00	**0.20**	**M**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Temperature	0.050	Deer Creek	0.200	0.05	4	**0.18**	**M**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.050	Delta	0.150	0.03	5	**0.17**	**M**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.050	Lower Sacramento River	0.150	0.03	5	**0.17**	**M**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.050	Middle Sacramento River	0.150	0.03	5	**0.17**	**M**
Deer Creek	0.13	Spawning	**0.25**	Harvest/Angling Impacts	0.050	Recreational, Poaching, Angler Impacts	1.000	0.16	1	**0.16**	**L**
Deer Creek	0.13	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bay	0.200	0.03	5	**0.16**	**L**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.050	Individual Diversions in Deer Creek	0.100	0.02	7	**0.16**	**L**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Predation	0.125	Predation in Deer Creek	0.050	0.03	5	**0.14**	**L**
Deer Creek	0.13	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the middle Sacramento River	0.150	0.02	5	**0.12**	**L**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.050	Bays	0.100	0.02	5	**0.11**	**L**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in Deer Creek	0.100	0.02	5	**0.11**	**L**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bays	0.100	0.02	5	**0.11**	**L**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.050	Ag, Urban in the lower Sacramento River	0.100	0.02	5	**0.11**	**L**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.050	Ag, Urban in the middle Sacramento River	0.100	0.02	5	**0.11**	**L**

Deer Creek Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.050	Ag, Urban, Heavy Metals in the Bays	0.100	0.02	5	**0.11**	**L**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.050	DO, Ag, Urban, Heavy Metals in the Delta	0.100	0.02	5	**0.11**	**L**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Passage Impediments/Barriers	0.050	Dam(s)	0.200	0.05	2	**0.09**	**L**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Temperature	0.050	Delta	0.100	0.02	4	**0.09**	**L**
Deer Creek	0.13	Spawning	**0.25**	Flow Conditions	0.025	Flow Fluctuations	1.000	0.08	1	**0.08**	**L**
Deer Creek	0.13	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in Deer Creek	0.100	0.02	5	**0.08**	**L**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.050	Contra Costa Power Plant	0.050	0.01	7	**0.08**	**L**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.050	Pittsburg Power Plant	0.050	0.01	7	**0.08**	**L**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Invasive Species/Food Web Disruption	0.010	Asian clam, A. aspera, Microcystis, etc. in the Delta	0.600	0.03	2	**0.05**	**L**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Tidal Marsh Habitat	0.010	Delta	0.600	0.03	2	**0.05**	**L**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Invasive Species/Food Web Disruption	0.010	Asian clam, A. aspera, Microcystis, etc. in the Bays	0.400	0.02	2	**0.04**	**L**
Deer Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Tidal Marsh Habitat	0.010	Bays	0.400	0.02	2	**0.04**	**L**
Deer Creek	0.13	Embryo Incubation	**0.15**	Harvest/Angling Impacts	0.010	Redd disturbance	1.000	0.02	1.00	**0.02**	**L**

Antelope Creek Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Antelope Creek	0.12	Adult Immigration and Holding	**0.25**	Water Temperature	0.275	Antelope Creek	0.700	0.58	4	**2.31**	**VH**
Antelope Creek	0.12	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.250	Agricultural Diversion Dam(s) in Antelope Creek	0.600	0.45	5	**2.25**	**VH**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.150	Individual or Terminal Diversions and loss of channel connectivity in Antelope Creek	0.500	0.32	7	**2.21**	**VH**
Antelope Creek	0.12	Adult Immigration and Holding	**0.25**	Flow Conditions	0.200	Low Flows - attraction, migratory cues in Antelope Creek	0.600	0.36	3	**1.08**	**VH**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Loss of Floodplain Habitat	0.160	Lower Sacramento River	0.350	0.24	4	**0.94**	**VH**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Loss of Natural River Morphology	0.160	Lower Sacramento River	0.350	0.24	4	**0.94**	**VH**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Loss of Riparian Habitat and Instream Cover	0.160	Lower Sacramento River	0.350	0.24	4	**0.94**	**VH**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Loss of Floodplain Habitat	0.160	Delta	0.300	0.20	4	**0.81**	**VH**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Loss of Natural River Morphology	0.160	Antelope Creek	0.300	0.20	4	**0.81**	**VH**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Loss of Riparian Habitat and Instream Cover	0.160	Delta	0.300	0.20	4	**0.81**	**VH**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Predation	0.125	Predation in the Delta	0.300	0.16	5	**0.79**	**VH**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Predation	0.125	Predation in the lower Sacramento River	0.300	0.16	5	**0.79**	**VH**
Antelope Creek	0.12	Embryo Incubation	**0.15**	Water Quality	0.400	Turbidity, sedimentation in Antelope Creek	1.000	0.72	1.00	**0.72**	**VH**
Antelope Creek	0.12	Spawning	**0.25**	Hatchery Effects	0.225	Stocked trout fishery in upper Antelope drainage - competition for habitat, genetic integrity	1.000	0.68	1	**0.68**	**VH**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Predation	0.125	Predation in the middle Sacramento River	0.250	0.13	5	**0.66**	**VH**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.050	Ag, Urban in Antelope Creek	0.600	0.13	5	**0.63**	**VH**
Antelope Creek	0.12	Spawning	**0.25**	Physical Habitat Alteration	0.200	Gravel embeddedness and fines	1.000	0.60	1	**0.60**	**VH**
Antelope Creek	0.12	Spawning	**0.25**	Water Quality	0.200	Turbidity, Sedimentation in Antelope Creek	1.000	0.60	1	**0.60**	**VH**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.075	Diversion into Central Delta	0.300	0.09	6	**0.57**	**VH**
Antelope Creek	0.12	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Ocean	0.300	0.09	6	**0.54**	**VH**
Antelope Creek	0.12	Embryo Incubation	**0.15**	Short-term Inwater Construction	0.300	Sedimentation, turbidity, physical disturbance	1.000	0.54	1.00	**0.54**	**VH**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Loss of Floodplain Habitat	0.160	Middle Sacramento River	0.200	0.13	4	**0.54**	**VH**

Antelope Creek Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Loss of Natural River Morphology	0.160	Delta	0.200	0.13	4	**0.54**	**VH**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Loss of Riparian Habitat and Instream Cover	0.160	Antelope Creek	0.200	0.13	4	**0.54**	**VH**
Antelope Creek	0.12	Spawning	**0.25**	Spawning Habitat Availability	0.175	Habitat Availability	1.000	0.53	1	**0.53**	**H**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.150	Individual Diversions in the Delta	0.100	0.06	7	**0.44**	**H**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.150	Individual Diversions in the lower Sacramento River	0.100	0.06	7	**0.44**	**H**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.150	Individual Diversions in the middle Sacramento River	0.100	0.06	7	**0.44**	**H**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.150	Jones and Banks Pumping Plants	0.100	0.06	7	**0.44**	**H**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Loss of Floodplain Habitat	0.160	Antelope Creek	0.150	0.10	4	**0.40**	**H**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Loss of Natural River Morphology	0.160	Middle Sacramento River	0.150	0.10	4	**0.40**	**H**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Loss of Riparian Habitat and Instream Cover	0.160	Middle Sacramento River	0.150	0.10	4	**0.40**	**H**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.075	Changes in Hydrology	0.200	0.06	6	**0.38**	**H**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.075	Reverse Flow Conditions	0.200	0.06	6	**0.38**	**H**
Antelope Creek	0.12	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.250	Sacramento Deep Water Ship Channel	0.100	0.08	5	**0.38**	**H**
Antelope Creek	0.12	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.250	Suisun Marsh Salinity Control Structure	0.100	0.08	5	**0.38**	**H**
Antelope Creek	0.12	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.250	Sutter Bypass - Tisdale Weir	0.100	0.08	5	**0.38**	**H**
Antelope Creek	0.12	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.250	Yolo Bypass - Freemont Weir	0.100	0.08	5	**0.38**	**H**
Antelope Creek	0.12	Adult Immigration and Holding	**0.25**	Flow Conditions	0.200	Low Flows - attraction, migratory cues AND Flood Flows - non-natal area attraction in lower Sacramento River	0.200	0.12	3	**0.36**	**H**
Antelope Creek	0.12	Adult Immigration and Holding	**0.25**	Flow Conditions	0.200	Low Flows - attraction, migratory cues in the middle Sacramento River	0.200	0.12	3	**0.36**	**H**
Antelope Creek	0.12	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Antelope Creek	0.200	0.06	6	**0.36**	**H**
Antelope Creek	0.12	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.075	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.300	0.07	5	**0.34**	**H**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Passage Impediments/Barriers	0.050	Tributary Barriers	0.800	0.17	2	**0.34**	**H**

Antelope Creek Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Water Temperature	0.050	Lower Sacramento River	0.400	0.08	4	**0.34**	**H**
Antelope Creek	0.12	Adult Immigration and Holding	**0.25**	Water Temperature	0.275	Delta	0.100	0.08	4	**0.33**	**H**
Antelope Creek	0.12	Adult Immigration and Holding	**0.25**	Water Temperature	0.275	Lower Sacramento River	0.100	0.08	4	**0.33**	**H**
Antelope Creek	0.12	Adult Immigration and Holding	**0.25**	Water Temperature	0.275	Middle Sacramento River	0.100	0.08	4	**0.33**	**H**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.300	0.06	5	**0.32**	**H**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.300	0.06	5	**0.32**	**H**
Antelope Creek	0.12	Adult Immigration and Holding	**0.25**	Water Quality	0.100	Ag, Urban in the lower Sacramento River	0.200	0.06	5	**0.30**	**M**
Antelope Creek	0.12	Adult Immigration and Holding	**0.25**	Water Quality	0.100	Ag, Urban in the middle Sacramento River	0.200	0.06	5	**0.30**	**M**
Antelope Creek	0.12	Adult Immigration and Holding	**0.25**	Water Quality	0.100	Antelope Creek	0.200	0.06	5	**0.30**	**M**
Antelope Creek	0.12	Adult Immigration and Holding	**0.25**	Water Quality	0.100	DO, Ag, Urban, Heavy Metals in the Bay	0.200	0.06	5	**0.30**	**M**
Antelope Creek	0.12	Adult Immigration and Holding	**0.25**	Water Quality	0.100	DO, Ag, Urban, Heavy Metals in the Delta	0.200	0.06	5	**0.30**	**M**
Antelope Creek	0.12	Embryo Incubation	**0.15**	Water Temperature	0.165	Water Temperature in Antelope Creek	1.000	0.30	1.00	**0.30**	**M**
Antelope Creek	0.12	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.075	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.250	0.06	5	**0.28**	**M**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Predation	0.125	Predation in the Bays	0.100	0.05	5	**0.26**	**M**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Water Temperature	0.050	Middle Sacramento River	0.300	0.06	4	**0.25**	**M**
Antelope Creek	0.12	Embryo Incubation	**0.15**	Flow Conditions	0.125	Flow Fluctuations	1.000	0.23	1.00	**0.23**	**M**
Antelope Creek	0.12	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Bays	0.125	0.04	6	**0.23**	**M**
Antelope Creek	0.12	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Delta	0.125	0.04	6	**0.23**	**M**
Antelope Creek	0.12	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Lower Sacramento River	0.125	0.04	6	**0.23**	**M**
Antelope Creek	0.12	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Middle Sacramento River	0.125	0.04	6	**0.23**	**M**
Antelope Creek	0.12	Spawning	**0.25**	Harvest/Angling Impacts	0.075	Recreational, Poaching, Angler Impacts	1.000	0.23	1	**0.23**	**M**

Antelope Creek Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Antelope Creek	0.12	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.075	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bay	0.200	0.05	5	**0.23**	**M**
Antelope Creek	0.12	Spawning	**0.25**	Water Temperature	0.075	Water Temperature in Antelope Creek	1.000	0.23	1	**0.23**	**M**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.150	Contra Costa Power Plant	0.050	0.03	7	**0.22**	**M**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.150	Pittsburg Power Plant	0.050	0.03	7	**0.22**	**M**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the middle Sacramento River	0.200	0.04	5	**0.21**	**M**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.030	Delta	0.300	0.04	5	**0.19**	**M**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.030	Lower Sacramento River	0.300	0.04	5	**0.19**	**M**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.075	Flow Dependent Habitat Availability in Antelope Creek	0.100	0.03	6	**0.19**	**M**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.075	Flow Dependent Habitat Availability in the lower Sacramento River	0.100	0.03	6	**0.19**	**M**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.075	Flow Dependent Habitat Availability in the middle Sacramento River	0.100	0.03	6	**0.19**	**M**
Antelope Creek	0.12	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.075	Sedimentation, turbidity, acoustic effects, hazardous spills in the middle Sacramento River	0.150	0.03	5	**0.17**	**L**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Water Temperature	0.050	Antelope Creek	0.200	0.04	4	**0.17**	**L**
Antelope Creek	0.12	Spawning	**0.25**	Flow Conditions	0.050	Flow Fluctuations	1.000	0.15	1	**0.15**	**L**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Predation	0.125	Predation in Antelope Creek	0.050	0.03	5	**0.13**	**L**
Antelope Creek	0.12	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.075	Sedimentation, turbidity, acoustic effects, hazardous spills in Antelope Creek	0.100	0.02	5	**0.11**	**L**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in Antelope Creek	0.100	0.02	5	**0.11**	**L**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bays	0.100	0.02	5	**0.11**	**L**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.050	Ag, Urban in the lower Sacramento River	0.100	0.02	5	**0.11**	**L**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.050	Ag, Urban in the middle Sacramento River	0.100	0.02	5	**0.11**	**L**

Antelope Creek Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.050	Ag, Urban, Heavy Metals in the Bays	0.100	0.02	5	**0.11**	**L**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.050	DO, Ag, Urban, Heavy Metals in the Delta	0.100	0.02	5	**0.11**	**L**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.030	Middle Sacramento River	0.150	0.02	5	**0.09**	**L**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Passage Impediments/Barriers	0.050	Dam(s)	0.200	0.04	2	**0.08**	**L**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Water Temperature	0.050	Delta	0.100	0.02	4	**0.08**	**L**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.030	Antelope Creek	0.100	0.01	5	**0.06**	**L**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.030	Bays	0.100	0.01	5	**0.06**	**L**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Invasive Species/Food Web Disruption	0.010	Asian clam, A. aspera, Microcystis, etc. in the Delta	0.600	0.03	2	**0.05**	**L**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Loss of Tidal Marsh Habitat	0.010	Delta	0.600	0.03	2	**0.05**	**L**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Invasive Species/Food Web Disruption	0.010	Asian clam, A. aspera, Microcystis, etc. in the Bays	0.400	0.02	2	**0.03**	**L**
Antelope Creek	0.12	Juvenile Rearing and Outmigration	**0.35**	Loss of Tidal Marsh Habitat	0.010	Bays	0.400	0.02	2	**0.03**	**L**
Antelope Creek	0.12	Embryo Incubation	**0.15**	Harvest/Angling Impacts	0.010	Redd disturbance	1.000	0.02	1.00	**0.02**	**L**

Battle Creek Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Battle Creek	0.26	Adult Immigration and Holding	0.25	Passage Impediments/Barriers	0.350	North Fork Dams	0.325	0.74	7	**5.18**	**VH**
Battle Creek	0.26	Adult Immigration and Holding	0.25	Passage Impediments/Barriers	0.350	South Fork Dams	0.325	0.74	7	**5.18**	**VH**
Battle Creek	0.26	Adult Immigration and Holding	0.25	Water Temperature	0.175	Battle Creek	0.550	0.63	5	**3.13**	**VH**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Hatchery Effects	0.125	Battle Creek - Coleman - Competition for habitat and food	0.350	0.40	6	**2.39**	**VH**
Battle Creek	0.26	Adult Immigration and Holding	0.25	Passage Impediments/Barriers	0.350	Red Bluff Diversion Dam	0.150	0.34	7	**2.39**	**VH**
Battle Creek	0.26	Adult Immigration and Holding	0.25	Flow Conditions	0.200	Low Flows - attraction, migratory cues in Battle Creek	0.400	0.52	4	**2.08**	**VH**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Predation	0.125	Predation in the Delta	0.300	0.34	6	**2.05**	**VH**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Entrainment	0.100	Individual Diversions in Battle Creek	0.250	0.23	8	**1.82**	**VH**
Battle Creek	0.26	Spawning	0.25	Barriers	0.250	Redd superimposition, competition for habitat, hybridization/genetic integrity	1.000	1.63	1	**1.63**	**VH**
Battle Creek	0.26	Spawning	0.25	Flow Conditions	0.250	Low instream flows per FERC license	1.000	1.63	1	**1.63**	**VH**
Battle Creek	0.26	Spawning	0.25	Hatchery Effects	0.250	Coleman - competition for habitat, genetic integrity	1.000	1.63	1	**1.63**	**VH**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Loss of Floodplain Habitat	0.100	Delta	0.350	0.32	5	**1.59**	**VH**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Loss of Natural River Morphology	0.100	Delta	0.350	0.32	5	**1.59**	**VH**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Loss of Riparian Habitat and Instream Cover	0.100	Delta	0.350	0.32	5	**1.59**	**VH**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Entrainment	0.100	Jones and Banks Pumping Plants	0.200	0.18	8	**1.46**	**VH**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Loss of Floodplain Habitat	0.100	Lower Sacramento River	0.300	0.27	5	**1.37**	**VH**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Loss of Natural River Morphology	0.100	Lower Sacramento River	0.300	0.27	5	**1.37**	**VH**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Loss of Riparian Habitat and Instream Cover	0.100	Lower Sacramento River	0.300	0.27	5	**1.37**	**VH**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Hatchery Effects	0.125	Upper Sacramento River	0.200	0.23	6	**1.37**	**VH**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Predation	0.125	Predation in the lower Sacramento River	0.200	0.23	6	**1.37**	**VH**
Battle Creek	0.26	Adult Immigration and Holding	0.25	Flow Conditions	0.200	Low Flows - attraction, migratory cues AND Flood Flows - non-natal area attraction in lower Sacramento River	0.250	0.33	4	**1.30**	**VH**

Battle Creek Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Flow Conditions	0.050	Flow Dependent Habitat Availability in Battle Creek	0.400	0.18	7	**1.27**	**VH**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Water Quality	0.075	Ag, Urban in the lower Sacramento River	0.300	0.20	6	**1.23**	**VH**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Water Quality	0.075	DO, Ag, Urban, Heavy Metals in the Delta	0.300	0.20	6	**1.23**	**VH**
Battle Creek	0.26	Adult Immigration and Holding	0.25	Water Quality	0.100	DO, Ag, Urban, Heavy Metals in the Delta	0.375	0.24	5	**1.22**	**VH**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Predation	0.125	Predation in the middle Sacramento River	0.175	0.20	6	**1.19**	**VH**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Water Temperature	0.075	Lower Sacramento River	0.350	0.24	5	**1.19**	**VH**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Entrainment	0.100	Individual Diversions in the Delta	0.150	0.14	8	**1.09**	**VH**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Entrainment	0.100	Individual Diversions in the lower Sacramento River	0.150	0.14	8	**1.09**	**VH**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Entrainment	0.100	Individual Diversions in the middle Sacramento River	0.150	0.14	8	**1.09**	**VH**
Battle Creek	0.26	Embryo Incubation	**0.15**	Flow Conditions	0.275	Flow Fluctuations	1.000	1.07	1.00	**1.07**	**H**
Battle Creek	0.26	Embryo Incubation	**0.15**	Water Temperature	0.275	Water Temperature in Battle Creek	1.000	1.07	1.00	**1.07**	**H**
Battle Creek	0.26	Adult Immigration and Holding	0.25	Flow Conditions	0.200	Low Flows - attraction, migratory cues in the middle Sacramento River	0.200	0.26	4	**1.04**	**H**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Hatchery Effects	0.125	Lower Sacramento River	0.150	0.17	6	**1.02**	**H**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Hatchery Effects	0.125	Middle Sacramento River	0.150	0.17	6	**1.02**	**H**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Water Temperature	0.075	Delta	0.300	0.20	5	**1.02**	**H**
Battle Creek	0.26	Adult Immigration and Holding	0.25	Short-term Inwater Construction	0.125	Sedimentation, turbidity, acoustic effects, hazardous spills in Battle Creek	0.200	0.16	6	**0.98**	**H**
Battle Creek	0.26	Adult Immigration and Holding	0.25	Short-term Inwater Construction	0.125	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.200	0.16	6	**0.98**	**H**
Battle Creek	0.26	Adult Immigration and Holding	0.25	Short-term Inwater Construction	0.125	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.200	0.16	6	**0.98**	**H**
Battle Creek	0.26	Spawning	0.25	Spawning Habitat Availability	0.150	Habitat Suitability	1.000	0.98	1	**0.98**	**H**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Loss of Floodplain Habitat	0.100	Middle Sacramento River	0.200	0.18	5	**0.91**	**H**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Loss of Natural River Morphology	0.100	Middle Sacramento River	0.200	0.18	5	**0.91**	**H**

Battle Creek Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Battle Creek	0.26	Adult Immigration and Holding	0.25	Water Quality	0.100	Ag, Urban in the lower Sacramento River	0.275	0.18	5	**0.89**	**H**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Predation	0.125	Predation in Battle Creek	0.125	0.14	6	**0.85**	**H**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.300	0.14	6	**0.82**	**H**
Battle Creek	0.26	Adult Immigration and Holding	0.25	Passage Impediments/Barriers	0.350	Sacramento Deep Water Ship Channel	0.050	0.11	7	**0.80**	**H**
Battle Creek	0.26	Adult Immigration and Holding	0.25	Passage Impediments/Barriers	0.350	Suisun Marsh Salinity Control Structure	0.050	0.11	7	**0.80**	**H**
Battle Creek	0.26	Adult Immigration and Holding	0.25	Passage Impediments/Barriers	0.350	Sutter Bypass - Tisdale Weir	0.050	0.11	7	**0.80**	**H**
Battle Creek	0.26	Adult Immigration and Holding	0.25	Passage Impediments/Barriers	0.350	Yolo Bypass - Freemont Weir	0.050	0.11	7	**0.80**	**H**
Battle Creek	0.26	Adult Immigration and Holding	0.25	Flow Conditions	0.200	Low Flows - attraction, migratory cues in the upper Sacramento River	0.150	0.20	4	**0.78**	**H**
Battle Creek	0.26	Adult Immigration and Holding	0.25	Short-term Inwater Construction	0.125	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bay	0.150	0.12	6	**0.73**	**H**
Battle Creek	0.26	Adult Immigration and Holding	0.25	Short-term Inwater Construction	0.125	Sedimentation, turbidity, acoustic effects, hazardous spills in the middle Sacramento River	0.150	0.12	6	**0.73**	**H**
Battle Creek	0.26	Adult Immigration and Holding	0.25	Water Temperature	0.175	Lower Sacramento River	0.125	0.14	5	**0.71**	**H**
Battle Creek	0.26	Adult Immigration and Holding	0.25	Water Temperature	0.175	Middle Sacramento River	0.125	0.14	5	**0.71**	**H**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Loss of Riparian Habitat and Instream Cover	0.100	Middle Sacramento River	0.150	0.14	5	**0.68**	**H**
Battle Creek	0.26	Adult Immigration and Holding	0.25	Harvest/Angling Impacts	0.050	Ocean	0.300	0.10	7	**0.68**	**H**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Hatchery Effects	0.125	Delta	0.100	0.11	6	**0.68**	**H**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Predation	0.125	Predation in the Bays	0.100	0.11	6	**0.68**	**H**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Predation	0.125	Predation in the upper Sacramento River	0.100	0.11	6	**0.68**	**H**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.250	0.11	6	**0.68**	**H**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Water Temperature	0.075	Battle Creek	0.200	0.14	5	**0.68**	**H**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Flow Conditions	0.050	Diversion into Central Delta	0.200	0.09	7	**0.64**	**M**

Battle Creek Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Water Quality	0.075	Ag, Urban, Heavy Metals in the Bays	0.150	0.10	6	**0.61**	**M**
Battle Creek	0.26	Embryo Incubation	**0.15**	Harvest/Angling Impacts	0.150	Redd disturbance	1.000	0.59	1.00	**0.59**	**M**
Battle Creek	0.26	Embryo Incubation	**0.15**	Short-term Inwater Construction	0.150	Sedimentation, turbidity, acoustic effects, hazardous spills, physical disturbance	1.000	0.59	1.00	**0.59**	**M**
Battle Creek	0.26	Embryo Incubation	**0.15**	Water Quality	0.150	Water Quality in Battle Creek	1.000	0.59	1.00	**0.59**	**M**
Battle Creek	0.26	Adult Immigration and Holding	0.25	Water Quality	0.100	Ag, Urban in the middle Sacramento River	0.175	0.11	5	**0.57**	**M**
Battle Creek	0.26	Adult Immigration and Holding	0.25	Water Temperature	0.175	Delta	0.100	0.11	5	**0.57**	**M**
Battle Creek	0.26	Adult Immigration and Holding	0.25	Water Temperature	0.175	Upper Sacramento River	0.100	0.11	5	**0.57**	**M**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Passage Impediments/Barriers	0.050	North Fork Dams	0.400	0.18	3	**0.55**	**M**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Passage Impediments/Barriers	0.050	South Fork Dams	0.400	0.18	3	**0.55**	**M**
Battle Creek	0.26	Adult Immigration and Holding	0.25	Short-term Inwater Construction	0.125	Sedimentation, turbidity, acoustic effects, hazardous spills in the upper Sacramento River	0.100	0.08	6	**0.49**	**M**
Battle Creek	0.26	Adult Immigration and Holding	0.25	Water Quality	0.100	Urban, Heavy Metals in the upper Sacramento River	0.150	0.10	5	**0.49**	**M**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Loss of Floodplain Habitat	0.100	Upper Sacramento River	0.100	0.09	5	**0.46**	**M**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Loss of Natural River Morphology	0.100	Upper Sacramento River	0.100	0.09	5	**0.46**	**M**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Loss of Riparian Habitat and Instream Cover	0.100	Battle Creek	0.100	0.09	5	**0.46**	**M**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Loss of Riparian Habitat and Instream Cover	0.100	Upper Sacramento River	0.100	0.09	5	**0.46**	**M**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the middle Sacramento River	0.150	0.07	6	**0.41**	**M**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the upper Sacramento River	0.150	0.07	6	**0.41**	**M**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Water Quality	0.075	Urban, Heavy Metals in the upper Sacramento River	0.100	0.07	6	**0.41**	**M**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Water Quality	0.075	Ag, Urban in the middle Sacramento River	0.100	0.07	6	**0.41**	**M**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Entrainment	0.100	Individual Diversions in the upper Sacramento River	0.050	0.05	8	**0.36**	**M**
Battle Creek	0.26	Adult Immigration and Holding	0.25	Harvest/Angling Impacts	0.050	Battle Creek	0.150	0.05	7	**0.34**	**M**

Battle Creek Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Hatchery Effects	0.125	Bays	0.050	0.06	6	**0.34**	**M**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Water Temperature	0.075	Middle Sacramento River	0.100	0.07	5	**0.34**	**M**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Flow Conditions	0.050	Changes in Hydrology	0.100	0.05	7	**0.32**	**M**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Flow Conditions	0.050	Flow Dependent Habitat Availability in the lower Sacramento River	0.100	0.05	7	**0.32**	**M**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Invasive Species/Food Web Disruption	0.025	Asian clam, A. aspera, Microcystis, etc. in the Delta	0.700	0.16	2	**0.32**	**M**
Battle Creek	0.26	Adult Immigration and Holding	0.25	Harvest/Angling Impacts	0.050	Middle Sacramento River	0.125	0.04	7	**0.28**	**M**
Battle Creek	0.26	Adult Immigration and Holding	0.25	Harvest/Angling Impacts	0.050	Upper Sacramento River	0.125	0.04	7	**0.28**	**M**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Loss of Tidal Marsh Habitat	0.025	Delta	0.600	0.14	2	**0.27**	**L**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Passage Impediments/Barriers	0.050	Tributary Barriers	0.200	0.09	3	**0.27**	**L**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bays	0.100	0.05	6	**0.27**	**L**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Flow Conditions	0.050	Flow Dependent Habitat Availability in the middle Sacramento River	0.075	0.03	7	**0.24**	**L**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Flow Conditions	0.050	Flow Dependent Habitat Availability in the upper Sacramento River	0.075	0.03	7	**0.24**	**L**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Loss of Floodplain Habitat	0.100	Battle Creek	0.050	0.05	5	**0.23**	**L**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Loss of Natural River Morphology	0.100	Battle Creek	0.050	0.05	5	**0.23**	**L**
Battle Creek	0.26	Adult Immigration and Holding	0.25	Harvest/Angling Impacts	0.050	Bays	0.100	0.03	7	**0.23**	**L**
Battle Creek	0.26	Adult Immigration and Holding	0.25	Harvest/Angling Impacts	0.050	Delta	0.100	0.03	7	**0.23**	**L**
Battle Creek	0.26	Adult Immigration and Holding	0.25	Harvest/Angling Impacts	0.050	Lower Sacramento River	0.100	0.03	7	**0.23**	**L**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Water Quality	0.075	Ag, Urban in Battle Creek	0.050	0.03	6	**0.20**	**L**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Entrainment	0.100	Contra Costa Power Plant	0.025	0.02	8	**0.18**	**L**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Entrainment	0.100	Pittsburg Power Plant	0.025	0.02	8	**0.18**	**L**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Loss of Tidal Marsh Habitat	0.025	Bays	0.400	0.09	2	**0.18**	**L**

Battle Creek Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Water Temperature	0.075	Upper Sacramento River	0.050	0.03	5	**0.17**	**L**
Battle Creek	0.26	Spawning	0.25	Harvest/Angling Impacts	0.025	Recreational, Poaching, Angler Impacts	1.000	0.16	1	**0.16**	**L**
Battle Creek	0.26	Spawning	0.25	Physical Habitat Alteration	0.025	Limited Instream Gravel Supply	1.000	0.16	1	**0.16**	**L**
Battle Creek	0.26	Spawning	0.25	Water Quality	0.025	Water Quality in Battle Creek	1.000	0.16	1	**0.16**	**L**
Battle Creek	0.26	Spawning	0.25	Water Temperature	0.025	Water Temperature in Battle Creek	1.000	0.16	1	**0.16**	**L**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Flow Conditions	0.050	Reverse Flow Conditions	0.050	0.02	7	**0.16**	**L**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Invasive Species/Food Web Disruption	0.025	Asian clam, A. aspera, Microcystis, etc. in the Bays	0.300	0.07	2	**0.14**	**L**
Battle Creek	0.26	Juvenile Rearing and Outmigration	0.35	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in Battle Creek	0.050	0.02	6	**0.14**	**L**
Battle Creek	0.26	Adult Immigration and Holding	0.25	Water Quality	0.100	Battle Creek	0.025	0.02	5	**0.08**	**L**

Cow Creek Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stresor Category
Cow Creek	0.3	Adult Immigration and Holding	0.3	Passage Impediments/Barriers	**0.300**	Impediments/Barriers in Cow Creek	0.86	2.322	6	**13.932**	**VH**
Cow Creek	0.3	Adult Immigration and Holding	0.3	Water Temperature	**0.300**	Cow Creek	0.95	2.565	4	**10.260**	**VH**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Entrainment	0.250	Individual Unscreened Diversions in Cow Creek	0.4	0.900	8	**7.200**	**VH**
Cow Creek	0.3	Adult Immigration and Holding	0.3	Flow Conditions	**0.250**	Low Flows - attraction, migratory cues in Cow Creek	0.75	1.688	4	**6.750**	**VH**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Loss of Natural River Morphology	0.150	Cow Creek	0.6	0.810	5	**4.050**	**VH**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Loss of Riparian Habitat and Instream Cover	0.150	Cow Creek	0.75	1.013	4	**4.050**	**VH**
Cow Creek	0.3	Spawning	0.3	Passage Impediments/Barriers	0.400	Redd superimposition, competition for habitat, hybridization/genetic integrity	1	3.600	1	**3.600**	**VH**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Entrainment	0.250	Jones and Banks Pumping Plants	0.2	0.450	8	**3.600**	**VH**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Water Temperature	0.100	Cow Creek	0.8	0.720	5	**3.600**	**VH**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Flow Conditions	0.100	Flow Dependent Habitat Availability in Cow Creek	0.5	0.450	7	**3.150**	**VH**
Cow Creek	0.3	Spawning	0.3	Hatchery Effects	0.300	Stocked trout fishery in upper Cow Creek - competition for habitat, genetic integrity	1	2.700	1	**2.700**	**VH**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Predation	0.100	Predation in Cow Creek	0.4	0.360	6	**2.160**	**VH**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Predation	0.100	Predation in the upper Sacramento River	0.4	0.360	6	**2.160**	**VH**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Loss of Floodplain Habitat	0.150	Upper Sacramento River	0.3	0.405	5	**2.025**	**VH**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Entrainment	0.250	Individual Unscreened Diversions in the Delta	0.1	0.225	8	**1.800**	**VH**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Entrainment	0.250	Individual Unscreened Diversions in the middle Sacramento River	0.1	0.225	8	**1.800**	**VH**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Loss of Floodplain Habitat	0.150	Cow Creek	0.2	0.270	5	**1.350**	**VH**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Loss of Floodplain Habitat	0.150	Lower Sacramento River	0.2	0.270	5	**1.350**	**VH**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Loss of Floodplain Habitat	0.150	Middle Sacramento River	0.2	0.270	5	**1.350**	**VH**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Loss of Natural River Morphology	0.150	Delta	0.2	0.270	5	**1.350**	**VH**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Flow Conditions	0.100	Changes in Hydrology	0.2	0.180	7	**1.260**	**VH**
Cow Creek	0.3	Embryo Incubation	**0.10**	Water Quality	0.325	Water Quality in Cow Creek	1.00	0.975	1.00	**0.975**	**VH**

Cow Creek Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stresor Category
Cow Creek	0.3	Embryo Incubation	**0.10**	Water Temperature	0.325	Water Temperature in Cow Creek	1.00	0.975	1	**0.975**	**VH**
Cow Creek	0.3	Adult Immigration and Holding	0.3	Harvest/Angling Impacts	**0.050**	Upper Sacramento River	0.3	0.135	7	**0.945**	**VH**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Entrainment	0.250	Contra Costa Power Plant	0.05	0.113	8	**0.900**	**VH**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Entrainment	0.250	Individual Unscreened Diversions in the lower Sacramento River	0.05	0.113	8	**0.900**	**VH**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Entrainment	0.250	Individual Unscreened Diversions in the upper Sacramento River	0.05	0.113	8	**0.900**	**VH**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Entrainment	0.250	Pittsburg Power Plant	0.05	0.113	8	**0.900**	**VH**
Cow Creek	0.3	Adult Immigration and Holding	0.3	Flow Conditions	**0.250**	Low Flows - attraction, migratory cues AND Flood Flows - non-natal area attraction in lower Sacramento River	0.1	0.225	4	**0.900**	**VH**
Cow Creek	0.3	Adult Immigration and Holding	0.3	Flow Conditions	**0.250**	Low Flows - attraction, migratory cues in the middle Sacramento River	0.1	0.225	4	**0.900**	**VH**
Cow Creek	0.3	Adult Immigration and Holding	0.3	Flow Conditions	**0.250**	Low Flows - attraction, migratory cues in the upper Sacramento River	0.1	0.225	4	**0.900**	**VH**
Cow Creek	0.3	Spawning	0.3	Physical Habitat Alteration	0.100	Limited Instream Gravel Supply	1	0.900	1	**0.900**	**VH**
Cow Creek	0.3	Adult Immigration and Holding	0.3	Short-term Inwater Construction	**0.050**	Sedimentation, turbidity, acoustic effects, hazardous spills in Cow Creek	0.4	0.180	5	**0.900**	**VH**
Cow Creek	0.3	Spawning	0.3	Water Temperature	0.100	Water Temperature in Cow Creek	1	0.900	1	**0.900**	**VH**
Cow Creek	0.3	Adult Immigration and Holding	0.3	Passage Impediments/Barriers	**0.300**	Red Bluff Diversion Dam	0.05	0.135	6	**0.810**	**H**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Passage Impediments/Barriers	0.050	Impediments/Barriers in Cow Creek	0.9	0.405	2	**0.810**	**H**
Cow Creek	0.3	Adult Immigration and Holding	0.3	Harvest/Angling Impacts	**0.050**	Middle Sacramento River	0.25	0.113	7	**0.788**	**H**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Loss of Floodplain Habitat	0.150	Delta	0.1	0.135	5	**0.675**	**H**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Loss of Natural River Morphology	0.150	Upper Sacramento River	0.1	0.135	5	**0.675**	**H**
Cow Creek	0.3	Adult Immigration and Holding	0.3	Water Quality	**0.050**	Cow Creek	0.3	0.135	5	**0.675**	**H**
Cow Creek	0.3	Adult Immigration and Holding	0.3	Water Quality	**0.050**	Urban, Heavy Metals in the upper Sacramento River	0.3	0.135	5	**0.675**	**H**

Cow Creek Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stresor Category
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Flow Conditions	0.100	Flow Dependent Habitat Availability in the upper Sacramento River	0.1	0.090	7	**0.630**	**H**
Cow Creek	0.3	Adult Immigration and Holding	0.3	Harvest/Angling Impacts	**0.050**	Cow Creek	0.2	0.090	7	**0.630**	**H**
Cow Creek	0.3	Embryo Incubation	**0.10**	Flow Conditions	0.200	Flow Fluctuations	1	0.600	1	**0.600**	**H**
Cow Creek	0.3	Adult Immigration and Holding	0.3	Short-term Inwater Construction	**0.050**	Sedimentation, turbidity, acoustic effects, hazardous spills in the upper Sacramento River	0.25	0.113	5	**0.563**	**H**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Loss of Riparian Habitat and Instream Cover	0.150	Middle Sacramento River	0.1	0.135	4	**0.540**	**H**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Loss of Riparian Habitat and Instream Cover	0.150	Upper Sacramento River	0.1	0.135	4	**0.540**	**H**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Predation	0.100	Predation in the middle Sacramento River	0.1	0.090	6	**0.540**	**H**
Cow Creek	0.3	Spawning	0.3	Flow Conditions	0.050	Flow Fluctuations	1	0.450	1	**0.450**	**H**
Cow Creek	0.3	Adult Immigration and Holding	0.3	Short-term Inwater Construction	**0.050**	Sedimentation, turbidity, acoustic effects, hazardous spills in the middle Sacramento River	0.2	0.090	5	**0.450**	**H**
Cow Creek	0.3	Adult Immigration and Holding	0.3	Water Quality	**0.050**	Ag, Urban in the middle Sacramento River	0.2	0.090	5	**0.450**	**H**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Water Temperature	0.100	Middle Sacramento River	0.1	0.090	5	**0.450**	**H**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Loss of Natural River Morphology	0.150	Lower Sacramento River	0.05	0.068	5	**0.338**	**H**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Loss of Natural River Morphology	0.150	Middle Sacramento River	0.05	0.068	5	**0.338**	**H**
Cow Creek	0.3	Adult Immigration and Holding	0.3	Water Temperature	**0.300**	Middle Sacramento River	0.03	0.081	4	**0.324**	**H**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Flow Conditions	0.100	Diversion into Central Delta	0.05	0.045	7	**0.315**	**H**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Flow Conditions	0.100	Flow Dependent Habitat Availability in the lower Sacramento River	0.05	0.045	7	**0.315**	**H**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Flow Conditions	0.100	Flow Dependent Habitat Availability in the middle Sacramento River	0.05	0.045	7	**0.315**	**H**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Flow Conditions	0.100	Reverse Flow Conditions	0.05	0.045	7	**0.315**	**H**
Cow Creek	0.3	Adult Immigration and Holding	0.3	Harvest/Angling Impacts	**0.050**	Delta	0.1	0.045	7	**0.315**	**H**
Cow Creek	0.3	Adult Immigration and Holding	0.3	Harvest/Angling Impacts	**0.050**	Lower Sacramento River	0.1	0.045	7	**0.315**	**H**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Loss of Riparian Habitat and Instream Cover	0.150	Lower Sacramento River	0.05	0.068	4	**0.270**	**M**

Cow Creek Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stresor Category
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Predation	0.100	Predation in the lower Sacramento River	0.05	0.045	6	**0.270**	**M**
Cow Creek	0.3	Spawning	0.3	Water Quality	0.030	Water Quality in Cow Creek	1	0.270	1	**0.270**	**M**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Short-term Inwater Construction	0.010	Sedimentation, turbidity, acoustic effects, hazardous spills in Cow Creek	0.45	0.041	6	**0.243**	**M**
Cow Creek	0.3	Embryo Incubation	**0.10**	Harvest/Angling Impacts	0.075	Redd disturbance	1.00	0.225	1.00	**0.225**	**M**
Cow Creek	0.3	Embryo Incubation	**0.10**	Short-term Inwater Construction	0.075	Sedimentation, turbidity, acoustic effects, hazardous spills, physical disturbance	1	0.225	1	**0.225**	**M**
Cow Creek	0.3	Adult Immigration and Holding	0.3	Water Quality	**0.050**	Ag, Urban in the lower Sacramento River	0.1	0.045	5	**0.225**	**M**
Cow Creek	0.3	Adult Immigration and Holding	0.3	Water Quality	**0.050**	DO, Ag, Urban, Heavy Metals in th Delta	0.1	0.045	5	**0.225**	**M**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Water Temperature	0.100	Upper Sacramento River	0.05	0.045	5	**0.225**	**M**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Predation	0.100	Predation in the Delta	0.04	0.036	6	**0.216**	**M**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Water Quality	0.010	Ag, Urban in Cow Creek	0.35	0.032	6	**0.189**	**M**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Water Temperature	0.100	Lower Sacramento River	0.04	0.036	5	**0.180**	**M**
Cow Creek	0.3	Adult Immigration and Holding	0.3	Passage Impediments/Barriers	**0.300**	Sacramento Deep Water Ship Channel	0.01	0.027	6	**0.162**	**M**
Cow Creek	0.3	Adult Immigration and Holding	0.3	Passage Impediments/Barriers	**0.300**	Suisun Marsh Salinity Control Structure	0.01	0.027	6	**0.162**	**M**
Cow Creek	0.3	Adult Immigration and Holding	0.3	Passage Impediments/Barriers	**0.300**	Sutter Bypass - Tisdale Weir	0.01	0.027	6	**0.162**	**M**
Cow Creek	0.3	Adult Immigration and Holding	0.3	Passage Impediments/Barriers	**0.300**	Yolo Bypass - Freemont Weir	0.01	0.027	6	**0.162**	**M**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Water Quality	0.010	Urban, Heavy Metals in the upper Sacramento River	0.3	0.027	6	**0.162**	**M**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Water Quality	0.010	Ag, Urban in the middle Sacramento River	0.3	0.027	6	**0.162**	**M**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Invasive Species/Food Web Disruption	0.010	Asian clam, A. aspera, Microcystis, etc. in the Delta	0.8	0.072	2	**0.144**	**M**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Loss of Tidal Marsh Habitat	0.010	Delta	0.8	0.072	2	**0.144**	**M**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Hatchery Effects	0.010	Delta	0.3	0.027	5	**0.135**	**M**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Hatchery Effects	0.010	Middle Sacramento River	0.3	0.027	5	**0.135**	**M**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Short-term Inwater Construction	0.010	Sedimentation, turbidity, acoustic effects, hazardous spills in the middle Sacramento River	0.25	0.023	6	**0.135**	**M**

Cow Creek Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stresor Category
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Short-term Inwater Construction	0.010	Sedimentation, turbidity, acoustic effects, hazardous spills in the upper Sacramento River	0.2	0.018	6	**0.108**	**M**
Cow Creek	0.3	Adult Immigration and Holding	0.3	Water Temperature	**0.300**	Lower Sacramento River	0.01	0.027	4	**0.108**	**M**
Cow Creek	0.3	Adult Immigration and Holding	0.3	Water Temperature	**0.300**	Upper Sacramento River	0.01	0.027	4	**0.108**	**M**
Cow Creek	0.3	Adult Immigration and Holding	0.3	Harvest/Angling Impacts	**0.050**	Bays	0.03	0.014	7	**0.095**	**M**
Cow Creek	0.3	Spawning	0.3	Harvest/Angling Impacts	0.010	Recreational, Poaching, Angler Impacts	1	0.090	1	**0.090**	**L**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Passage Impediments/Barriers	0.050	Tributary Barriers	0.1	0.045	2	**0.090**	**L**
Cow Creek	0.3	Adult Immigration and Holding	0.3	Short-term Inwater Construction	**0.050**	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.04	0.018	5	**0.090**	**L**
Cow Creek	0.3	Spawning	0.3	Spawning Habitat Availability	0.010	Habitat Suitability	1	0.090	1	**0.090**	**L**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Hatchery Effects	0.010	Lower Sacramento River	0.15	0.014	5	**0.068**	**L**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Hatchery Effects	0.010	Upper Sacramento River	0.15	0.014	5	**0.068**	**L**
Cow Creek	0.3	Adult Immigration and Holding	0.3	Harvest/Angling Impacts	**0.050**	Ocean	0.02	0.009	7	**0.063**	**L**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Water Quality	0.010	Ag, Urban in the lower Sacramento River	0.1	0.009	6	**0.054**	**L**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Predation	0.100	Predation in the Bays	0.01	0.009	6	**0.054**	**L**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Hatchery Effects	0.010	Cow Creek	0.1	0.009	5	**0.045**	**L**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Water Temperature	0.100	Delta	0.01	0.009	5	**0.045**	**L**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Invasive Species/Food Web Disruption	0.010	Asian clam, A. aspera, Microcystis, etc. in the Bays	0.2	0.018	2	**0.036**	**L**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Loss of Tidal Marsh Habitat	0.010	Bays	0.2	0.018	2	**0.036**	**L**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Short-term Inwater Construction	0.010	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.05	0.005	6	**0.027**	**L**
Cow Creek	0.3	Adult Immigration and Holding	0.3	Short-term Inwater Construction	**0.050**	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bay	0.01	0.005	5	**0.023**	**L**
Cow Creek	0.3	Adult Immigration and Holding	0.3	Short-term Inwater Construction	**0.050**	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.01	0.005	5	**0.023**	**L**

Cow Creek Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stresor Category
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Short-term Inwater Construction	0.010	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.04	0.004	6	**0.022**	**L**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Water Quality	0.010	DO, Ag, Urban, Heavy Metals in th Delta	0.04	0.004	6	**0.022**	**L**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Short-term Inwater Construction	0.010	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bays	0.01	0.001	6	**0.005**	**L**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Water Quality	0.010	Ag, Urban, Heavy Metals in the Bays	0.01	0.001	6	**0.005**	**L**
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Hatchery Effects	0.010	Bays	0	0.000	5		
Cow Creek	0.3	Juvenile Rearing and Outmigration	0.3	Loss of Riparian Habitat and Instream Cover	0.150	Delta	0	0.000	4		
Cow Creek	0.3	Adult Immigration and Holding	0.3	Water Temperature	**0.300**	Delta	0	0.000	4		

Stony Creek Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Stony Creek	0.16	Adult Immigration and Holding	0.30	Passage Impediments/Barriers	0.300	Black Butte Dam	0.960	1.382	5	**6.912**	**VH**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Passage Impediments/Barriers	0.075	North Diversion Dam	0.500	0.150	3	**0.450**	**VH**
Stony Creek	0.16	Adult Immigration and Holding	0.30	Water Temperature	0.300	Stony Creek	0.500	0.720	4	**2.880**	**VH**
Stony Creek	0.16	Adult Immigration and Holding	0.30	Flow Conditions	0.250	Low Flows - attraction, migratory cues in Stony Creek	0.600	0.720	3	**2.160**	**VH**
Stony Creek	0.16	Spawning	0.35	Barrier	0.300	Redd superimposition, competition for habitat, hybridization/genetic integrity	1.000	1.680	1	**1.680**	**VH**
Stony Creek	0.16	Spawning	0.35	Spawning Habitat Availability	0.300	Habitat Suitability	1.000	1.680	1	**1.680**	**VH**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Flow Conditions	0.150	Flow Dependent Habitat Availability in Stony Creek	0.450	0.270	6	**1.620**	**VH**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Water Temperature	0.150	Stony Creek	0.600	0.360	4	**1.440**	**VH**
Stony Creek	0.16	Adult Immigration and Holding	0.30	Water Temperature	0.300	Delta	0.200	0.288	4	**1.152**	**VH**
Stony Creek	0.16	Adult Immigration and Holding	0.30	Water Temperature	0.300	Lower Sacramento River	0.200	0.288	4	**1.152**	**VH**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Flow Conditions	0.150	Diversion into Central Delta	0.250	0.150	6	**0.900**	**VH**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Loss of Floodplain Habitat	0.150	Delta	0.350	0.210	4	**0.840**	**VH**
Stony Creek	0.16	Adult Immigration and Holding	0.30	Flow Conditions	0.250	Low Flows - attraction, migratory cues AND Flood Flows - non-natal area attraction in lower Sacramento River	0.200	0.240	3	**0.720**	**VH**
Stony Creek	0.16	Adult Immigration and Holding	0.30	Flow Conditions	0.250	Low Flows - attraction, migratory cues in the middle Sacramento River	0.200	0.240	3	**0.720**	**VH**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Loss of Floodplain Habitat	0.150	Lower Sacramento River	0.300	0.180	4	**0.720**	**VH**
Stony Creek	0.16	Adult Immigration and Holding	0.30	Harvest/Angling Impacts	0.050	Ocean	0.400	0.096	6	**0.576**	**VH**
Stony Creek	0.16	Adult Immigration and Holding	0.30	Water Temperature	0.300	Middle Sacramento River	0.100	0.144	4	**0.576**	**VH**
Stony Creek	0.16	Spawning	0.35	Flow Conditions	0.100	Flow Fluctuations	1.000	0.560	1	**0.560**	**VH**
Stony Creek	0.16	Spawning	0.35	Physical Habitat Alteration	0.100	Limited Instream Gravel Supply	1.000	0.560	1	**0.560**	**VH**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Flow Conditions	0.150	Changes in Hydrology	0.150	0.090	6	**0.540**	**VH**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Predation	0.075	Predation in the Delta	0.350	0.105	5	**0.525**	**VH**
Stony Creek	0.16	Embryo Incubation	**0.10**	Water Quality	0.325	Water Quality in Stony Creek	1.000	0.520	1.00	**0.520**	**VH**

Stony Creek Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Stony Creek	0.16	Embryo Incubation	**0.10**	Water Temperature	0.325	Water Temperature in Stony Creek	1.000	0.520	1	**0.520**	**VH**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Entrainment	0.050	Jones and Banks Pumping Plants	0.350	0.070	7	**0.490**	**VH**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Loss of Floodplain Habitat	0.150	Stony Creek	0.200	0.120	4	**0.480**	**H**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Water Temperature	0.150	Delta	0.200	0.120	4	**0.480**	**H**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Passage Impediments/Barriers	0.075	Tributary Barriers	0.500	0.150	3	**0.450**	**H**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Loss of Natural River Morphology	0.075	Delta	0.350	0.105	4	**0.420**	**H**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Loss of Riparian Habitat and Instream Cover	0.075	Delta	0.350	0.105	4	**0.420**	**H**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Water Quality	0.050	DO, Ag, Urban, Heavy Metals in th Delta	0.400	0.080	5	**0.400**	**H**
Stony Creek	0.16	Adult Immigration and Holding	0.30	Water Quality	0.050	DO, Ag, Urban, Heavy Metals in th Delta	0.400	0.096	4	**0.384**	**H**
Stony Creek	0.16	Adult Immigration and Holding	0.30	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.300	0.072	5	**0.360**	**H**
Stony Creek	0.16	Adult Immigration and Holding	0.30	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.300	0.072	5	**0.360**	**H**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Loss of Floodplain Habitat	0.150	Middle Sacramento River	0.150	0.090	4	**0.360**	**H**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Loss of Natural River Morphology	0.075	Lower Sacramento River	0.300	0.090	4	**0.360**	**H**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Entrainment	0.050	Individual Unscreened Diversions in the Delta	0.250	0.050	7	**0.350**	**H**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Loss of Riparian Habitat and Instream Cover	0.075	Lower Sacramento River	0.275	0.083	4	**0.330**	**H**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Loss of Riparian Habitat and Instream Cover	0.075	Stony Creek	0.275	0.083	4	**0.330**	**H**
Stony Creek	0.16	Embryo Incubation	**0.10**	Flow Conditions	0.200	Flow Fluctuations	1.000	0.320	1	**0.320**	**H**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.300	0.060	5	**0.300**	**H**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.300	0.060	5	**0.300**	**H**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Water Quality	0.050	Ag, Urban in the lower Sacramento River	0.300	0.060	5	**0.300**	**H**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Predation	0.075	Predation in the lower Sacramento River	0.200	0.060	5	**0.300**	**H**

Stony Creek Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Stony Creek	0.16	Adult Immigration and Holding	0.30	Harvest/Angling Impacts	0.050	Middle Sacramento River	0.200	0.048	6	**0.288**	**H**
Stony Creek	0.16	Adult Immigration and Holding	0.30	Water Quality	0.050	Ag, Urban in the lower Sacramento River	0.300	0.072	4	**0.288**	**H**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Invasive Species/Food Web Disruption	0.050	Asian clam, A. aspera, Microcystis, etc. in the Delta	0.700	0.140	2	**0.280**	**H**
Stony Creek	0.16	Spawning	0.35	Harvest/Angling Impacts	0.050	Recreational, Poaching, Angler Impacts	1.000	0.280	1	**0.280**	**H**
Stony Creek	0.16	Spawning	0.35	Hatchery Effects	0.050	Redd superimposition, competition for habitat, Genetic Integrity	1.000	0.280	1	**0.280**	**H**
Stony Creek	0.16	Spawning	0.35	Water Quality	0.050	Water Quality in Stony Creek	1.000	0.280	1	**0.280**	**H**
Stony Creek	0.16	Spawning	0.35	Water Temperature	0.050	Water Temperature in Stony Creek	1.000	0.280	1	**0.280**	**H**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Flow Conditions	0.150	Flow Dependent Habitat Availability in the lower Sacramento River	0.075	0.045	6	**0.270**	**M**
Stony Creek	0.16	Adult Immigration and Holding	0.30	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in Stony Creek	0.200	0.048	5	**0.240**	**M**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Loss of Natural River Morphology	0.075	Stony Creek	0.200	0.060	4	**0.240**	**M**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Water Temperature	0.150	Lower Sacramento River	0.100	0.060	4	**0.240**	**M**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Water Temperature	0.150	Middle Sacramento River	0.100	0.060	4	**0.240**	**M**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Passage Impediments/Barriers	0.075	Black Butte Dam	0.250	0.075	3	**0.225**	**M**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Predation	0.075	Predation in Stony Creek	0.150	0.045	5	**0.225**	**M**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Predation	0.075	Predation in the Bays	0.150	0.045	5	**0.225**	**M**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Predation	0.075	Predation in the middle Sacramento River	0.150	0.045	5	**0.225**	**M**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Entrainment	0.050	Individual Unscreened Diversions in Stony Creek	0.150	0.030	7	**0.210**	**M**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in Stony Creek	0.200	0.040	5	**0.200**	**M**
Stony Creek	0.16	Adult Immigration and Holding	0.30	Water Quality	0.050	Ag, Urban in the middle Sacramento River	0.200	0.048	4	**0.192**	**M**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Flow Conditions	0.150	Flow Dependent Habitat Availability in the middle Sacramento River	0.050	0.030	6	**0.180**	**M**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Loss of Natural River Morphology	0.075	Middle Sacramento River	0.150	0.045	4	**0.180**	**M**

Stony Creek Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Stony Creek	0.16	Adult Immigration and Holding	0.30	Harvest/Angling Impacts	0.050	Bays	0.100	0.024	6	**0.144**	**M**
Stony Creek	0.16	Adult Immigration and Holding	0.30	Harvest/Angling Impacts	0.050	Delta	0.100	0.024	6	**0.144**	**M**
Stony Creek	0.16	Adult Immigration and Holding	0.30	Harvest/Angling Impacts	0.050	Lower Sacramento River	0.100	0.024	6	**0.144**	**M**
Stony Creek	0.16	Adult Immigration and Holding	0.30	Harvest/Angling Impacts	0.050	Stony Creek	0.100	0.024	6	**0.144**	**M**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Entrainment	0.050	Individual Unscreened Diversions in the lower Sacramento River	0.100	0.020	7	**0.140**	**M**
Stony Creek	0.16	Embryo Incubation	**0.10**	Harvest/Angling Impacts	0.075	Redd disturbance	1.000	0.120	1.00	**0.120**	**M**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Invasive Species/Food Web Disruption	0.050	Asian clam, A. aspera, Microcystis, etc. in the Bays	0.300	0.060	2	**0.120**	**M**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Loss of Tidal Marsh Habitat	0.025	Delta	0.600	0.060	2	**0.120**	**M**
Stony Creek	0.16	Adult Immigration and Holding	0.30	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bay	0.100	0.024	5	**0.120**	**M**
Stony Creek	0.16	Adult Immigration and Holding	0.30	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the middle Sacramento River	0.100	0.024	5	**0.120**	**M**
Stony Creek	0.16	Embryo Incubation	**0.10**	Short-term Inwater Construction	0.075	Sedimentation, turbidity, acoustic effects, hazardous spills, physical disturbance	1.000	0.120	1	**0.120**	**M**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Loss of Riparian Habitat and Instream Cover	0.075	Middle Sacramento River	0.100	0.030	4	**0.120**	**M**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Hatchery Effects	0.025	Bays	0.200	0.020	5	**0.100**	**L**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Hatchery Effects	0.025	Delta	0.200	0.020	5	**0.100**	**L**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Hatchery Effects	0.025	Lower Sacramento River	0.200	0.020	5	**0.100**	**L**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Hatchery Effects	0.025	Middle Sacramento River	0.200	0.020	5	**0.100**	**L**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Hatchery Effects	0.025	Stony Creek	0.200	0.020	5	**0.100**	**L**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bays	0.100	0.020	5	**0.100**	**L**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the middle Sacramento River	0.100	0.020	5	**0.100**	**L**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Water Quality	0.050	Ag, Urban in the middle Sacramento River	0.100	0.020	5	**0.100**	**L**

Stony Creek Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Water Quality	0.050	Ag, Urban in Stony Creek	0.100	0.020	5	**0.100**	**L**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Water Quality	0.050	Ag, Urban, Heavy Metals in the Bays	0.100	0.020	5	**0.100**	**L**
Stony Creek	0.16	Adult Immigration and Holding	0.30	Water Quality	0.050	Stony Creek	0.100	0.024	4	**0.096**	**L**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Flow Conditions	0.150	Reverse Flow Conditions	0.025	0.015	6	**0.090**	**L**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Loss of Tidal Marsh Habitat	0.025	Bays	0.400	0.040	2	**0.080**	**L**
Stony Creek	0.16	Adult Immigration and Holding	0.30	Passage Impediments/Barriers	0.300	Sacramento Deep Water Ship Channel	0.010	0.014	5	**0.072**	**L**
Stony Creek	0.16	Adult Immigration and Holding	0.30	Passage Impediments/Barriers	0.300	Suisun Marsh Salinity Control Structure	0.010	0.014	5	**0.072**	**L**
Stony Creek	0.16	Adult Immigration and Holding	0.30	Passage Impediments/Barriers	0.300	Sutter Bypass - Tisdale Weir	0.010	0.014	5	**0.072**	**L**
Stony Creek	0.16	Adult Immigration and Holding	0.30	Passage Impediments/Barriers	0.300	Yolo Bypass - Freemont Weir	0.010	0.014	5	**0.072**	**L**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Entrainment	0.050	Contra Costa Power Plant	0.050	0.010	7	**0.070**	**L**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Entrainment	0.050	Individual Unscreened Diversions in the middle Sacramento River	0.050	0.010	7	**0.070**	**L**
Stony Creek	0.16	Juvenile Rearing and Outmigration	0.25	Entrainment	0.050	Pittsburg Power Plant	0.050	0.010	7	**0.070**	**L**

Thomes Creek Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Thomes Creek	0.13	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.250	Ag Diversion Dams, Braiding, Natural Channel Gradient	0.750	0.61	5	**3.05**	**VH**
Thomes Creek	0.13	Adult Immigration and Holding	**0.25**	Water Temperature	0.300	Thomes Creek	0.700	0.68	4	**2.73**	**VH**
Thomes Creek	0.13	Spawning	**0.25**	Spawning Habitat Availability	0.400	Habitat Suitability	1.000	1.30	1	**1.30**	**VH**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Riparian Habitat and Instream Cover	0.150	Lower Sacramento River	0.350	0.24	4	**0.96**	**VH**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Riparian Habitat and Instream Cover	0.150	Middle Sacramento River	0.350	0.24	4	**0.96**	**VH**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Floodplain Habitat	0.150	Delta	0.300	0.20	4	**0.82**	**VH**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Floodplain Habitat	0.150	Lower Sacramento River	0.300	0.20	4	**0.82**	**VH**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Natural River Morphology	0.150	Delta	0.300	0.20	4	**0.82**	**VH**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Natural River Morphology	0.150	Lower Sacramento River	0.300	0.20	4	**0.82**	**VH**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.100	Jones and Banks Pumping Plants	0.250	0.11	7	**0.80**	**VH**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Predation	0.100	Predation in the Delta	0.300	0.14	5	**0.68**	**VH**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Predation	0.100	Predation in the lower Sacramento River	0.300	0.14	5	**0.68**	**VH**
Thomes Creek	0.13	Spawning	**0.25**	Water Temperature	0.200	Water Temperature in Thomes Creek	1.000	0.65	1	**0.65**	**VH**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.100	Individual Diversions in the Delta	0.200	0.09	7	**0.64**	**VH**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.100	Individual Diversions in the lower Sacramento River	0.200	0.09	7	**0.64**	**VH**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.100	Individual Diversions in the middle Sacramento River	0.200	0.09	7	**0.64**	**VH**
Thomes Creek	0.13	Embryo Incubation	**0.15**	Water Temperature	0.300	Water Temperature in Thomes Creek	1.000	0.59	1.00	**0.59**	**VH**
Thomes Creek	0.13	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Ocean	0.300	0.10	6	**0.59**	**VH**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Predation	0.100	Predation in the middle Sacramento River	0.250	0.11	5	**0.57**	**VH**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Floodplain Habitat	0.150	Thomes Creek	0.200	0.14	4	**0.55**	**VH**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Floodplain Habitat	0.150	Middle Sacramento River	0.200	0.14	4	**0.55**	**VH**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Natural River Morphology	0.150	Thomes Creek	0.200	0.14	4	**0.55**	**VH**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Natural River Morphology	0.150	Middle Sacramento River	0.200	0.14	4	**0.55**	**VH**

Thomes Creek Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Riparian Habitat and Instream Cover	0.150	Delta	0.200	0.14	4	**0.55**	**VH**
Thomes Creek	0.13	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.100	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.300	0.10	5	**0.49**	**H**
Thomes Creek	0.13	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.100	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.300	0.10	5	**0.49**	**H**
Thomes Creek	0.13	Embryo Incubation	**0.15**	Watershed disturbance	0.250	Sedimentation	1.000	0.49	1.00	**0.49**	**H**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Invasive Species/Food Web Disruption	0.075	Asian clam, A. aspera, Microcystis, etc. in the Delta	0.600	0.20	2	**0.41**	**H**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Tidal Marsh Habitat	0.075	Delta	0.600	0.20	2	**0.41**	**H**
Thomes Creek	0.13	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.250	Yolo Bypass - Freemont Weir	0.100	0.08	5	**0.41**	**H**
Thomes Creek	0.13	Embryo Incubation	**0.15**	Flow Conditions	0.200	Flow Fluctuations	1.000	0.39	1.00	**0.39**	**H**
Thomes Creek	0.13	Embryo Incubation	**0.15**	Water Quality	0.200	Water Quality in Thomes Creek	1.000	0.39	1.00	**0.39**	**H**
Thomes Creek	0.13	Adult Immigration and Holding	**0.25**	Flow Conditions	0.100	Low Flows - attraction, migratory cues AND Flood Flows - non-natal area attraction in Lower Sacramento River	0.400	0.13	3	**0.39**	**H**
Thomes Creek	0.13	Adult Immigration and Holding	**0.25**	Flow Conditions	0.100	Low Flows - attraction, migratory cues in the middle Sacramento River	0.400	0.13	3	**0.39**	**H**
Thomes Creek	0.13	Adult Immigration and Holding	**0.25**	Water Quality	0.100	Ag, Urban in the lower Sacramento River	0.300	0.10	4	**0.39**	**H**
Thomes Creek	0.13	Adult Immigration and Holding	**0.25**	Water Quality	0.100	Ag, Urban in the middle Sacramento River	0.300	0.10	4	**0.39**	**H**
Thomes Creek	0.13	Adult Immigration and Holding	**0.25**	Water Quality	0.100	DO, Ag, Urban, Heavy Metals in the Delta	0.300	0.10	4	**0.39**	**H**
Thomes Creek	0.13	Adult Immigration and Holding	**0.25**	Water Temperature	0.300	Delta	0.100	0.10	4	**0.39**	**H**
Thomes Creek	0.13	Adult Immigration and Holding	**0.25**	Water Temperature	0.300	Lower Sacramento River	0.100	0.10	4	**0.39**	**H**
Thomes Creek	0.13	Adult Immigration and Holding	**0.25**	Water Temperature	0.300	Middle Sacramento River	0.100	0.10	4	**0.39**	**H**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.300	0.07	5	**0.34**	**H**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.300	0.07	5	**0.34**	**H**

Thomes Creek Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Thomes Creek	0.13	Spawning	**0.25**	Barrier	0.100	Redd superimposition, competition for habitat, hybridization/genetic integrity	1.000	0.33	1	**0.33**	**H**
Thomes Creek	0.13	Spawning	**0.25**	Flow Conditions	0.100	Flow Fluctuations	1.000	0.33	1	**0.33**	**H**
Thomes Creek	0.13	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.100	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bay	0.200	0.07	5	**0.33**	**H**
Thomes Creek	0.13	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Bays	0.150	0.05	6	**0.29**	**H**
Thomes Creek	0.13	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Delta	0.150	0.05	6	**0.29**	**H**
Thomes Creek	0.13	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Lower Sacramento River	0.150	0.05	6	**0.29**	**H**
Thomes Creek	0.13	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Middle Sacramento River	0.150	0.05	6	**0.29**	**H**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Invasive Species/Food Web Disruption	0.075	Asian clam, A. aspera, Microcystis, etc. in the Bays	0.400	0.14	2	**0.27**	**M**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Riparian Habitat and Instream Cover	0.150	Thomes Creek	0.100	0.07	4	**0.27**	**M**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Tidal Marsh Habitat	0.075	Bays	0.400	0.14	2	**0.27**	**M**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Predation	0.100	Predation in Thomes Creek	0.100	0.05	5	**0.23**	**M**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the middle Sacramento River	0.200	0.05	5	**0.23**	**M**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Passage Impediments/Barriers	0.050	Tributary Barriers	1.000	0.23	1	**0.23**	**M**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Temperature	0.025	Thomes Creek	0.500	0.06	4	**0.23**	**M**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.025	Diversion into Central Delta	0.300	0.03	6	**0.20**	**M**
Thomes Creek	0.13	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.250	Sacramento Deep Water Ship Channel	0.050	0.04	5	**0.20**	**M**
Thomes Creek	0.13	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.250	Suisun Marsh Salinity Control Structure	0.050	0.04	5	**0.20**	**M**
Thomes Creek	0.13	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.250	Sutter Bypass - Tisdale Weir	0.050	0.04	5	**0.20**	**M**
Thomes Creek	0.13	Adult Immigration and Holding	**0.25**	Flow Conditions	0.100	Low Flows - attraction, migratory cues in Thomes Creek	0.200	0.07	3	**0.20**	**M**
Thomes Creek	0.13	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Thomes Creek	0.100	0.03	6	**0.20**	**M**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.025	Delta	0.300	0.03	5	**0.17**	**M**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.025	Lower Sacramento River	0.300	0.03	5	**0.17**	**M**

Thomes Creek Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Thomes Creek	0.13	Spawning	**0.25**	Harvest/Angling Impacts	0.050	Recreational, Poaching, Angler Impacts	1.000	0.16	1	**0.16**	**M**
Thomes Creek	0.13	Spawning	**0.25**	Hatchery Effects	0.050	Redd superimposition, competition for habitat, Genetic Integrity	1.000	0.16	1	**0.16**	**M**
Thomes Creek	0.13	Spawning	**0.25**	Water Quality	0.050	Water Quality in Thomes Creek	1.000	0.16	1	**0.16**	**M**
Thomes Creek	0.13	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.100	Sedimentation, turbidity, acoustic effects, hazardous spills in Thomes Creek	0.100	0.03	5	**0.16**	**M**
Thomes Creek	0.13	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.100	Sedimentation, turbidity, acoustic effects, hazardous spills in the middle Sacramento River	0.100	0.03	5	**0.16**	**M**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.100	Contra Costa Power Plant	0.050	0.02	7	**0.16**	**M**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.100	Individual Diversions in Thomes Creek	0.050	0.02	7	**0.16**	**M**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.100	Pittsburg Power Plant	0.050	0.02	7	**0.16**	**M**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.025	Changes in Hydrology	0.200	0.02	6	**0.14**	**M**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.025	Reverse Flow Conditions	0.200	0.02	6	**0.14**	**M**
Thomes Creek	0.13	Adult Immigration and Holding	**0.25**	Water Quality	0.100	Ag, Urban in Thomes Creek	0.100	0.03	4	**0.13**	**L**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Predation	0.100	Predation in the Bays	0.050	0.02	5	**0.11**	**L**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in Thomes Creek	0.100	0.02	5	**0.11**	**L**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bays	0.100	0.02	5	**0.11**	**L**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.025	Ag, Urban in the lower Sacramento River	0.200	0.02	5	**0.11**	**L**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.025	Ag, Urban in the middle Sacramento River	0.200	0.02	5	**0.11**	**L**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.025	Ag, Urban in Thomes Creek	0.200	0.02	5	**0.11**	**L**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.025	Ag, Urban, Heavy Metals in the Bays	0.200	0.02	5	**0.11**	**L**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.025	DO, Ag, Urban, Heavy Metals in the Delta	0.200	0.02	5	**0.11**	**L**
Thomes Creek	0.13	Embryo Incubation	**0.15**	Harvest/Angling Impacts	0.050	Redd disturbance	1.000	0.10	1.00	**0.10**	**L**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Temperature	0.025	Lower Sacramento River	0.200	0.02	4	**0.09**	**L**

Thomes Creek Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Temperature	0.025	Middle Sacramento River	0.200	0.02	4	**0.09**	**L**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.025	Middle Sacramento River	0.150	0.02	5	**0.09**	**L**
Thomes Creek	0.13	Spawning	**0.25**	Physical Habitat Alteration	0.050	Limited Instream Gravel Supply	0.500	0.08	1	**0.08**	**L**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.025	Flow Dependent Habitat Availability in Thomes Creek	0.100	0.01	6	**0.07**	**L**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.025	Flow Dependent Habitat Availability in the lower Sacramento River	0.100	0.01	6	**0.07**	**L**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.025	Flow Dependent Habitat Availability in the middle Sacramento River	0.100	0.01	6	**0.07**	**L**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.025	Bays	0.100	0.01	5	**0.06**	**L**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.025	Thomes Creek	0.100	0.01	5	**0.06**	**L**
Thomes Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Temperature	0.025	Delta	0.100	0.01	4	**0.05**	**L**

Cottonwood/Beegum Creek Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Beegum Creek	0.13	Adult Immigration and Holding	**0.25**	Water Temperature	0.250	Beegum Creek	0.600	0.49	5	**2.44**	**VH**
Beegum Creek	0.13	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.200	RBDD	0.550	0.36	5	**1.79**	**VH**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Floodplain Habitat	0.150	Delta	0.300	0.20	5	**1.02**	**VH**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Floodplain Habitat	0.150	Lower Sacramento River	0.300	0.20	5	**1.02**	**VH**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Natural River Morphology	0.150	Delta	0.300	0.20	5	**1.02**	**VH**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Natural River Morphology	0.150	Lower Sacramento River	0.300	0.20	5	**1.02**	**VH**
Beegum Creek	0.13	Spawning	**0.25**	Spawning Habitat Availability	0.300	Habitat Suitability	1.000	0.98	1	**0.98**	**VH**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Riparian Habitat and Instream Cover	0.150	Delta	0.275	0.19	5	**0.94**	**VH**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Riparian Habitat and Instream Cover	0.150	Lower Sacramento River	0.275	0.19	5	**0.94**	**VH**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Riparian Habitat and Instream Cover	0.150	Beegum Creek	0.250	0.17	5	**0.85**	**VH**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.100	Individual Diversions in the Delta	0.200	0.09	8	**0.73**	**VH**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.100	Individual Diversions in the lower Sacramento River	0.200	0.09	8	**0.73**	**VH**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.100	Individual Diversions in the middle Sacramento River	0.200	0.09	8	**0.73**	**VH**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.100	Jones and Banks Pumping Plants	0.200	0.09	8	**0.73**	**VH**
Beegum Creek	0.13	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Ocean	0.300	0.10	7	**0.68**	**VH**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Predation	0.100	Predation in the Delta	0.250	0.11	6	**0.68**	**VH**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Predation	0.100	Predation in the lower Sacramento River	0.250	0.11	6	**0.68**	**VH**
Beegum Creek	0.13	Embryo Incubation	**0.15**	Watershed disturbance	0.350	Sedimentation	1.000	0.68	1.00	**0.68**	**VH**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Floodplain Habitat	0.150	Middle Sacramento River	0.200	0.14	5	**0.68**	**VH**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Natural River Morphology	0.150	Beegum Creek	0.200	0.14	5	**0.68**	**VH**
Beegum Creek	0.13	Spawning	**0.25**	Flow Conditions	0.200	Flow Fluctuations	1.000	0.65	1	**0.65**	**VH**
Beegum Creek	0.13	Adult Immigration and Holding	**0.25**	Flow Conditions	0.200	Low Flows - attraction, migratory cues AND Flood Flows - non-natal area attraction in Lower Sacramento River	0.250	0.16	4	**0.65**	**VH**

Cottonwood/Beegum Creek Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Beegum Creek	0.13	Adult Immigration and Holding	**0.25**	Flow Conditions	0.200	Low Flows - attraction, migratory cues in Beegum Creek	0.250	0.16	4	**0.65**	**VH**
Beegum Creek	0.13	Adult Immigration and Holding	**0.25**	Flow Conditions	0.200	Low Flows - attraction, migratory cues in the middle Sacramento River	0.250	0.16	4	**0.65**	**VH**
Beegum Creek	0.13	Adult Immigration and Holding	**0.25**	Flow Conditions	0.200	Low Flows - attraction, migratory cues in the Upper Sacramento River	0.250	0.16	4	**0.65**	**VH**
Beegum Creek	0.13	Spawning	**0.25**	Water Temperature	0.200	Water Temperature in Beegum Creek	1.000	0.65	1	**0.65**	**VH**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Predation	0.100	Predation in the middle Sacramento River	0.200	0.09	6	**0.55**	**VH**
Beegum Creek	0.13	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.200	Yolo Bypass - Freemont Weir	0.150	0.10	5	**0.49**	**VH**
Beegum Creek	0.13	Adult Immigration and Holding	**0.25**	Water Quality	0.100	Ag, Urban in the lower Sacramento River	0.250	0.08	6	**0.49**	**VH**
Beegum Creek	0.13	Embryo Incubation	**0.15**	Flow Conditions	0.225	Flow Fluctuations	1.000	0.44	1.00	**0.44**	**H**
Beegum Creek	0.13	Embryo Incubation	**0.15**	Water Quality	0.225	Water Quality in Beegum Creek	1.000	0.44	1.00	**0.44**	**H**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Predation	0.100	Predation in the upper Sacramento River	0.150	0.07	6	**0.41**	**H**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.300	0.07	6	**0.41**	**H**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.300	0.07	6	**0.41**	**H**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Invasive Species/Food Web Disruption	0.075	Asian clam, A. aspera, Microcystis, etc. in the Delta	0.600	0.20	2	**0.41**	**H**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Tidal Marsh Habitat	0.075	Delta	0.600	0.20	2	**0.41**	**H**
Beegum Creek	0.13	Adult Immigration and Holding	**0.25**	Water Temperature	0.250	Delta	0.100	0.08	5	**0.41**	**H**
Beegum Creek	0.13	Adult Immigration and Holding	**0.25**	Water Temperature	0.250	Lower Sacramento River	0.100	0.08	5	**0.41**	**H**
Beegum Creek	0.13	Adult Immigration and Holding	**0.25**	Water Temperature	0.250	Middle Sacramento River	0.100	0.08	5	**0.41**	**H**
Beegum Creek	0.13	Adult Immigration and Holding	**0.25**	Water Temperature	0.250	Upper Sacramento River	0.100	0.08	5	**0.41**	**H**
Beegum Creek	0.13	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.100	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.200	0.07	6	**0.39**	**H**
Beegum Creek	0.13	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.100	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.200	0.07	6	**0.39**	**H**

Cottonwood/Beegum Creek Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Beegum Creek	0.13	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.100	Sedimentation, turbidity, acoustic effects, hazardous spills in the upper Sacramento River	0.200	0.07	6	**0.39**	**H**
Beegum Creek	0.13	Adult Immigration and Holding	**0.25**	Water Quality	0.100	Ag, Urban in the middle Sacramento River	0.200	0.07	6	**0.39**	**H**
Beegum Creek	0.13	Adult Immigration and Holding	**0.25**	Water Quality	0.100	Ag, Urban in the upper Sacramento River	0.200	0.07	6	**0.39**	**H**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Floodplain Habitat	0.150	Beegum Creek	0.100	0.07	5	**0.34**	**H**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Floodplain Habitat	0.150	Upper Sacramento River	0.100	0.07	5	**0.34**	**H**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Natural River Morphology	0.150	Middle Sacramento River	0.100	0.07	5	**0.34**	**H**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Natural River Morphology	0.150	Upper Sacramento River	0.100	0.07	5	**0.34**	**H**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Riparian Habitat and Instream Cover	0.150	Middle Sacramento River	0.100	0.07	5	**0.34**	**H**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Riparian Habitat and Instream Cover	0.150	Upper Sacramento River	0.100	0.07	5	**0.34**	**H**
Beegum Creek	0.13	Spawning	**0.25**	Barrier	0.100	Redd superimposition, competition for habitat, hybridization/genetic integrity	1.000	0.33	1	**0.33**	**H**
Beegum Creek	0.13	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.200	Sacramento Deep Water Ship Channel	0.100	0.07	5	**0.33**	**H**
Beegum Creek	0.13	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.200	Suisun Marsh Salinity Control Structure	0.100	0.07	5	**0.33**	**H**
Beegum Creek	0.13	Adult Immigration and Holding	**0.25**	Passage Impediments/Barriers	0.200	Sutter Bypass - Tisdale Weir	0.100	0.07	5	**0.33**	**H**
Beegum Creek	0.13	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.100	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bay	0.150	0.05	6	**0.29**	**H**
Beegum Creek	0.13	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.100	Sedimentation, turbidity, acoustic effects, hazardous spills in the middle Sacramento River	0.150	0.05	6	**0.29**	**H**
Beegum Creek	0.13	Adult Immigration and Holding	**0.25**	Water Quality	0.100	DO, Ag, Urban, Heavy Metals in the Delta	0.150	0.05	6	**0.29**	**H**
Beegum Creek	0.13	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Delta	0.125	0.04	7	**0.28**	**M**
Beegum Creek	0.13	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Lower Sacramento River	0.125	0.04	7	**0.28**	**M**
Beegum Creek	0.13	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Middle Sacramento River	0.125	0.04	7	**0.28**	**M**
Beegum Creek	0.13	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Upper Sacramento River	0.125	0.04	7	**0.28**	**M**

Cottonwood/Beegum Creek Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Temperature	0.025	Beegum Creek	0.500	0.06	5	**0.28**	**M**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Predation	0.100	Predation in Beegum Creek	0.100	0.05	6	**0.27**	**M**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the middle Sacramento River	0.200	0.05	6	**0.27**	**M**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Invasive Species/Food Web Disruption	0.075	Asian clam, A. aspera, Microcystis, etc. in the Bays	0.400	0.14	2	**0.27**	**M**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Loss of Tidal Marsh Habitat	0.075	Bays	0.400	0.14	2	**0.27**	**M**
Beegum Creek	0.13	Embryo Incubation	**0.15**	Water Temperature	0.125	Water Temperature in Beegum Creek	1.000	0.24	1.00	**0.24**	**M**
Beegum Creek	0.13	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Bays	0.100	0.03	7	**0.23**	**M**
Beegum Creek	0.13	Adult Immigration and Holding	**0.25**	Harvest/Angling Impacts	0.100	Beegum Creek	0.100	0.03	7	**0.23**	**M**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Passage Impediments/Barriers	0.050	Tributary Barriers	1.000	0.23	1	**0.23**	**M**
Beegum Creek	0.13	Adult Immigration and Holding	**0.25**	Short-term Inwater Construction	0.100	Sedimentation, turbidity, acoustic effects, hazardous spills in Beegum Creek	0.100	0.03	6	**0.20**	**M**
Beegum Creek	0.13	Adult Immigration and Holding	**0.25**	Water Quality	0.100	Ag, Urban in Beegum Creek	0.100	0.03	6	**0.20**	**M**
Beegum Creek	0.13	Adult Immigration and Holding	**0.25**	Water Quality	0.100	Ag, Urban in the Bay	0.100	0.03	6	**0.20**	**M**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.100	Contra Costa Power Plant	0.050	0.02	8	**0.18**	**M**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.100	Individual Diversions in Beegum Creek	0.050	0.02	8	**0.18**	**M**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.100	Individual Diversions in the upper Sacramento River	0.050	0.02	8	**0.18**	**M**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Entrainment	0.100	Pittsburg Power Plant	0.050	0.02	8	**0.18**	**M**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.025	Delta	0.250	0.03	6	**0.17**	**M**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.025	Ag, Urban in the lower Sacramento River	0.250	0.03	6	**0.17**	**M**
Beegum Creek	0.13	Spawning	**0.25**	Harvest/Angling Impacts	0.050	Recreational, Poaching, Angler Impacts	1.000	0.16	1	**0.16**	**M**
Beegum Creek	0.13	Spawning	**0.25**	Hatchery Effects	0.050	Redd superimposition, competition for habitat, Genetic Integrity	1.000	0.16	1	**0.16**	**M**
Beegum Creek	0.13	Spawning	**0.25**	Water Quality	0.050	Water Quality in Beegum Creek	1.000	0.16	1	**0.16**	**M**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.025	Changes in Hydrology	0.200	0.02	7	**0.16**	**M**

Cottonwood/Beegum Creek Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.025	Diversion into Central Delta	0.200	0.02	7	**0.16**	**M**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.025	Reverse Flow Conditions	0.200	0.02	7	**0.16**	**M**
Beegum Creek	0.13	Embryo Incubation	**0.15**	Harvest/Angling Impacts	0.075	Redd disturbance	1.000	0.15	1.00	**0.15**	**L**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.025	Lower Sacramento River	0.200	0.02	6	**0.14**	**L**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.025	Middle Sacramento River	0.200	0.02	6	**0.14**	**L**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.025	Upper Sacramento River	0.200	0.02	6	**0.14**	**L**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Predation	0.100	Predation in the Bays	0.050	0.02	6	**0.14**	**L**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bays	0.100	0.02	6	**0.14**	**L**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.025	Ag, Urban in the middle Sacramento River	0.200	0.02	6	**0.14**	**L**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.025	Ag, Urban in the upper Sacramento River	0.200	0.02	6	**0.14**	**L**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Temperature	0.025	Lower Sacramento River	0.200	0.02	5	**0.11**	**L**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.025	DO, Ag, Urban, Heavy Metals in the Delta	0.150	0.02	6	**0.10**	**L**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Temperature	0.025	Middle Sacramento River	0.150	0.02	5	**0.09**	**L**
Beegum Creek	0.13	Spawning	**0.25**	Physical Habitat Alteration	0.050	Limited Instream Gravel Supply	0.500	0.08	1	**0.08**	**L**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.025	Flow Dependent Habitat Availability in Beegum Creek	0.100	0.01	7	**0.08**	**L**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.025	Flow Dependent Habitat Availability in the lower Sacramento River	0.100	0.01	7	**0.08**	**L**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.025	Flow Dependent Habitat Availability in the middle Sacramento River	0.100	0.01	7	**0.08**	**L**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Flow Conditions	0.025	Flow Dependent Habitat Availability in the upper Sacramento River	0.100	0.01	7	**0.08**	**L**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.025	Bays	0.100	0.01	6	**0.07**	**L**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in Beegum Creek	0.050	0.01	6	**0.07**	**L**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the upper Sacramento River	0.050	0.01	6	**0.07**	**L**

Cottonwood/Beegum Creek Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.025	Ag, Urban in Beegum Creek	0.100	0.01	6	**0.07**	**L**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Quality	0.025	Ag, Urban, Heavy Metals in the Bays	0.100	0.01	6	**0.07**	**L**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Temperature	0.025	Delta	0.100	0.01	5	**0.06**	**L**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Hatchery Effects	0.025	Beegum Creek	0.050	0.01	6	**0.03**	**L**
Beegum Creek	0.13	Juvenile Rearing and Outmigration	**0.35**	Water Temperature	0.025	Upper Sacramento River	0.050	0.01	5	**0.03**	**L**

Clear Creek Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Clear Creek	0.21	Spawning	0.4	Physical Habitat Alteration	0.250	Limited Instream Gravel Supply	1.000	2.10	1	**2.10**	**VH**
Clear Creek	0.21	Adult Immigration and Holding	0.2	Passage Impediments/Barriers	0.200	Red Bluff Diversion Dam	0.410	0.34	6	**2.07**	**VH**
Clear Creek	0.21	Adult Immigration and Holding	0.2	Water Temperature	0.300	Clear Creek	0.400	0.50	4	**2.02**	**VH**
Clear Creek	0.21	Adult Immigration and Holding	0.2	Passage Impediments/Barriers	0.200	Whiskeytown Dam	0.355	0.30	6	**1.79**	**VH**
Clear Creek	0.21	Spawning	0.4	Spawning Habitat Availability	0.200	Habitat Suitability	1.000	1.68	1	**1.68**	**VH**
Clear Creek	0.21	Spawning	0.4	Water Temperature	0.200	Water Temperature in Clear Creek	1.000	1.68	1	**1.68**	**VH**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Loss of Natural River Morphology	0.160	Lower Sacramento River	0.350	0.29	5	**1.47**	**VH**
Clear Creek	0.21	Spawning	0.4	Flow Conditions	0.150	Flow Fluctuations	1.000	1.26	1	**1.26**	**VH**
Clear Creek	0.21	Adult Immigration and Holding	0.2	Flow Conditions	0.250	Low Flows - attraction, migratory cues in Clear Creek	0.400	0.42	3	**1.26**	**VH**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Loss of Floodplain Habitat	0.160	Delta	0.300	0.25	5	**1.26**	**VH**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Loss of Riparian Habitat and Instream Cover	0.160	Lower Sacramento River	0.350	0.29	4	**1.18**	**VH**
Clear Creek	0.21	Embryo Incubation	**0.15**	Water Quality	0.350	Sedimentation in Clear Creek	1.000	1.10	1.00	**1.10**	**VH**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Flow Conditions	0.075	Flow Dependent Habitat Availability in Clear Creek	0.450	0.18	6	**1.06**	**VH**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Loss of Floodplain Habitat	0.160	Lower Sacramento River	0.250	0.21	5	**1.05**	**VH**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Predation	0.125	Predation in the Delta	0.250	0.16	6	**0.98**	**VH**
Clear Creek	0.21	Embryo Incubation	**0.15**	Flow Conditions	0.300	Flow Fluctuations	1.000	0.95	1.00	**0.95**	**VH**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Loss of Floodplain Habitat	0.160	Clear Creek	0.200	0.17	5	**0.84**	**VH**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Loss of Natural River Morphology	0.160	Clear Creek	0.200	0.17	5	**0.84**	**VH**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Loss of Natural River Morphology	0.160	Delta	0.200	0.17	5	**0.84**	**VH**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Loss of Natural River Morphology	0.160	Middle Sacramento River	0.200	0.17	5	**0.84**	**VH**
Clear Creek	0.21	Spawning	0.4	Barriers	0.100	Redd superimposition, competition for habitat, hybridization/genetic integrity	1.000	0.84	1	**0.84**	**VH**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Predation	0.125	Predation in the lower Sacramento River	0.200	0.13	6	**0.79**	**VH**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Predation	0.125	Predation in the middle Sacramento River	0.200	0.13	6	**0.79**	**VH**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Predation	0.125	Predation in the upper Sacramento River	0.200	0.13	6	**0.79**	**VH**

Clear Creek Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Clear Creek	0.21	Embryo Incubation	**0.15**	Water Temperature	0.250	Water Temperature in Clear Creek	1.000	0.79	1.00	**0.79**	**VH**
Clear Creek	0.21	Adult Immigration and Holding	0.2	Water Quality	0.150	Ag, Urban in the lower Sacramento River	0.200	0.13	6	**0.76**	**VH**
Clear Creek	0.21	Adult Immigration and Holding	0.2	Water Quality	0.150	Clear Creek	0.200	0.13	6	**0.76**	**VH**
Clear Creek	0.21	Adult Immigration and Holding	0.2	Water Quality	0.150	DO, Ag, Urban, Heavy Metals in the Delta	0.200	0.13	6	**0.76**	**VH**
Clear Creek	0.21	Adult Immigration and Holding	0.2	Water Temperature	0.300	Delta	0.150	0.19	4	**0.76**	**VH**
Clear Creek	0.21	Adult Immigration and Holding	0.2	Water Temperature	0.300	Lower Sacramento River	0.150	0.19	4	**0.76**	**VH**
Clear Creek	0.21	Adult Immigration and Holding	0.2	Water Temperature	0.300	Middle Sacramento River	0.150	0.19	4	**0.76**	**VH**
Clear Creek	0.21	Adult Immigration and Holding	0.2	Water Temperature	0.300	Upper Sacramento River	0.150	0.19	4	**0.76**	**VH**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Loss of Riparian Habitat and Instream Cover	0.160	Clear Creek	0.200	0.17	4	**0.67**	**H**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Loss of Riparian Habitat and Instream Cover	0.160	Delta	0.200	0.17	4	**0.67**	**H**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Loss of Riparian Habitat and Instream Cover	0.160	Middle Sacramento River	0.200	0.17	4	**0.67**	**H**
Clear Creek	0.21	Adult Immigration and Holding	0.2	Flow Conditions	0.250	Low Flows - attraction, migratory cues AND Flood Flows - non-natal area attraction in lower Sacramento River	0.200	0.21	3	**0.63**	**H**
Clear Creek	0.21	Adult Immigration and Holding	0.2	Flow Conditions	0.250	Low Flows - attraction, migratory cues in the middle Sacramento River	0.200	0.21	3	**0.63**	**H**
Clear Creek	0.21	Adult Immigration and Holding	0.2	Flow Conditions	0.250	Low Flows - attraction, migratory cues in the upper Sacramento River	0.200	0.21	3	**0.63**	**H**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Loss of Floodplain Habitat	0.160	Upper Sacramento River	0.150	0.13	5	**0.63**	**H**
Clear Creek	0.21	Adult Immigration and Holding	0.2	Water Quality	0.150	Ag, Urban in the middle Sacramento River	0.150	0.09	6	**0.57**	**H**
Clear Creek	0.21	Adult Immigration and Holding	0.2	Water Quality	0.150	Urban, Heavy Metals in the upper Sacramento River	0.150	0.09	6	**0.57**	**H**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Entrainment	0.070	Individual Diversions in the Delta	0.175	0.06	8	**0.51**	**H**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Entrainment	0.070	Individual Diversions in the lower Sacramento River	0.175	0.06	8	**0.51**	**H**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Entrainment	0.070	Individual Diversions in the middle Sacramento River	0.175	0.06	8	**0.51**	**H**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Entrainment	0.070	Jones and Banks Pumping Plants	0.175	0.06	8	**0.51**	**H**

Clear Creek Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Clear Creek	0.21	Adult Immigration and Holding	0.2	Harvest/Angling Impacts	0.050	Ocean	0.350	0.07	7	**0.51**	**H**
Clear Creek	0.21	Adult Immigration and Holding	0.2	Passage Impediments/Barriers	0.200	Yolo Bypass - Freemont Weir	0.100	0.08	6	**0.50**	**H**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Flow Conditions	0.075	Diversion into Central Delta	0.200	0.08	6	**0.47**	**H**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Water Temperature	0.050	Lower Sacramento River	0.350	0.09	5	**0.46**	**H**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Loss of Floodplain Habitat	0.160	Middle Sacramento River	0.100	0.08	5	**0.42**	**H**
Clear Creek	0.21	Spawning	0.4	Water Quality	0.050	Water Quality in Clear Creek	1.000	0.42	1	**0.42**	**H**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Predation	0.125	Predation in Clear Creek	0.100	0.07	6	**0.39**	**H**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Water Temperature	0.050	Middle Sacramento River	0.300	0.08	5	**0.39**	**H**
Clear Creek	0.21	Adult Immigration and Holding	0.2	Water Quality	0.150	DO, Ag, Urban, Heavy Metals in the Bay	0.100	0.06	6	**0.38**	**H**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Passage Impediments/Barriers	0.050	Tributary Barriers	0.700	0.18	2	**0.37**	**H**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Entrainment	0.070	Individual Diversions in Clear Creek	0.100	0.04	8	**0.29**	**H**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Entrainment	0.070	Individual Diversions in the upper Sacramento River	0.100	0.04	8	**0.29**	**H**
Clear Creek	0.21	Adult Immigration and Holding	0.2	Harvest/Angling Impacts	0.050	Clear Creek	0.200	0.04	7	**0.29**	**H**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in Clear Creek	0.200	0.05	5	**0.26**	**H**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.200	0.05	5	**0.26**	**H**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.200	0.05	5	**0.26**	**H**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the upper Sacramento River	0.200	0.05	5	**0.26**	**H**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Water Quality	0.050	Urban, Heavy Metals in the upper Sacramento River	0.200	0.05	5	**0.26**	**H**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Water Quality	0.050	Ag, Urban in the lower Sacramento River	0.200	0.05	5	**0.26**	**H**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Water Quality	0.050	Ag, Urban in the middle Sacramento River	0.200	0.05	5	**0.26**	**H**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Water Quality	0.050	Ag, Urban in Clear Creek	0.200	0.05	5	**0.26**	**H**

Clear Creek Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Water Temperature	0.050	Clear Creek	0.200	0.05	5	**0.26**	**H**
Clear Creek	0.21	Adult Immigration and Holding	0.2	Passage Impediments/Barriers	0.200	Sacramento Deep Water Ship Channel	0.050	0.04	6	**0.25**	**M**
Clear Creek	0.21	Adult Immigration and Holding	0.2	Passage Impediments/Barriers	0.200	Suisun Marsh Salinity Control Structure	0.050	0.04	6	**0.25**	**M**
Clear Creek	0.21	Spawning	0.4	Harvest/Angling Impacts	0.030	Recreational, Poaching, Angler Impacts	1.000	0.25	1	**0.25**	**M**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Flow Conditions	0.075	Changes in Hydrology	0.100	0.04	6	**0.24**	**M**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Flow Conditions	0.075	Reverse Flow Conditions	0.100	0.04	6	**0.24**	**M**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Hatchery Effects	0.030	Delta	0.300	0.05	5	**0.24**	**M**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Loss of Natural River Morphology	0.160	Upper Sacramento River	0.050	0.04	5	**0.21**	**M**
Clear Creek	0.21	Adult Immigration and Holding	0.2	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.200	0.04	5	**0.21**	**M**
Clear Creek	0.21	Adult Immigration and Holding	0.2	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.200	0.04	5	**0.21**	**M**
Clear Creek	0.21	Adult Immigration and Holding	0.2	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the upper Sacramento River	0.200	0.04	5	**0.21**	**M**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Predation	0.125	Predation in the Bays	0.050	0.03	6	**0.20**	**M**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the middle Sacramento River	0.150	0.04	5	**0.20**	**M**
Clear Creek	0.21	Adult Immigration and Holding	0.2	Passage Impediments/Barriers	0.200	Sutter Bypass - Tisdale Weir	0.035	0.03	6	**0.18**	**M**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Loss of Riparian Habitat and Instream Cover	0.160	Upper Sacramento River	0.050	0.04	4	**0.17**	**M**
Clear Creek	0.21	Spawning	0.4	Hatchery Effects	0.020	Redd superimposition, competition for habitat, Genetic Integrity	1.000	0.17	1	**0.17**	**M**
Clear Creek	0.21	Embryo Incubation	**0.15**	Harvest/Angling Impacts	0.050	Redd disturbance	1.000	0.16	1.00	**0.16**	**M**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Hatchery Effects	0.030	Lower Sacramento River	0.200	0.03	5	**0.16**	**M**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Hatchery Effects	0.030	Middle Sacramento River	0.200	0.03	5	**0.16**	**M**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Hatchery Effects	0.030	Upper Sacramento River	0.200	0.03	5	**0.16**	**M**

Clear Creek Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Passage Impediments/Barriers	0.050	Whiskeytown Dam	0.300	0.08	2	**0.16**	**M**
Clear Creek	0.21	Adult Immigration and Holding	0.2	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in Clear Creek	0.150	0.03	5	**0.16**	**M**
Clear Creek	0.21	Adult Immigration and Holding	0.2	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the middle Sacramento River	0.150	0.03	5	**0.16**	**M**
Clear Creek	0.21	Embryo Incubation	**0.15**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills, physical disturbance	1.000	0.16	1.00	**0.16**	**M**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Entrainment	0.070	Contra Costa Power Plant	0.050	0.02	8	**0.15**	**M**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Entrainment	0.070	Pittsburg Power Plant	0.050	0.02	8	**0.15**	**M**
Clear Creek	0.21	Adult Immigration and Holding	0.2	Harvest/Angling Impacts	0.050	Delta	0.100	0.02	7	**0.15**	**M**
Clear Creek	0.21	Adult Immigration and Holding	0.2	Harvest/Angling Impacts	0.050	Lower Sacramento River	0.100	0.02	7	**0.15**	**M**
Clear Creek	0.21	Adult Immigration and Holding	0.2	Harvest/Angling Impacts	0.050	Middle Sacramento River	0.100	0.02	7	**0.15**	**M**
Clear Creek	0.21	Adult Immigration and Holding	0.2	Harvest/Angling Impacts	0.050	Upper Sacramento River	0.100	0.02	7	**0.15**	**M**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Water Quality	0.050	Ag, Urban, Heavy Metals in the Bays	0.100	0.03	5	**0.13**	**L**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Water Quality	0.050	DO, Ag, Urban, Heavy Metals in the Delta	0.100	0.03	5	**0.13**	**L**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Water Temperature	0.050	Delta	0.100	0.03	5	**0.13**	**L**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Flow Conditions	0.075	Flow Dependent Habitat Availability in the lower Sacramento River	0.050	0.02	6	**0.12**	**L**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Flow Conditions	0.075	Flow Dependent Habitat Availability in the middle Sacramento River	0.050	0.02	6	**0.12**	**L**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Flow Conditions	0.075	Flow Dependent Habitat Availability in the upper Sacramento River	0.050	0.02	6	**0.12**	**L**
Clear Creek	0.21	Adult Immigration and Holding	0.2	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bay	0.100	0.02	5	**0.11**	**L**
Clear Creek	0.21	Adult Immigration and Holding	0.2	Harvest/Angling Impacts	0.050	Bays	0.050	0.01	7	**0.07**	**L**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bays	0.050	0.01	5	**0.07**	**L**

Clear Creek Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Water Temperature	0.050	Upper Sacramento River	0.050	0.01	5	**0.07**	**L**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Invasive Species/Food Web Disruption	0.010	Asian clam, A. aspera, Microcystis, etc. in the Delta	0.600	0.03	2	**0.06**	**L**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Loss of Tidal Marsh Habitat	0.010	Delta	0.600	0.03	2	**0.06**	**L**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Invasive Species/Food Web Disruption	0.010	Asian clam, A. aspera, Microcystis, etc. in the Bays	0.400	0.02	2	**0.04**	**L**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Loss of Tidal Marsh Habitat	0.010	Bays	0.400	0.02	2	**0.04**	**L**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Hatchery Effects	0.030	Bays	0.050	0.01	5	**0.04**	**L**
Clear Creek	0.21	Juvenile Rearing and Outmigration	0.25	Hatchery Effects	0.030	Clear Creek	0.050	0.01	5	**0.04**	**L**

Putah Creek Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Putah Creek	0.12	Adult Immigration and Holding	0.200	Passage Impediments/Barriers	0.350	Solano Dam	0.550	0.462	4	**1.848**	**VH**
Putah Creek	0.12	Adult Immigration and Holding	0.200	Passage Impediments/Barriers	0.350	Montecello Dam	0.400	0.336	4	**1.344**	**VH**
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Flow Conditions	0.150	Flow Dependent Habitat Availability in Putah Creek	0.600	0.297	4	**1.188**	**VH**
Putah Creek	0.12	Adult Immigration and Holding	0.200	Flow Conditions	0.400	Low Flows - attraction, migratory cues AND Flood Flows - non-natal area attraction in Putah Creek	1.000	0.960	1	**0.960**	**VH**
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Water Temperature	0.150	Putah Creek	0.750	0.371	2	**0.743**	**VH**
Putah Creek	0.12	Adult Immigration and Holding	0.200	Harvest/Angling Impacts	0.100	Putah Creek	0.750	0.180	4	**0.720**	**VH**
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Loss of Floodplain Habitat	0.150	Putah Creek	0.700	0.347	2	**0.693**	**VH**
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Flow Conditions	0.150	Changes in Hydrology	0.300	0.149	4	**0.594**	**VH**
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Predation	0.100	Predation in Putah Creek	0.550	0.182	3	**0.545**	**VH**
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Loss of Natural River Morphology	0.100	Putah Creek	0.700	0.231	2	**0.462**	**VH**
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Loss of Riparian Habitat and Instream Cover	0.100	Putah Creek	0.700	0.231	2	**0.462**	**VH**
Putah Creek	0.12	Embryo Incubation	0.150	Flow Conditions	0.550	Flow Fluctuations	0.375	0.371	1	**0.371**	**VH**
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Water Quality	0.075	Ag, Urban in Putah Creek	0.500	0.124	3	**0.371**	**VH**
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Invasive Species/Food Web Disruption	0.075	Asian clam, A. aspera, Microcystis, etc. in the Delta	0.700	0.173	2	**0.347**	**VH**
Putah Creek	0.12	Spawning	0.375	Physical Habitat Alteration	0.150	Limited Instream Gravel Supply	0.450	0.304	1	**0.304**	**VH**
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Predation	0.100	Predation in the Delta	0.300	0.099	3	**0.297**	**VH**
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Loss of Floodplain Habitat	0.150	Delta	0.300	0.149	2	**0.297**	**VH**
Putah Creek	0.12	Spawning	0.375	Spawning Habitat Availability	0.200	Habitat Suitability	0.325	0.293	1	**0.293**	**H**
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Water Temperature	0.150	Delta	0.250	0.124	2	**0.248**	**H**
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Water Quality	0.075	DO, Ag, Urban, Heavy Metals in th Delta	0.300	0.074	3	**0.223**	**H**
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Loss of Natural River Morphology	0.100	Delta	0.300	0.099	2	**0.198**	**H**
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Loss of Riparian Habitat and Instream Cover	0.100	Delta	0.300	0.099	2	**0.198**	**H**
Putah Creek	0.12	Adult Immigration and Holding	0.200	Water Quality	0.050	Ag, Urban in Putah Creek	0.800	0.096	2	**0.192**	**H**

Putah Creek Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Entrainment	0.025	Jones and Banks Pumping Plants	0.450	0.037	5	**0.186**	**H**
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Passage Impediments/Barriers	0.025	Solano Dam	0.750	0.062	3	**0.186**	**H**
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Predation	0.100	Predation in the Bays	0.150	0.050	3	**0.149**	**H**
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Short-term Inwater Construction	0.025	Sedimentation, turbidity, acoustic effects, hazardous spills in Putah Creek	0.600	0.050	3	**0.149**	**H**
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Water Quality	0.075	Ag, Urban, Heavy Metals in the Bays	0.200	0.050	3	**0.149**	**H**
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Invasive Species/Food Web Disruption	0.075	Asian clam, A. aspera, Microcystis, etc. in the Bays	0.300	0.074	2	**0.149**	**H**
Putah Creek	0.12	Adult Immigration and Holding	0.200	Harvest/Angling Impacts	0.100	Delta	0.150	0.036	4	**0.144**	**H**
Putah Creek	0.12	Adult Immigration and Holding	0.200	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in Putah Creek	0.400	0.048	3	**0.144**	**H**
Putah Creek	0.12	Adult Immigration and Holding	0.200	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.400	0.048	3	**0.144**	**H**
Putah Creek	0.12	Adult Immigration and Holding	0.200	Water Temperature	0.050	Delta	0.600	0.072	2	**0.144**	**H**
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Hatchery Effects	0.025	Delta	0.500	0.041	3	**0.124**	**M**
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Loss of Tidal Marsh Habitat	0.025	Delta	0.700	0.058	2	**0.116**	**M**
Putah Creek	0.12	Embryo Incubation	0.150	Water Temperature	0.300	Water Temperature in Putah Creek	0.200	0.108	1	**0.108**	**M**
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Entrainment	0.025	Individual Diversions in Putah Creek	0.250	0.021	5	**0.103**	**M**
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Flow Conditions	0.150	Diversion into Central Delta	0.050	0.025	4	**0.099**	**M**
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Flow Conditions	0.150	Reverse Flow Conditions	0.050	0.025	4	**0.099**	**M**
Putah Creek	0.12	Adult Immigration and Holding	0.200	Water Temperature	0.050	Putah Creek	0.400	0.048	2	**0.096**	**M**
Putah Creek	0.12	Adult Immigration and Holding	0.200	Passage Impediments/Barriers	0.350	Sacramento Deep Water Ship Channel	0.025	0.021	4	**0.084**	**M**
Putah Creek	0.12	Adult Immigration and Holding	0.200	Passage Impediments/Barriers	0.350	Suisun Marsh Salinity Control Structure	0.025	0.021	4	**0.084**	**M**
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Hatchery Effects	0.025	Bays	0.300	0.025	3	**0.074**	**M**
Putah Creek	0.12	Adult Immigration and Holding	0.200	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bay	0.200	0.024	3	**0.072**	**M**
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Hatchery Effects	0.025	Putah Creek	0.200	0.017	3	**0.050**	**M**

Putah Creek Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Passage Impediments/Barriers	0.025	Montecello Dam	0.200	0.017	3	**0.050**	**M**
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Short-term Inwater Construction	0.025	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bays	0.200	0.017	3	**0.050**	**M**
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Short-term Inwater Construction	0.025	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.200	0.017	3	**0.050**	**M**
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Loss of Tidal Marsh Habitat	0.025	Bays	0.300	0.025	2	**0.050**	**M**
Putah Creek	0.12	Adult Immigration and Holding	0.200	Harvest/Angling Impacts	0.100	Bays	0.050	0.012	4	**0.048**	**L**
Putah Creek	0.12	Adult Immigration and Holding	0.200	Harvest/Angling Impacts	0.100	Ocean	0.050	0.012	4	**0.048**	**L**
Putah Creek	0.12	Adult Immigration and Holding	0.200	Water Quality	0.050	DO, Ag, Urban, Heavy Metals in th Delta	0.200	0.024	2	**0.048**	**L**
Putah Creek	0.12	Spawning	0.375	Flow Conditions	0.200	Flow Fluctuations	0.050	0.045	1	**0.045**	**L**
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Entrainment	0.025	Contra Costa Power Plant	0.100	0.008	5	**0.041**	**L**
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Entrainment	0.025	Individual Diversions in the Delta	0.100	0.008	5	**0.041**	**L**
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Entrainment	0.025	Pittsburg Power Plant	0.100	0.008	5	**0.041**	**L**
Putah Creek	0.12	Spawning	0.375	Barrier	0.250	Redd superimposition, competition for habitat, hybridization/genetic integrity	0.025	0.028	1	**0.028**	**L**
Putah Creek	0.12	Embryo Incubation	0.150	Harvest/Angling Impacts	0.050	Redd disturbance	0.275	0.025	1.00	**0.025**	**L**
Putah Creek	0.12	Spawning	0.375	Harvest/Angling Impacts	0.050	Recreational, Poaching, Angler Impacts	0.075	0.017	1	**0.017**	**L**
Putah Creek	0.12	Juvenile Rearing and Outmigration	0.275	Passage Impediments/Barriers	0.025	Tributary Barriers	0.050	0.004	3	**0.012**	**L**
Putah Creek	0.12	Spawning	0.375	Hatchery Effects	0.050	Redd superimposition, competition for habitat, Genetic Integrity	0.050	0.011	1	**0.011**	**L**
Putah Creek	0.12	Spawning	0.375	Water Temperature	0.050	Putah Creek	0.050	0.011	1	**0.011**	**L**
Putah Creek	0.12	Spawning	0.375	Water Quality	0.050	Putah Creek	0.025	0.006	1	**0.006**	**L**
Putah Creek	0.12	Embryo Incubation	0.150	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills, physical disturbance	0.050	0.005	1	**0.005**	**L**
Putah Creek	0.12	Embryo Incubation	0.150	Water Quality	0.050	Water Pollution	0.050	0.005	1.00	**0.005**	**L**

Upper Sacramento Tributaries Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Upper Sacramento Tributaries	0.18	Adult Immigration and Holding	0.3	Passage Impediments/Barriers	**0.300**	Impediments/Barriers in the Upper Sacramento Tributaries	0.76	1.231	6	**7.387**	**VH**
Upper Sacramento Tributaries	0.18	Adult Immigration and Holding	0.3	Water Temperature	**0.250**	Upper Sacramento Tributaries	0.95	1.283	4	**5.130**	**VH**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Water Temperature	0.200	Upper Sacramento Tributaries	0.8	0.864	5	**4.320**	**VH**
Upper Sacramento Tributaries	0.18	Adult Immigration and Holding	0.3	Flow Conditions	**0.200**	Low Flows - attraction, migratory cues in the Upper Sacramento Tributaries	0.75	0.810	4	**3.240**	**VH**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Entrainment	0.150	Individual Unscreened Diversions in the Upper Sacramento Tributaries	0.4	0.324	8	**2.592**	**VH**
Upper Sacramento Tributaries	0.18	Spawning	0.3	Barriers	0.400	Redd superimposition, competition for habitat, hybridization/genetic integrity	1	2.160	1	**2.160**	**VH**
Upper Sacramento Tributaries	0.18	Adult Immigration and Holding	0.3	Passage Impediments/Barriers	**0.300**	Red Bluff Diversion Dam	0.2	0.324	6	**1.944**	**VH**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Flow Conditions	0.100	Flow Dependent Habitat Availability in the Upper Sacramento Tributaries	0.5	0.270	7	**1.890**	**VH**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Loss of Riparian Habitat and Instream Cover	0.100	Upper Sacramento Tributaries	0.75	0.405	4	**1.620**	**VH**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Predation	0.100	Predation in the upper Sacramento River	0.4	0.216	6	**1.296**	**VH**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Predation	0.100	Predation in the Upper Sacramento Tributaries	0.4	0.216	6	**1.296**	**VH**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Entrainment	0.150	Jones and Banks Pumping Plants	0.2	0.162	8	**1.296**	**VH**
Upper Sacramento Tributaries	0.18	Adult Immigration and Holding	0.3	Water Quality	**0.150**	Upper Sacramento Tributaries	0.3	0.243	5	**1.215**	**VH**
Upper Sacramento Tributaries	0.18	Adult Immigration and Holding	0.3	Water Quality	**0.150**	Urban, Heavy Metals in the upper Sacramento River	0.3	0.243	5	**1.215**	**VH**

Upper Sacramento Tributaries Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Passage Impediments/Barriers	0.200	Impediments/Barriers in the Upper Sacramento Tributaries	0.5	0.540	2	**1.080**	**VH**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Passage Impediments/Barriers	0.200	Tributary Barriers	0.5	0.540	2	**1.080**	**VH**
Upper Sacramento Tributaries	0.18	Spawning	0.3	Physical Habitat Alteration	0.200	Limited Instream Gravel Supply	1	1.080	1	**1.080**	**VH**
Upper Sacramento Tributaries	0.18	Adult Immigration and Holding	0.3	Harvest/Angling Impacts	**0.090**	Upper Sacramento River	0.3	0.146	7	**1.021**	**VH**
Upper Sacramento Tributaries	0.18	Adult Immigration and Holding	0.3	Harvest/Angling Impacts	**0.090**	Middle Sacramento River	0.25	0.122	7	**0.851**	**VH**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Loss of Natural River Morphology	0.050	Upper Sacramento Tributaries	0.6	0.162	5	**0.810**	**VH**
Upper Sacramento Tributaries	0.18	Spawning	0.3	Spawning Habitat Availability	0.150	Habitat Suitability	1	0.810	1	**0.810**	**VH**
Upper Sacramento Tributaries	0.18	Adult Immigration and Holding	0.3	Water Quality	**0.150**	Ag, Urban in the middle Sacramento River	0.2	0.162	5	**0.810**	**VH**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Flow Conditions	0.100	Changes in Hydrology	0.2	0.108	7	**0.756**	**VH**
Upper Sacramento Tributaries	0.18	Adult Immigration and Holding	0.3	Harvest/Angling Impacts	**0.090**	Upper Sacramento Tributaries	0.2	0.097	7	**0.680**	**VH**
Upper Sacramento Tributaries	0.18	Embryo Incubation	**0.10**	Water Temperature	0.375	Water Temperature in the Upper Sacramento Tributaries	1.00	0.675	1	**0.675**	**VH**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Entrainment	0.150	Individual Unscreened Diversions in the Delta	0.1	0.081	8	**0.648**	**VH**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Entrainment	0.150	Individual Unscreened Diversions in the middle Sacramento River	0.1	0.081	8	**0.648**	**VH**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Water Temperature	0.200	Middle Sacramento River	0.1	0.108	5	**0.540**	**H**

Upper Sacramento Tributaries Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Upper Sacramento Tributaries	0.18	Spawning	0.3	Water Temperature	0.100	Water Temperature in the Upper Sacramento Tributaries	1	0.540	1	**0.540**	**H**
Upper Sacramento Tributaries	0.18	Embryo Incubation	**0.10**	Water Quality	0.275	Water Quality in the Upper Sacramento Tributaries	1.00	0.495	1.00	**0.495**	**H**
Upper Sacramento Tributaries	0.18	Adult Immigration and Holding	0.3	Flow Conditions	**0.200**	Low Flows - attraction, migratory cues in the middle Sacramento River	0.1	0.108	4	**0.432**	**H**
Upper Sacramento Tributaries	0.18	Adult Immigration and Holding	0.3	Flow Conditions	**0.200**	Low Flows - attraction, migratory cues in the upper Sacramento River	0.1	0.108	4	**0.432**	**H**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Loss of Floodplain Habitat	0.050	Upper Sacramento River	0.3	0.081	5	**0.405**	**H**
Upper Sacramento Tributaries	0.18	Adult Immigration and Holding	0.3	Water Quality	**0.150**	Ag, Urban in the lower Sacramento River	0.1	0.081	5	**0.405**	**H**
Upper Sacramento Tributaries	0.18	Adult Immigration and Holding	0.3	Water Quality	**0.150**	DO, Ag, Urban, Heavy Metals in th Delta	0.1	0.081	5	**0.405**	**H**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Flow Conditions	0.100	Flow Dependent Habitat Availability in the upper Sacramento River	0.1	0.054	7	**0.378**	**H**
Upper Sacramento Tributaries	0.18	Embryo Incubation	**0.10**	Flow Conditions	0.200	Flow Fluctuations	1	0.360	1	**0.360**	**H**
Upper Sacramento Tributaries	0.18	Adult Immigration and Holding	0.3	Harvest/Angling Impacts	**0.090**	Delta	0.1	0.049	7	**0.340**	**H**
Upper Sacramento Tributaries	0.18	Adult Immigration and Holding	0.3	Harvest/Angling Impacts	**0.090**	Lower Sacramento River	0.1	0.049	7	**0.340**	**H**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Predation	0.100	Predation in the middle Sacramento River	0.1	0.054	6	**0.324**	**H**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Entrainment	0.150	Contra Costa Power Plant	0.05	0.041	8	**0.324**	**H**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Entrainment	0.150	Individual Unscreened Diversions in the lower Sacramento River	0.05	0.041	8	**0.324**	**H**

Upper Sacramento Tributaries Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Entrainment	0.150	Individual Unscreened Diversions in the upper Sacramento River	0.05	0.041	8	**0.324**	**H**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Entrainment	0.150	Pittsburg Power Plant	0.05	0.041	8	**0.324**	**H**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Loss of Floodplain Habitat	0.050	Lower Sacramento River	0.2	0.054	5	**0.270**	**H**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Loss of Floodplain Habitat	0.050	Middle Sacramento River	0.2	0.054	5	**0.270**	**H**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Loss of Floodplain Habitat	0.050	Upper Sacramento Tributaries	0.2	0.054	5	**0.270**	**H**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Loss of Natural River Morphology	0.050	Delta	0.2	0.054	5	**0.270**	**H**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Water Temperature	0.200	Upper Sacramento River	0.05	0.054	5	**0.270**	**H**
Upper Sacramento Tributaries	0.18	Spawning	0.3	Flow Conditions	0.050	Flow Fluctuations	1	0.270	1	**0.270**	**H**
Upper Sacramento Tributaries	0.18	Spawning	0.3	Water Quality	0.050	Water Quality in the Upper Sacramento Tributaries	1	0.270	1	**0.270**	**H**
Upper Sacramento Tributaries	0.18	Adult Immigration and Holding	0.3	Flow Conditions	**0.200**	Low Flows - attraction, migratory cues AND Flood Flows - non-natal area attraction in lower Sacramento River	0.05	0.054	4	**0.216**	**H**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Loss of Riparian Habitat and Instream Cover	0.100	Middle Sacramento River	0.1	0.054	4	**0.216**	**H**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Loss of Riparian Habitat and Instream Cover	0.100	Upper Sacramento River	0.1	0.054	4	**0.216**	**H**
Upper Sacramento Tributaries	0.18	Spawning	0.3	Hatchery Effects	0.040	Redd superimposition, competition for habitat, Genetic Integrity	1	0.216	1	**0.216**	**H**

Upper Sacramento Tributaries Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Water Temperature	0.200	Lower Sacramento River	0.04	0.043	5	**0.216**	**H**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Flow Conditions	0.100	Diversion into Central Delta	0.05	0.027	7	**0.189**	**M**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Flow Conditions	0.100	Flow Dependent Habitat Availability in the lower Sacramento River	0.05	0.027	7	**0.189**	**M**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Flow Conditions	0.100	Flow Dependent Habitat Availability in the middle Sacramento River	0.05	0.027	7	**0.189**	**M**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Flow Conditions	0.100	Reverse Flow Conditions	0.05	0.027	7	**0.189**	**M**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Predation	0.100	Predation in the lower Sacramento River	0.05	0.027	6	**0.162**	**M**
Upper Sacramento Tributaries	0.18	Adult Immigration and Holding	0.3	Water Temperature	**0.250**	Middle Sacramento River	0.03	0.041	4	**0.162**	**M**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Short-term Inwater Construction	0.010	Sedimentation, turbidity, acoustic effects, hazardous spills in the Upper Sacramento Tributaries	0.45	0.024	6	**0.146**	**M**
Upper Sacramento Tributaries	0.18	Embryo Incubation	**0.10**	Harvest/Angling Impacts	0.075	Redd disturbance	1.00	0.135	1.00	**0.135**	**M**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Loss of Floodplain Habitat	0.050	Delta	0.1	0.027	5	**0.135**	**M**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Loss of Natural River Morphology	0.050	Upper Sacramento River	0.1	0.027	5	**0.135**	**M**
Upper Sacramento Tributaries	0.18	Embryo Incubation	**0.10**	Short-term Inwater Construction	0.075	Sedimentation, turbidity, acoustic effects, hazardous spills, physical disturbance	1	0.135	1	**0.135**	**M**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Predation	0.100	Predation in the Delta	0.04	0.022	6	**0.130**	**M**

Upper Sacramento Tributaries Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Water Quality	0.010	Ag, Urban in the Upper Sacramento Tributaries	0.35	0.019	6	**0.113**	**M**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Loss of Riparian Habitat and Instream Cover	0.100	Lower Sacramento River	0.05	0.027	4	**0.108**	**M**
Upper Sacramento Tributaries	0.18	Adult Immigration and Holding	0.3	Short-term Inwater Construction	**0.010**	Sedimentation, turbidity, acoustic effects, hazardous spills in the Upper Sacramento Tributaries	0.4	0.022	5	**0.108**	**M**
Upper Sacramento Tributaries	0.18	Adult Immigration and Holding	0.3	Harvest/Angling Impacts	**0.090**	Bays	0.03	0.015	7	**0.102**	**M**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Hatchery Effects	0.010	Delta	0.3	0.016	6	**0.097**	**M**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Hatchery Effects	0.010	Middle Sacramento River	0.3	0.016	6	**0.097**	**M**
Upper Sacramento Tributaries	0.18	Adult Immigration and Holding	0.3	Passage Impediments/Barriers	**0.300**	Sacramento Deep Water Ship Channel	0.01	0.016	6	**0.097**	**M**
Upper Sacramento Tributaries	0.18	Adult Immigration and Holding	0.3	Passage Impediments/Barriers	**0.300**	Suisun Marsh Salinity Control Structure	0.01	0.016	6	**0.097**	**M**
Upper Sacramento Tributaries	0.18	Adult Immigration and Holding	0.3	Passage Impediments/Barriers	**0.300**	Sutter Bypass - Tisdale Weir	0.01	0.016	6	**0.097**	**M**
Upper Sacramento Tributaries	0.18	Adult Immigration and Holding	0.3	Passage Impediments/Barriers	**0.300**	Yolo Bypass - Freemont Weir	0.01	0.016	6	**0.097**	**M**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Water Quality	0.010	Urban, Heavy Metals in the upper Sacramento River	0.3	0.016	6	**0.097**	**M**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Water Quality	0.010	Ag, Urban in the middle Sacramento River	0.3	0.016	6	**0.097**	**M**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Invasive Species/Food Web Disruption	0.010	Asian clam, A. aspera, Microcystis, etc. in the Delta	0.8	0.043	2	**0.086**	**M**

Upper Sacramento Tributaries Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Loss of Tidal Marsh Habitat	0.010	Delta	0.8	0.043	2	**0.086**	**M**
Upper Sacramento Tributaries	0.18	Adult Immigration and Holding	0.3	Short-term Inwater Construction	**0.010**	Sedimentation, turbidity, acoustic effects, hazardous spills in the middle Sacramento River	0.3	0.016	5	**0.081**	**M**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Short-term Inwater Construction	0.010	Sedimentation, turbidity, acoustic effects, hazardous spills in the middle Sacramento River	0.25	0.014	6	**0.081**	**M**
Upper Sacramento Tributaries	0.18	Adult Immigration and Holding	0.3	Harvest/Angling Impacts	**0.090**	Ocean	0.02	0.010	7	**0.068**	**L**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Loss of Natural River Morphology	0.050	Lower Sacramento River	0.05	0.014	5	**0.068**	**L**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Loss of Natural River Morphology	0.050	Middle Sacramento River	0.05	0.014	5	**0.068**	**L**
Upper Sacramento Tributaries	0.18	Adult Immigration and Holding	0.3	Short-term Inwater Construction	**0.010**	Sedimentation, turbidity, acoustic effects, hazardous spills in the upper Sacramento River	0.25	0.014	5	**0.068**	**L**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Short-term Inwater Construction	0.010	Sedimentation, turbidity, acoustic effects, hazardous spills in the upper Sacramento River	0.2	0.011	6	**0.065**	**L**
Upper Sacramento Tributaries	0.18	Spawning	0.3	Harvest/Angling Impacts	0.010	Recreational, Poaching, Angler Impacts	1	0.054	1	**0.054**	**L**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Water Temperature	0.200	Delta	0.01	0.011	5	**0.054**	**L**
Upper Sacramento Tributaries	0.18	Adult Immigration and Holding	0.3	Water Temperature	**0.250**	Lower Sacramento River	0.01	0.014	4	**0.054**	**L**
Upper Sacramento Tributaries	0.18	Adult Immigration and Holding	0.3	Water Temperature	**0.250**	Upper Sacramento River	0.01	0.014	4	**0.054**	**L**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Hatchery Effects	0.010	Lower Sacramento River	0.15	0.008	6	**0.049**	**L**

Upper Sacramento Tributaries Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Hatchery Effects	0.010	Upper Sacramento River	0.15	0.008	6	**0.049**	**L**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Hatchery Effects	0.010	Upper Sacramento Tributaries	0.1	0.005	6	**0.032**	**L**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Predation	0.100	Predation in the Bays	0.01	0.005	6	**0.032**	**L**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Water Quality	0.010	Ag, Urban in the lower Sacramento River	0.1	0.005	6	**0.032**	**L**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Invasive Species/Food Web Disruption	0.010	Asian clam, A. aspera, Microcystis, etc. in the Bays	0.2	0.011	2	**0.022**	**L**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Loss of Tidal Marsh Habitat	0.010	Bays	0.2	0.011	2	**0.022**	**L**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Short-term Inwater Construction	0.010	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.05	0.003	6	**0.016**	**L**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Short-term Inwater Construction	0.010	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.04	0.002	6	**0.013**	**L**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Water Quality	0.010	DO, Ag, Urban, Heavy Metals in th Delta	0.04	0.002	6	**0.013**	**L**
Upper Sacramento Tributaries	0.18	Adult Immigration and Holding	0.3	Short-term Inwater Construction	**0.010**	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.04	0.002	5	**0.011**	**L**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Short-term Inwater Construction	0.010	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bays	0.01	0.001	6	**0.003**	**L**
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Water Quality	0.010	Ag, Urban, Heavy Metals in the Bays	0.01	0.001	6	**0.003**	**L**
Upper Sacramento Tributaries	0.18	Adult Immigration and Holding	0.3	Short-term Inwater Construction	**0.010**	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.01	0.001	5	**0.003**	**L**

Upper Sacramento Tributaries Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Hatchery Effects	0.010	Bays	0	0.000	6		
Upper Sacramento Tributaries	0.18	Juvenile Rearing and Outmigration	0.3	Loss of Riparian Habitat and Instream Cover	0.100	Delta	0	0.000	4		
Upper Sacramento Tributaries	0.18	Adult Immigration and Holding	0.3	Short-term Inwater Construction	**0.010**	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bay	0	0.000	5		
Upper Sacramento Tributaries	0.18	Adult Immigration and Holding	0.3	Water Temperature	**0.250**	Delta	0	0.000	4		

Sacramento River Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Sacramento River	0.26	Adult Immigration and Holding	0.15	Passage Impediments/Barriers	0.400	Keswick Dam	0.525	0.82	7	**5.73**	**VH**
Sacramento River	0.26	Spawning	0.3	Barrier/Genetics	0.450	Keswick/Shasta Dam	1.000	3.51	1	**3.51**	**VH**
Sacramento River	0.26	Adult Immigration and Holding	0.15	Passage Impediments/Barriers	0.400	Red Bluff Diversion Dam	0.300	0.47	7	**3.28**	**VH**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Loss of Natural Morphologic Function	0.160	Loss of Natural Morphologic Function in the lower Sacramento River	0.350	0.58	4	**2.33**	**VH**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Loss of Floodplain Habitat	0.160	Loss of Floodplain Habitat in the Delta	0.300	0.50	4	**2.00**	**VH**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Loss of Floodplain Habitat	0.160	Loss of Floodplain Habitat in the lower Sacramento River	0.300	0.50	4	**2.00**	**VH**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Loss of Natural Morphologic Function	0.160	Loss of Natural Morphologic Function in the Delta	0.300	0.50	4	**2.00**	**VH**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Loss of Riparian Habitat and Instream Cover	0.160	Loss of Riparian Habitat and Instream Cover in the Delta	0.300	0.50	4	**2.00**	**VH**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Loss of Riparian Habitat and Instream Cover	0.160	Loss of Riparian Habitat and Instream Cover in the lower Sacramento River	0.300	0.50	4	**2.00**	**VH**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Predation	0.150	Predation in the Delta	0.250	0.39	5	**1.95**	**VH**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Predation	0.150	Predation in the lower Sacramento River	0.250	0.39	5	**1.95**	**VH**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Hatchery Effects	0.090	Competition, Predation in the upper Sacramento River	0.400	0.37	5	**1.87**	**VH**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Predation	0.150	Non-site specific and structure (GCID, RBDD) related in the middle Sacramento River	0.225	0.35	5	**1.76**	**VH**
Sacramento River	0.26	Spawning	0.3	Physical Habitat Alteration	0.200	Limited Instream Gravel Supply in upper Sacramento River	1.000	1.56	1	**1.56**	**VH**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Hatchery Effects	0.090	Competition, Predation in the middle Sacramento River	0.300	0.28	5	**1.40**	**VH**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Predation	0.150	Non-site specific and structure (ACID) related in the upper Sacramento River	0.175	0.27	5	**1.37**	**VH**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Loss of Floodplain Habitat	0.160	Loss of Floodplain Habitat in the middle Sacramento River	0.200	0.33	4	**1.33**	**VH**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Loss of Floodplain Habitat	0.160	Loss of Floodplain Habitat in the upper Sacramento River	0.200	0.33	4	**1.33**	**VH**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Loss of Natural Morphologic Function	0.160	Loss of Natural Morphologic Function in the upper Sacramento River	0.200	0.33	4	**1.33**	**VH**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Loss of Riparian Habitat and Instream Cover	0.160	Loss of Riparian Habitat and Instream Cover in the middle Sacramento River	0.200	0.33	4	**1.33**	**VH**

Sacramento River Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Loss of Riparian Habitat and Instream Cover	0.160	Loss of Riparian Habitat and Instream Cover in the upper Sacramento River	0.200	0.33	4	**1.33**	**VH**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Entrainment	0.070	Individual Diversions in the Delta	0.200	0.15	7	**1.02**	**VH**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Entrainment	0.070	Individual Diversions in the lower Sacramento River	0.200	0.15	7	**1.02**	**VH**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Entrainment	0.070	Individual Diversions in the middle Sacramento River	0.200	0.15	7	**1.02**	**VH**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Entrainment	0.070	Jones and Banks Pumping Plants	0.200	0.15	7	**1.02**	**VH**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Loss of Natural Morphologic Function	0.160	Loss of Natural Morphologic Function in the middle Sacramento River	0.150	0.25	4	**1.00**	**H**
Sacramento River	0.26	Embryo Incubation	0.15	Flow Conditions	0.225	Flow Fluctuations in upper Sacramento River	1.000	0.88	1	**0.88**	**H**
Sacramento River	0.26	Embryo Incubation	0.15	Water Quality	0.225	Water Pollution in upper Sacramento River	1.000	0.88	1	**0.88**	**H**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Water Temperature	0.050	Delta	0.400	0.21	4	**0.83**	**H**
Sacramento River	0.26	Adult Immigration and Holding	0.15	Harvest/Angling Impacts	0.100	Ocean	0.350	0.14	6	**0.82**	**H**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Predation	0.150	Predation in the Bay	0.100	0.16	5	**0.78**	**H**
Sacramento River	0.26	Spawning	0.3	Flow Conditions	0.100	Flow Fluctuations in upper Sacramento River	1.000	0.78	1	**0.78**	**H**
Sacramento River	0.26	Spawning	0.3	Harvest/Angling Impacts	0.100	Upper Sacramento River	1.000	0.78	1	**0.78**	**H**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Water Quality	0.050	Ag, Urban in the lower Sacramento River	0.300	0.16	5	**0.78**	**H**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Water Quality	0.050	Ag, Urban in the middle Sacramento River	0.300	0.16	5	**0.78**	**H**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Water Quality	0.050	Urban, Heavy Metals in the upper Sacramento River	0.300	0.16	5	**0.78**	**H**
Sacramento River	0.26	Embryo Incubation	0.15	Water Temperature	0.200	Water Temperature in upper Sacramento River	1.000	0.78	1	**0.78**	**H**
Sacramento River	0.26	Adult Immigration and Holding	0.15	Short-term Inwater Construction	0.150	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.250	0.15	5	**0.73**	**H**
Sacramento River	0.26	Adult Immigration and Holding	0.15	Short-term Inwater Construction	0.150	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.250	0.15	5	**0.73**	**H**
Sacramento River	0.26	Adult Immigration and Holding	0.15	Short-term Inwater Construction	0.150	Sedimentation, turbidity, acoustic effects, hazardous spills in the upper Sacramento River	0.250	0.15	5	**0.73**	**H**

Sacramento River Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.275	0.14	5	**0.72**	**H**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the lower Sacramento River	0.275	0.14	5	**0.72**	**H**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the upper Sacramento River	0.275	0.14	5	**0.72**	**H**
Sacramento River	0.26	Embryo Incubation	0.15	Harvest/Angling Impacts	0.175	Redd disturbance in upper Sacramento River	1.000	0.68	1.00	**0.68**	**H**
Sacramento River	0.26	Embryo Incubation	0.15	Short-term Inwater Construction	0.175	Sedimentation, turbidity, acoustic effects, hazardous spills, physical disturbance	1.000	0.68	1	**0.68**	**H**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Water Temperature	0.050	Lower Sacramento River	0.300	0.16	4	**0.62**	**H**
Sacramento River	0.26	Spawning	0.3	Spawning Habitat Availability	0.075	Habitat Suitability in in upper Sacramento River	1.000	0.59	1	**0.59**	**H**
Sacramento River	0.26	Adult Immigration and Holding	0.15	Water Quality	0.125	DO, Ag, Urban, Heavy Metals in the Delta	0.300	0.15	4	**0.59**	**H**
Sacramento River	0.26	Adult Immigration and Holding	0.15	Water Temperature	0.125	Lower Sacramento River	0.400	0.20	3	**0.59**	**H**
Sacramento River	0.26	Adult Immigration and Holding	0.15	Water Temperature	0.125	Middle Sacramento River	0.400	0.20	3	**0.59**	**H**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Flow Conditions	0.030	Changes in Delta Hydrology	0.300	0.09	6	**0.56**	**M**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Flow Conditions	0.030	Reverse Flow Conditions in the Delta	0.300	0.09	6	**0.56**	**M**
Sacramento River	0.26	Adult Immigration and Holding	0.15	Passage Impediments/Barriers	0.400	Yolo Bypass-Freemont Weir	0.050	0.08	7	**0.55**	**M**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Entrainment	0.070	Individual Diversions in the upper Sacramento River	0.100	0.07	7	**0.51**	**M**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Flow Conditions	0.030	Diversion into Central Delta	0.250	0.08	6	**0.47**	**M**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Hatchery Effects	0.090	Competition, Predation in the Bays	0.100	0.09	5	**0.47**	**M**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Hatchery Effects	0.090	Competition, Predation in the Delta	0.100	0.09	5	**0.47**	**M**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Hatchery Effects	0.090	Competition, Predation in the lower Sacramento River	0.100	0.09	5	**0.47**	**M**
Sacramento River	0.26	Adult Immigration and Holding	0.15	Short-term Inwater Construction	0.150	Sedimentation, turbidity, acoustic effects, hazardous spills in the middle Sacramento River	0.150	0.09	5	**0.44**	**M**

Sacramento River Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Water Temperature	0.050	Middle Sacramento River	0.200	0.10	4	**0.42**	**M**
Sacramento River	0.26	Spawning	0.3	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in upper Sacramento River	1.000	0.39	1	**0.39**	**M**
Sacramento River	0.26	Adult Immigration and Holding	0.15	Water Quality	0.125	Ag, Urban in the lower Sacramento River	0.200	0.10	4	**0.39**	**M**
Sacramento River	0.26	Adult Immigration and Holding	0.15	Water Quality	0.125	Ag, Urban in the middle Sacramento River	0.200	0.10	4	**0.39**	**M**
Sacramento River	0.26	Adult Immigration and Holding	0.15	Water Quality	0.125	Urban, Heavy Metals in the upper Sacramento River	0.200	0.10	4	**0.39**	**M**
Sacramento River	0.26	Adult Immigration and Holding	0.15	Flow Conditions	0.100	Low Flows - attraction, migratory cues AND Flood Flows - non-natal area attraction in Lower Sacramento River	0.333	0.13	3	**0.39**	**M**
Sacramento River	0.26	Adult Immigration and Holding	0.15	Flow Conditions	0.100	Low Flows - attraction, migratory cues in Middle Sacramento River	0.333	0.13	3	**0.39**	**M**
Sacramento River	0.26	Adult Immigration and Holding	0.15	Flow Conditions	0.100	Low Flows - attraction, migratory cues in Upper Sacramento River	0.333	0.13	3	**0.39**	**M**
Sacramento River	0.26	Adult Immigration and Holding	0.15	Passage Impediments/Barriers	0.400	Sacramento Deep Water Ship Channel	0.035	0.05	7	**0.38**	**M**
Sacramento River	0.26	Adult Immigration and Holding	0.15	Passage Impediments/Barriers	0.400	Suisun Marsh Salinity Control Structure	0.035	0.05	7	**0.38**	**M**
Sacramento River	0.26	Adult Immigration and Holding	0.15	Passage Impediments/Barriers	0.400	Sutter Bypass - Tisdale Weir	0.035	0.05	7	**0.38**	**M**
Sacramento River	0.26	Adult Immigration and Holding	0.15	Harvest/Angling Impacts	0.100	Upper Sacramento River	0.150	0.06	6	**0.35**	**M**
Sacramento River	0.26	Adult Immigration and Holding	0.15	Short-term Inwater Construction	0.150	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bays	0.100	0.06	5	**0.29**	**M**
Sacramento River	0.26	Adult Immigration and Holding	0.15	Harvest/Angling Impacts	0.100	Bays	0.125	0.05	6	**0.29**	**M**
Sacramento River	0.26	Adult Immigration and Holding	0.15	Harvest/Angling Impacts	0.100	Delta	0.125	0.05	6	**0.29**	**M**
Sacramento River	0.26	Adult Immigration and Holding	0.15	Harvest/Angling Impacts	0.100	Lower Sacramento River	0.125	0.05	6	**0.29**	**M**
Sacramento River	0.26	Adult Immigration and Holding	0.15	Harvest/Angling Impacts	0.100	Middle Sacramento River	0.125	0.05	6	**0.29**	**M**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bays	0.100	0.05	5	**0.26**	**L**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Entrainment	0.070	Contra Costa Power Plant	0.050	0.04	7	**0.25**	**L**

Sacramento River Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Entrainment	0.070	Pittsburg Power Plant	0.050	0.04	7	**0.25**	**L**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Water Quality	0.050	DO, Ag, Urban, Heavy Metals in the Delta	0.090	0.05	5	**0.23**	**L**
Sacramento River	0.26	Adult Immigration and Holding	0.15	Passage Impediments/Barriers	0.400	ACID Dam	0.020	0.03	7	**0.22**	**L**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Water Temperature	0.050	Upper Sacramento River	0.100	0.05	4	**0.21**	**L**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the middle Sacramento River	0.075	0.04	5	**0.20**	**L**
Sacramento River	0.26	Spawning	0.3	Water Temperature	0.025	Upper Sacramento River	1.000	0.20	1	**0.20**	**L**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Invasive species/Food Web Disruption	0.010	Asian clam, A. aspera, Microcystis, water hyacinth etc. in the Delta	0.800	0.08	2	**0.17**	**L**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Loss of Tidal Marsh Habitat	0.010	Loss of Tidal Marsh Habitat in the Delta	0.800	0.08	2	**0.17**	**L**
Sacramento River	0.26	Adult Immigration and Holding	0.15	Water Temperature	0.125	Delta	0.100	0.05	3	**0.15**	**L**
Sacramento River	0.26	Adult Immigration and Holding	0.15	Water Temperature	0.125	Upper Sacramento River	0.100	0.05	3	**0.15**	**L**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Passage Impediments/Barriers	0.010	Keswick Dam	0.400	0.04	3	**0.12**	**L**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Flow Conditions	0.030	Flow Dependent Habitat Availability in the lower Sacramento River	0.050	0.02	6	**0.09**	**L**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Flow Conditions	0.030	Flow Dependent Habitat Availability in the middle Sacramento River	0.050	0.02	6	**0.09**	**L**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Flow Conditions	0.030	Flow Dependent Habitat Availability in the upper Sacramento River	0.050	0.02	6	**0.09**	**L**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Passage Impediments/Barriers	0.010	ACID Dam	0.300	0.03	3	**0.09**	**L**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Passage Impediments/Barriers	0.010	Tributary Barriers	0.300	0.03	3	**0.09**	**L**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Invasive species/Food Web Disruption	0.010	Asian clam, A. aspera, Microcystis, water hyacinth etc. in the Bays	0.200	0.02	2	**0.04**	**L**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Loss of Tidal Marsh Habitat	0.010	Loss of Tidal Marsh Habitat in the Bays	0.200	0.02	2	**0.04**	**L**
Sacramento River	0.26	Juvenile Rearing and Outmigration	0.4	Water Quality	0.050	Ag, Urban, Heavy Metals in the Bays	0.010	0.01	5	**0.03**	**L**

Mokelumne River Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Mokelumne River	0.15	Adult Immigration and Holding	0.15	Passage Impediments/Barriers	0.300	Camanche Dam	0.440	0.297	5	**1.485**	**VH**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Hatchery Effects	0.175	Mokelumne River	0.650	0.427	3	**1.280**	**VH**
Mokelumne River	0.15	Spawning	0.40	Barrier	0.200	Competition for spawning habitat	1.000	1.200	1	**1.200**	**VH**
Mokelumne River	0.15	Spawning	0.40	Hatchery Effects	0.200	Redd superimposition, competition for habitat, Genetic Integrity	1.000	1.200	1	**1.200**	**VH**
Mokelumne River	0.15	Spawning	0.40	Spawning Habitat Availability	0.200	Habitat Suitability	1.000	1.200	1	**1.200**	**VH**
Mokelumne River	0.15	Adult Immigration and Holding	0.15	Passage Impediments/Barriers	0.300	Pardee Reservoir Dam	0.340	0.230	5	**1.148**	**VH**
Mokelumne River	0.15	Embryo Incubation	**0.20**	Flow Conditions	0.325	Flow Fluctuations	1.000	0.975	1	**0.975**	**VH**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Flow Conditions	0.200	Flow Dependent Habitat Availability in the Mokelumne River	0.400	0.300	3	**0.900**	**VH**
Mokelumne River	0.15	Embryo Incubation	**0.20**	Water Temperature	0.275	Water temperature in the Mokelumne River	1.000	0.825	1	**0.825**	**VH**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Entrainment	0.075	Jones and Banks Pumping Plants	0.500	0.141	5	**0.703**	**VH**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Flow Conditions	0.200	Changes in Hydrology	0.300	0.225	3	**0.675**	**VH**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Flow Conditions	0.200	Reverse Flow Conditions	0.300	0.225	3	**0.675**	**VH**
Mokelumne River	0.15	Adult Immigration and Holding	0.15	Flow Conditions	0.300	Low Flows - attraction, migratory cues AND Flood Flows - non-natal area attraction in the Mokelumne River	1.000	0.675	1	**0.675**	**VH**
Mokelumne River	0.15	Spawning	0.40	Flow Conditions	0.100	Flow Fluctuations	1.000	0.600	1	**0.600**	**VH**
Mokelumne River	0.15	Spawning	0.40	Physical Habitat Alteration	0.100	Limited Instream Gravel Supply	1.000	0.600	1	**0.600**	**VH**
Mokelumne River	0.15	Spawning	0.40	Water Temperature	0.100	Water temperature in the Mokelumne River	1.000	0.600	1	**0.600**	**VH**
Mokelumne River	0.15	Adult Immigration and Holding	0.15	Passage Impediments/Barriers	0.300	Stockton Deep Water Ship Channel	0.150	0.101	5	**0.506**	**VH**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Hatchery Effects	0.175	Delta	0.250	0.164	3	**0.492**	**H**
Mokelumne River	0.15	Adult Immigration and Holding	0.15	Harvest/Angling Impacts	0.100	Mokelumne River	0.525	0.118	4	**0.473**	**H**
Mokelumne River	0.15	Embryo Incubation	**0.20**	Harvest/Angling Impacts	0.150	Redd disturbance	1.000	0.450	1.00	**0.450**	**H**
Mokelumne River	0.15	Embryo Incubation	**0.20**	Water Quality	0.150	Water Pollution	1.000	0.450	1.00	**0.450**	**H**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Water Temperature	0.100	Mokelumne River	0.600	0.225	2	**0.450**	**H**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Loss of Riparian Habitat and Instream Cover	0.100	Delta	0.500	0.188	2	**0.375**	**H**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Loss of Riparian Habitat and Instream Cover	0.100	Mokelumne River	0.500	0.188	2	**0.375**	**H**

Mokelumne River Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Mokelumne River	0.15	Adult Immigration and Holding	0.15	Harvest/Angling Impacts	0.100	Delta	0.350	0.079	4	**0.315**	**H**
Mokelumne River	0.15	Spawning	0.40	Harvest/Angling Impacts	0.050	Recreational, Poaching, Angler Impacts	1.000	0.300	1	**0.300**	**H**
Mokelumne River	0.15	Embryo Incubation	**0.20**	Short-term Inwater Construction	0.100	Sedimentation, turbidity, acoustic effects, hazardous spills, physical disturbance	1.000	0.300	1	**0.300**	**H**
Mokelumne River	0.15	Spawning	0.40	Water Quality	0.050	Water quality in the Mokelumne River	1.000	0.300	1	**0.300**	**H**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Water Temperature	0.100	Delta	0.400	0.150	2	**0.300**	**H**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Entrainment	0.075	Individual Diversions in the Mokelumne River	0.200	0.056	5	**0.281**	**H**
Mokelumne River	0.15	Adult Immigration and Holding	0.15	Water Temperature	0.100	Mokelumne River	0.600	0.135	2	**0.270**	**H**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Invasive Species/Food Web Disruption	0.050	Asian clam, A. aspera, Microcystis, etc. in the Delta	0.700	0.131	2	**0.263**	**H**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Predation	0.050	Predation in the Delta	0.450	0.084	3	**0.253**	**H**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Predation	0.050	Predation in the Mokelumne River	0.450	0.084	3	**0.253**	**H**
Mokelumne River	0.15	Adult Immigration and Holding	0.15	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Mokelumne River	0.750	0.084	3	**0.253**	**H**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Loss of Floodplain Habitat	0.050	Mokelumne River	0.600	0.113	2	**0.225**	**M**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Loss of Natural River Morphology	0.050	Mokelumne River	0.600	0.113	2	**0.225**	**M**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Loss of Tidal Marsh Habitat	0.050	Delta	0.600	0.113	2	**0.225**	**M**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Passage Impediments/Barriers	0.050	Camanche Dam	0.300	0.056	4	**0.225**	**M**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Passage Impediments/Barriers	0.050	Woodbridge Dam	0.300	0.056	4	**0.225**	**M**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Water Quality	0.050	Ag, Urban in the Mokelumne River	0.400	0.075	3	**0.225**	**M**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Water Quality	0.050	DO, Ag, Urban, Heavy Metals in th Delta	0.400	0.075	3	**0.225**	**M**
Mokelumne River	0.15	Adult Immigration and Holding	0.15	Water Quality	0.100	Ag, Urban in the Mokelumne River	0.500	0.113	2	**0.225**	**M**
Mokelumne River	0.15	Adult Immigration and Holding	0.15	Water Quality	0.100	DO, Ag, Urban, Heavy Metals in th Delta	0.500	0.113	2	**0.225**	**M**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Hatchery Effects	0.175	Bays	0.100	0.066	3	**0.197**	**M**
Mokelumne River	0.15	Adult Immigration and Holding	0.15	Water Temperature	0.100	Delta	0.400	0.090	2	**0.180**	**M**

Mokelumne River Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Short-term Inwater Construction	0.025	Sedimentation, turbidity, acoustic effects, hazardous spills in the Mokelumne River	0.600	0.056	3	**0.169**	**M**
Mokelumne River	0.15	Adult Immigration and Holding	0.15	Passage Impediments/Barriers	0.300	Suisun Marsh Salinity Control Structure	0.050	0.034	5	**0.169**	**M**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Loss of Floodplain Habitat	0.050	Delta	0.400	0.075	2	**0.150**	**M**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Loss of Natural River Morphology	0.050	Delta	0.400	0.075	2	**0.150**	**M**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Loss of Tidal Marsh Habitat	0.050	Bays	0.400	0.075	2	**0.150**	**M**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Passage Impediments/Barriers	0.050	Pardee Reservoir Dam	0.200	0.038	4	**0.150**	**M**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Passage Impediments/Barriers	0.050	Tributary Barriers	0.200	0.038	4	**0.150**	**M**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Entrainment	0.075	Contra Costa Power Plant	0.100	0.028	5	**0.141**	**L**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Entrainment	0.075	Individual Diversions in the Delta	0.100	0.028	5	**0.141**	**L**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Entrainment	0.075	Pittsburg Power Plant	0.100	0.028	5	**0.141**	**L**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Invasive Species/Food Web Disruption	0.050	Asian clam, A. aspera, Microcystis, etc. in the Bays	0.300	0.056	2	**0.113**	**L**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Water Quality	0.050	Ag, Urban, Heavy Metals in the Bays	0.200	0.038	3	**0.113**	**L**
Mokelumne River	0.15	Adult Immigration and Holding	0.15	Harvest/Angling Impacts	0.100	Bays	0.100	0.023	4	**0.090**	**L**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Short-term Inwater Construction	0.025	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.300	0.028	3	**0.084**	**L**
Mokelumne River	0.15	Adult Immigration and Holding	0.15	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.200	0.023	3	**0.068**	**L**
Mokelumne River	0.15	Adult Immigration and Holding	0.15	Passage Impediments/Barriers	0.300	Woodbridge Dam	0.020	0.014	5	**0.068**	**L**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Predation	0.050	Predation in the Bays	0.100	0.019	3	**0.056**	**L**
Mokelumne River	0.15	Juvenile Rearing and Outmigration	0.25	Short-term Inwater Construction	0.025	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bays	0.100	0.009	3	**0.028**	**L**
Mokelumne River	0.15	Adult Immigration and Holding	0.15	Harvest/Angling Impacts	0.100	Ocean	0.025	0.006	4	**0.023**	**L**
Mokelumne River	0.15	Adult Immigration and Holding	0.15	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bay	0.050	0.006	3	**0.017**	**L**

Calaveras River Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Calaveras River	0.19	Adult Immigration and Holding	0.30	Passage Impediments/Barriers	0.350	Bellota Weir	0.375	0.748	5	**3.741**	**VH**
Calaveras River	0.19	Adult Immigration and Holding	0.30	Passage Impediments/Barriers	0.350	Flash Board Dams	0.375	0.748	5	**3.741**	**VH**
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Flow Conditions	0.300	Flow Dependent Habitat Availability in the Calaveras River	0.500	0.855	3	**2.565**	**VH**
Calaveras River	0.19	Embryo Incubation	**0.20**	Flow Conditions	0.450	Flow Fluctuations	1.000	1.710	1	**1.710**	**VH**
Calaveras River	0.19	Adult Immigration and Holding	0.30	Flow Conditions	0.300	Low flows limiting attraction into the Calaveras Rvier	1.000	1.710	1	**1.710**	**VH**
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Flow Conditions	0.300	Changes in Hydrology	0.300	0.513	3	**1.539**	**VH**
Calaveras River	0.19	Adult Immigration and Holding	0.30	Passage Impediments/Barriers	0.350	Stockton Deep Water Ship Channel	0.150	0.299	5	**1.496**	**VH**
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Passage Impediments/Barriers	0.175	Bellota Weir	0.400	0.399	3	**1.197**	**VH**
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Passage Impediments/Barriers	0.175	New Hogan Dam	0.400	0.399	3	**1.197**	**VH**
Calaveras River	0.19	Adult Immigration and Holding	0.30	Water Quality	0.150	Ag, Urban in the Calaveras River	0.700	0.599	2	**1.197**	**VH**
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Flow Conditions	0.300	Reverse Flow Conditions	0.200	0.342	3	**1.026**	**VH**
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Water Temperature	0.125	Calaveras River	0.700	0.499	2	**0.998**	**VH**
Calaveras River	0.19	Embryo Incubation	**0.20**	Water Temperature	0.250	Water temperature in the Calaveras River	1.000	0.950	1	**0.950**	**VH**
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Water Quality	0.100	Ag, Urban in the Calaveras River	0.550	0.314	3	**0.941**	**VH**
Calaveras River	0.19	Spawning	0.20	Spawning Habitat Availability	0.225	Habitat Suitability	1.000	0.855	1	**0.855**	**VH**
Calaveras River	0.19	Spawning	0.20	Barrier	0.200	Redd superimposition, competition for habitat, hybridization/genetic integrity	1.000	0.760	1	**0.760**	**VH**
Calaveras River	0.19	Spawning	0.20	Flow Conditions	0.200	Flow Fluctuations	1.000	0.760	1	**0.760**	**VH**
Calaveras River	0.19	Spawning	0.20	Physical Habitat Alteration	0.200	Limited Instream Gravel Supply	1.000	0.760	1	**0.760**	**VH**
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Loss of Natural River Morphology	0.100	Calaveras River	0.600	0.342	2	**0.684**	**H**
Calaveras River	0.19	Adult Immigration and Holding	0.30	Water Temperature	0.100	Calaveras River	0.600	0.342	2	**0.684**	**H**
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Predation	0.075	Predation in the Delta	0.500	0.214	3	**0.641**	**H**
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Passage Impediments/Barriers	0.175	Tributary Barriers	0.200	0.200	3	**0.599**	**H**
Calaveras River	0.19	Embryo Incubation	**0.20**	Harvest/Angling Impacts	0.150	Redd disturbance	1.000	0.570	1.00	**0.570**	**H**
Calaveras River	0.19	Adult Immigration and Holding	0.30	Harvest/Angling Impacts	0.050	Calaveras River	0.450	0.128	4	**0.513**	**H**

Calaveras River Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Predation	0.075	Predation in the Calaveras River	0.400	0.171	3	**0.513**	**H**
Calaveras River	0.19	Adult Immigration and Holding	0.30	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Calaveras River	0.600	0.171	3	**0.513**	**H**
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Water Quality	0.100	DO, Ag, Urban, Heavy Metals in th Delta	0.300	0.171	3	**0.513**	**H**
Calaveras River	0.19	Adult Immigration and Holding	0.30	Water Quality	0.150	DO, Ag, Urban, Heavy Metals in th Delta	0.300	0.257	2	**0.513**	**H**
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Entrainment	0.050	Jones and Banks Pumping Plants	0.350	0.100	5	**0.499**	**H**
Calaveras River	0.19	Adult Immigration and Holding	0.30	Passage Impediments/Barriers	0.350	New Hogan Dam	0.050	0.100	5	**0.499**	**H**
Calaveras River	0.19	Adult Immigration and Holding	0.30	Passage Impediments/Barriers	0.350	Suisun Marsh Salinity Control Structure	0.050	0.100	5	**0.499**	**H**
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Loss of Natural River Morphology	0.100	Delta	0.400	0.228	2	**0.456**	**H**
Calaveras River	0.19	Adult Immigration and Holding	0.30	Water Temperature	0.100	Delta	0.400	0.228	2	**0.456**	**H**
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Entrainment	0.050	Individual Diversions in the Calaveras River	0.300	0.086	5	**0.428**	**H**
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Water Temperature	0.125	Delta	0.300	0.214	2	**0.428**	**H**
Calaveras River	0.19	Adult Immigration and Holding	0.30	Harvest/Angling Impacts	0.050	Delta	0.350	0.100	4	**0.399**	**M**
Calaveras River	0.19	Embryo Incubation	**0.20**	Water Quality	0.100	Water Pollution	1.000	0.380	1.00	**0.380**	**M**
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Loss of Riparian Habitat and Instream Cover	0.050	Calaveras River	0.600	0.171	2	**0.342**	**M**
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Entrainment	0.050	Individual Diversions in the Delta	0.200	0.057	5	**0.285**	**M**
Calaveras River	0.19	Adult Immigration and Holding	0.30	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.300	0.086	3	**0.257**	**M**
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Water Quality	0.100	Ag, Urban, Heavy Metals in the Bays	0.150	0.086	3	**0.257**	**M**
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Loss of Floodplain Habitat	0.025	Delta	0.800	0.114	2	**0.228**	**M**
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Loss of Riparian Habitat and Instream Cover	0.050	Delta	0.400	0.114	2	**0.228**	**M**
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Invasive Species/Food Web Disruption	0.025	Asian clam, A. aspera, Microcystis, etc. in the Delta	0.700	0.100	2	**0.200**	**M**
Calaveras River	0.19	Spawning	0.20	Harvest/Angling Impacts	0.050	Recreational, Poaching, Angler Impacts	1.000	0.190	1	**0.190**	**M**
Calaveras River	0.19	Embryo Incubation	**0.20**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills, physical disturbance	1.000	0.190	1	**0.190**	**M**

Calaveras River Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Calaveras River	0.19	Spawning	0.20	Water Quality	0.050	Water quality in the Calaveras River	1.000	0.190	1	**0.190**	**M**
Calaveras River	0.19	Spawning	0.20	Water Temperature	0.050	Water temperature in the Calaveras River	1.000	0.190	1	**0.190**	**M**
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Short-term Inwater Construction	0.025	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.400	0.057	3	**0.171**	**M**
Calaveras River	0.19	Adult Immigration and Holding	0.30	Harvest/Angling Impacts	0.050	Bays	0.150	0.043	4	**0.171**	**M**
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Loss of Tidal Marsh Habitat	0.025	Delta	0.600	0.086	2	**0.171**	**M**
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Entrainment	0.050	Contra Costa Power Plant	0.100	0.029	5	**0.143**	**L**
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Predation	0.075	Predation in the Bays	0.100	0.043	3	**0.128**	**L**
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Short-term Inwater Construction	0.025	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bays	0.300	0.043	3	**0.128**	**L**
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Short-term Inwater Construction	0.025	Sedimentation, turbidity, acoustic effects, hazardous spills in the Calaveras River	0.300	0.043	3	**0.128**	**L**
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Loss of Tidal Marsh Habitat	0.025	Bays	0.400	0.057	2	**0.114**	**L**
Calaveras River	0.19	Spawning	0.20	Hatchery Effects	0.025	Redd superimposition, competition for habitat, Genetic Integrity	1.000	0.095	1	**0.095**	**L**
Calaveras River	0.19	Adult Immigration and Holding	0.30	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bay	0.100	0.029	3	**0.086**	**L**
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Invasive Species/Food Web Disruption	0.025	Asian clam, A. aspera, Microcystis, etc. in the Bays	0.300	0.043	2	**0.086**	**L**
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Entrainment	0.050	Pittsburg Power Plant	0.050	0.014	5	**0.071**	**L**
Calaveras River	0.19	Adult Immigration and Holding	0.30	Harvest/Angling Impacts	0.050	Ocean	0.050	0.014	4	**0.057**	**L**
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Loss of Floodplain Habitat	0.025	Calaveras River	0.200	0.029	2	**0.057**	**L**
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Hatchery Effects	0.025	Bays	0.000	0.000	3	**0.000**	
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Hatchery Effects	0.025	Calaveras River	0.000	0.000	3	**0.000**	
Calaveras River	0.19	Juvenile Rearing and Outmigration	0.30	Hatchery Effects	0.025	Delta	0.000	0.000	3	**0.000**	

San Joaquin River Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
San Joaquin Rive	0.15	Adult Immigration and Holding	0.30	Passage Impediments/Barriers	0.400	Friant Dam	0.500	0.900	5	**4.500**	**VH**
San Joaquin Rive	0.15	Juvenile Rearing and Outmigration	0.40	Flow Conditions	0.250	Flow Dependent Habitat Availability in the San Joaquin River	0.500	0.750	4	**3.000**	**VH**
San Joaquin Rive	0.15	Juvenile Rearing and Outmigration	0.40	Flow Conditions	0.250	Changes in Hydrology	0.300	0.450	4	**1.800**	**VH**
San Joaquin Rive	0.15	Juvenile Rearing and Outmigration	0.40	Water Quality	0.150	Ag, Urban in the San Joaquin River	0.550	0.495	3	**1.485**	**VH**
San Joaquin Rive	0.15	Adult Immigration and Holding	0.30	Passage Impediments/Barriers	0.400	Mendota Pool	0.150	0.270	5	**1.350**	**VH**
San Joaquin Rive	0.15	Adult Immigration and Holding	0.30	Passage Impediments/Barriers	0.400	Sack Dam	0.150	0.270	5	**1.350**	**VH**
San Joaquin Rive	0.15	Adult Immigration and Holding	0.30	Passage Impediments/Barriers	0.400	Stockton Deep Water Ship Channel	0.150	0.270	5	**1.350**	**VH**
San Joaquin Rive	0.15	Adult Immigration and Holding	0.30	Water Quality	0.200	Ag, Urban in the San Joaquin River	0.700	0.630	2	**1.260**	**VH**
San Joaquin Rive	0.15	Juvenile Rearing and Outmigration	0.40	Water Temperature	0.150	San Joaquin River	0.700	0.630	2	**1.260**	**VH**
San Joaquin Rive	0.15	Adult Immigration and Holding	0.30	Flow Conditions	0.200	Low Flows - attraction, migratory cues AND Flood Flows - non-natal area attraction in San Joaquin River	1.000	0.900	1	**0.900**	**VH**
San Joaquin Rive	0.15	Juvenile Rearing and Outmigration	0.40	Flow Conditions	0.250	Reverse Flow Conditions	0.150	0.225	4	**0.900**	**VH**
San Joaquin Rive	0.15	Juvenile Rearing and Outmigration	0.40	Loss of Riparian Habitat and Instream Cover	0.100	San Joaquin River	0.700	0.420	2	**0.840**	**VH**
San Joaquin Rive	0.15	Juvenile Rearing and Outmigration	0.40	Water Quality	0.150	DO, Ag, Urban, Heavy Metals in th Delta	0.300	0.270	3	**0.810**	**VH**
San Joaquin Rive	0.15	Spawning	0.20	Spawning Habitat Availability	0.250	Habitat Suitability	1.000	0.750	1	**0.750**	**VH**
San Joaquin Rive	0.15	Juvenile Rearing and Outmigration	0.40	Entrainment	0.050	Jones and Banks Pumping Plants	0.400	0.120	5	**0.600**	**VH**
San Joaquin Rive	0.15	Spawning	0.20	Barrier	0.200	Redd superimposition, competition for habitat, hybridization/genetic integrity	1.000	0.600	1	**0.600**	**VH**
San Joaquin Rive	0.15	Juvenile Rearing and Outmigration	0.40	Loss of Floodplain Habitat	0.050	Delta	0.500	0.150	4	**0.600**	**VH**
San Joaquin Rive	0.15	Juvenile Rearing and Outmigration	0.40	Loss of Floodplain Habitat	0.050	San Joaquin River	0.500	0.150	4	**0.600**	**VH**
San Joaquin Rive	0.15	Juvenile Rearing and Outmigration	0.40	Loss of Tidal Marsh Habitat	0.050	Bays	0.500	0.150	4	**0.600**	**VH**
San Joaquin Rive	0.15	Juvenile Rearing and Outmigration	0.40	Loss of Tidal Marsh Habitat	0.050	Delta	0.500	0.150	4	**0.600**	**VH**
San Joaquin Rive	0.15	Juvenile Rearing and Outmigration	0.40	Predation	0.075	Predation in the Delta	0.400	0.180	3	**0.540**	**H**
San Joaquin Rive	0.15	Juvenile Rearing and Outmigration	0.40	Predation	0.075	Predation in the San Joaquin River	0.400	0.180	3	**0.540**	**H**

San Joaquin River Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
San Joaquin Rive	0.15	Adult Immigration and Holding	0.30	Water Quality	0.200	DO, Ag, Urban, Heavy Metals in th Delta	0.300	0.270	2	**0.540**	**H**
San Joaquin Rive	0.15	Juvenile Rearing and Outmigration	0.40	Water Temperature	0.150	Delta	0.300	0.270	2	**0.540**	**H**
San Joaquin Rive	0.15	Adult Immigration and Holding	0.30	Water Temperature	0.100	San Joaquin River	0.600	0.270	2	**0.540**	**H**
San Joaquin Rive	0.15	Spawning	0.20	Physical Habitat Alteration	0.175	Limited Instream Gravel Supply	1.000	0.525	1	**0.525**	**H**
San Joaquin Rive	0.15	Spawning	0.20	Flow Conditions	0.150	Flow Fluctuations	1.000	0.450	1	**0.450**	**H**
San Joaquin Rive	0.15	Adult Immigration and Holding	0.30	Passage Impediments/Barriers	0.400	Suisun Marsh Salinity Control Structure	0.050	0.090	5	**0.450**	**H**
San Joaquin Rive	0.15	Juvenile Rearing and Outmigration	0.40	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the San Joaquin River	0.500	0.150	3	**0.450**	**H**
San Joaquin Rive	0.15	Juvenile Rearing and Outmigration	0.40	Invasive Species/Food Web Disruption	0.050	Asian clam, A. aspera, Microcystis, etc. in the Delta	0.700	0.210	2	**0.420**	**H**
San Joaquin Rive	0.15	Juvenile Rearing and Outmigration	0.40	Passage Impediments/Barriers	0.050	Friant Dam	0.700	0.210	2	**0.420**	**H**
San Joaquin Rive	0.15	Embryo Incubation	**0.10**	Flow Conditions	0.275	Flow Fluctuations	1.000	0.413	1	**0.413**	**H**
San Joaquin Rive	0.15	Juvenile Rearing and Outmigration	0.40	Water Quality	0.150	Ag, Urban, Heavy Metals in the Bays	0.150	0.135	3	**0.405**	**H**
San Joaquin Rive	0.15	Embryo Incubation	**0.10**	Water Quality	0.250	Water Pollution	1.000	0.375	1.00	**0.375**	**H**
San Joaquin Rive	0.15	Embryo Incubation	**0.10**	Water Temperature	0.250	Water temperature in the San Joaquin River	1.000	0.375	1	**0.375**	**H**
San Joaquin Rive	0.15	Adult Immigration and Holding	0.30	Harvest/Angling Impacts	0.050	San Joaquin River	0.400	0.090	4	**0.360**	**H**
San Joaquin Rive	0.15	Juvenile Rearing and Outmigration	0.40	Loss of Natural River Morphology	0.050	San Joaquin River	0.600	0.180	2	**0.360**	**H**
San Joaquin Rive	0.15	Juvenile Rearing and Outmigration	0.40	Loss of Riparian Habitat and Instream Cover	0.100	Delta	0.300	0.180	2	**0.360**	**H**
San Joaquin Rive	0.15	Adult Immigration and Holding	0.30	Water Temperature	0.100	Delta	0.400	0.180	2	**0.360**	**H**
San Joaquin Rive	0.15	Juvenile Rearing and Outmigration	0.40	Entrainment	0.050	Individual Diversions in the Delta	0.200	0.060	5	**0.300**	**M**
San Joaquin Rive	0.15	Juvenile Rearing and Outmigration	0.40	Entrainment	0.050	Individual Diversions in the San Joaquin River	0.200	0.060	5	**0.300**	**M**
San Joaquin Rive	0.15	Juvenile Rearing and Outmigration	0.40	Flow Conditions	0.250	Diversion into Central Delta	0.050	0.075	4	**0.300**	**M**
San Joaquin Rive	0.15	Juvenile Rearing and Outmigration	0.40	Hatchery Effects	0.025	Delta	0.600	0.090	3	**0.270**	**M**
San Joaquin Rive	0.15	Juvenile Rearing and Outmigration	0.40	Predation	0.075	Predation in the Bays	0.200	0.090	3	**0.270**	**M**
San Joaquin Rive	0.15	Juvenile Rearing and Outmigration	0.40	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.300	0.090	3	**0.270**	**M**
San Joaquin Rive	0.15	Adult Immigration and Holding	0.30	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the San Joaquin River	0.400	0.090	3	**0.270**	**M**

San Joaquin River Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
San Joaquin Rive	0.15	Adult Immigration and Holding	0.30	Harvest/Angling Impacts	0.050	Delta	0.300	0.068	4	**0.270**	**M**
San Joaquin Rive	0.15	Juvenile Rearing and Outmigration	0.40	Loss of Natural River Morphology	0.050	Delta	0.400	0.120	2	**0.240**	**M**
San Joaquin Rive	0.15	Adult Immigration and Holding	0.30	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.350	0.079	3	**0.236**	**M**
San Joaquin Rive	0.15	Spawning	0.20	Water Quality	0.075	Water quality in the San Joaquin River	1.000	0.225	1	**0.225**	**M**
San Joaquin Rive	0.15	Spawning	0.20	Water Temperature	0.075	Water temperature in the San Joaquin River	1.000	0.225	1	**0.225**	**M**
San Joaquin Rive	0.15	Juvenile Rearing and Outmigration	0.40	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bays	0.200	0.060	3	**0.180**	**M**
San Joaquin Rive	0.15	Adult Immigration and Holding	0.30	Harvest/Angling Impacts	0.050	Bays	0.200	0.045	4	**0.180**	**M**
San Joaquin Rive	0.15	Juvenile Rearing and Outmigration	0.40	Invasive Species/Food Web Disruption	0.050	Asian clam, A. aspera, Microcystis, etc. in the Bays	0.300	0.090	2	**0.180**	**M**
San Joaquin Rive	0.15	Juvenile Rearing and Outmigration	0.40	Passage Impediments/Barriers	0.050	Tributary Barriers	0.300	0.090	2	**0.180**	**M**
San Joaquin Rive	0.15	Adult Immigration and Holding	0.30	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bay	0.250	0.056	3	**0.169**	**M**
San Joaquin Rive	0.15	Juvenile Rearing and Outmigration	0.40	Entrainment	0.050	Contra Costa Power Plant	0.100	0.030	5	**0.150**	**L**
San Joaquin Rive	0.15	Juvenile Rearing and Outmigration	0.40	Entrainment	0.050	Pittsburg Power Plant	0.100	0.030	5	**0.150**	**L**
San Joaquin Rive	0.15	Spawning	0.20	Harvest/Angling Impacts	0.050	Recreational, Poaching, Angler Impacts	1.000	0.150	1	**0.150**	**L**
San Joaquin Rive	0.15	Spawning	0.20	Hatchery Effects	0.050	Redd superimposition, competition for habitat, Genetic Integrity	1.000	0.150	1	**0.150**	**L**
San Joaquin Rive	0.15	Embryo Incubation	**0.10**	Short-term Inwater Construction	0.100	Sedimentation, turbidity, acoustic effects, hazardous spills, physical disturbance	1.000	0.150	1	**0.150**	**L**
San Joaquin Rive	0.15	Embryo Incubation	**0.10**	Hatchery Effects	0.075	Density dependent impacts - Redd superimposition, fungus	1.000	0.113	1	**0.113**	**L**
San Joaquin Rive	0.15	Juvenile Rearing and Outmigration	0.40	Hatchery Effects	0.025	Bays	0.200	0.030	3	**0.090**	**L**
San Joaquin Rive	0.15	Juvenile Rearing and Outmigration	0.40	Hatchery Effects	0.025	San Joaquin River	0.200	0.030	3	**0.090**	**L**
San Joaquin Rive	0.15	Adult Immigration and Holding	0.30	Harvest/Angling Impacts	0.050	Ocean	0.100	0.023	4	**0.090**	**L**
San Joaquin Rive	0.15	Embryo Incubation	**0.10**	Harvest/Angling Impacts	0.050	Redd disturbance	1.000	0.075	1.00	**0.075**	**L**

Merced River Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Merced River	0.16	Spawning	0.30	Spawning Habitat Availability	0.400	Habitat Suitability	1.000	1.920	1	**1.920**	**VH**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Flow Conditions	0.200	Flow Dependent Habitat Availability in Merced River	0.350	0.336	5	**1.680**	**VH**
Merced River	0.16	Adult Immigration and Holding	0.20	Passage Impediments/Barriers	0.300	Crocker Huffman	0.300	0.288	5	**1.440**	**VH**
Merced River	0.16	Adult Immigration and Holding	0.20	Passage Impediments/Barriers	0.300	McSwain Dam	0.250	0.240	5	**1.200**	**VH**
Merced River	0.16	Adult Immigration and Holding	0.20	Flow Conditions	0.300	Low Flows - attraction, migratory cues AND Flood Flows - non-natal area attraction in San Joaquin River	0.550	0.528	2	**1.056**	**VH**
Merced River	0.16	Embryo Incubation	**0.20**	Flow Conditions	0.550	Flow Fluctuations	0.550	0.968	1	**0.968**	**VH**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Flow Conditions	0.200	Flow Dependent Habitat Availability in the San Joaquin River	0.200	0.192	5	**0.960**	**VH**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Flow Conditions	0.200	Reverse Flow Conditions	0.200	0.192	5	**0.960**	**VH**
Merced River	0.16	Adult Immigration and Holding	0.20	Passage Impediments/Barriers	0.300	New Exchequer Dam	0.200	0.192	5	**0.960**	**VH**
Merced River	0.16	Adult Immigration and Holding	0.20	Passage Impediments/Barriers	0.300	Stockton Deep Water Ship Channel	0.200	0.192	5	**0.960**	**VH**
Merced River	0.16	Spawning	0.30	Physical Habitat Alteration	0.200	Limited Instream Gravel Supply	1.000	0.960	1	**0.960**	**VH**
Merced River	0.16	Adult Immigration and Holding	0.20	Flow Conditions	0.300	Low Flows - attraction, migratory cues in the Merced River	0.450	0.432	2	**0.864**	**VH**
Merced River	0.16	Adult Immigration and Holding	0.20	Water Temperature	0.200	Merced River	0.400	0.256	3	**0.768**	**VH**
Merced River	0.16	Adult Immigration and Holding	0.20	Water Temperature	0.200	San Joaquin River	0.400	0.256	3	**0.768**	**VH**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Loss of Riparian Habitat and Instream Cover	0.150	Delta	0.350	0.252	3	**0.756**	**VH**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Loss of Riparian Habitat and Instream Cover	0.150	San Joaquin River	0.350	0.252	3	**0.756**	**VH**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Flow Conditions	0.200	Changes in Hydrology	0.150	0.144	5	**0.720**	**VH**
Merced River	0.16	Spawning	0.30	Flow Conditions	0.150	Flow Fluctuations	1.000	0.720	1	**0.720**	**VH**
Merced River	0.16	Spawning	0.30	Water Temperature	0.150	Water temperature in the Merced River	1.000	0.720	1	**0.720**	**VH**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Entrainment	0.050	Jones and Banks Pumping Plants	0.450	0.108	6	**0.648**	**H**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Loss of Riparian Habitat and Instream Cover	0.150	Merced River	0.300	0.216	3	**0.648**	**H**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Water Temperature	0.100	San Joaquin River	0.450	0.216	3	**0.648**	**H**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Loss of Floodplain Habitat	0.100	Merced River	0.350	0.168	3	**0.504**	**H**

Merced River Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Loss of Floodplain Habitat	0.100	San Joaquin River	0.350	0.168	3	**0.504**	**H**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Loss of Natural River Morphology	0.100	Delta	0.350	0.168	3	**0.504**	**H**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Loss of Natural River Morphology	0.100	San Joaquin River	0.350	0.168	3	**0.504**	**H**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Water Temperature	0.100	Merced River	0.350	0.168	3	**0.504**	**H**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Flow Conditions	0.200	Diversion into Central Delta	0.100	0.096	5	**0.480**	**H**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Predation	0.050	Predation in the Merced River	0.500	0.120	4	**0.480**	**H**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Loss of Floodplain Habitat	0.100	Delta	0.300	0.144	3	**0.432**	**H**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Loss of Natural River Morphology	0.100	Merced River	0.300	0.144	3	**0.432**	**H**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Passage Impediments/Barriers	0.050	Crocker Huffman	0.450	0.108	4	**0.432**	**H**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the San Joaquin River	0.400	0.096	4	**0.384**	**H**
Merced River	0.16	Adult Immigration and Holding	0.20	Water Quality	0.100	Ag, Urban in the San Joaquin River	0.400	0.128	3	**0.384**	**H**
Merced River	0.16	Adult Immigration and Holding	0.20	Water Temperature	0.200	Delta	0.200	0.128	3	**0.384**	**H**
Merced River	0.16	Adult Immigration and Holding	0.20	Water Quality	0.100	DO, Ag, Urban, Heavy Metals in th Delta	0.350	0.112	3	**0.336**	**H**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Invasive Species/Food Web Disruption	0.050	Asian clam, A. aspera, Microcystis, etc. in the Delta	0.700	0.168	2	**0.336**	**H**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Passage Impediments/Barriers	0.050	McSwain Dam	0.350	0.084	4	**0.336**	**H**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Water Quality	0.050	Ag, Urban in the San Joaquin River	0.350	0.084	4	**0.336**	**H**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Entrainment	0.050	Individual Diversions in the San Joaquin River	0.200	0.048	6	**0.288**	**M**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Water Temperature	0.100	Delta	0.200	0.096	3	**0.288**	**M**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Loss of Tidal Marsh Habitat	0.050	Delta	0.600	0.144	2	**0.288**	**M**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.300	0.072	4	**0.288**	**M**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Water Quality	0.050	DO, Ag, Urban, Heavy Metals in th Delta	0.300	0.072	4	**0.288**	**M**
Merced River	0.16	Adult Immigration and Holding	0.20	Harvest/Angling Impacts	0.050	Merced River	0.350	0.056	5	**0.280**	**M**
Merced River	0.16	Adult Immigration and Holding	0.20	Harvest/Angling Impacts	0.050	San Joaquin River	0.300	0.048	5	**0.240**	**M**

Merced River Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Merced River	0.16	Adult Immigration and Holding	0.20	Passage Impediments/Barriers	0.300	Suisun Marsh Salinity Control Structure	0.050	0.048	5	**0.240**	**M**
Merced River	0.16	Adult Immigration and Holding	0.20	Water Quality	0.100	Ag, Urban in the Merced River	0.250	0.080	3	**0.240**	**M**
Merced River	0.16	Spawning	0.30	Harvest/Angling Impacts	0.050	Recreational, Poaching, Angler Impacts	1.000	0.240	1	**0.240**	**M**
Merced River	0.16	Spawning	0.30	Water Quality	0.050	Water quality in Merced River	1.000	0.240	1	**0.240**	**M**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Predation	0.050	Predation in the San Joaquin River	0.250	0.060	4	**0.240**	**M**
Merced River	0.16	Adult Immigration and Holding	0.20	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the San Joaquin River	0.350	0.056	4	**0.224**	**M**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Entrainment	0.050	Individual Diversions in the Merced River	0.150	0.036	6	**0.216**	**M**
Merced River	0.16	Embryo Incubation	**0.20**	Water Temperature	0.250	Water temperature in the Merced River	0.250	0.200	1	**0.200**	**M**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Loss of Tidal Marsh Habitat	0.050	Bays	0.400	0.096	2	**0.192**	**M**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bays	0.200	0.048	4	**0.192**	**M**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Water Quality	0.050	Ag, Urban in the Merced River	0.200	0.048	4	**0.192**	**M**
Merced River	0.16	Adult Immigration and Holding	0.20	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.300	0.048	4	**0.192**	**M**
Merced River	0.16	Adult Immigration and Holding	0.20	Harvest/Angling Impacts	0.050	Delta	0.200	0.032	5	**0.160**	**L**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Entrainment	0.050	Individual Diversions in the Delta	0.100	0.024	6	**0.144**	**L**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Invasive Species/Food Web Disruption	0.050	Asian clam, A. aspera, Microcystis, etc. in the Bays	0.300	0.072	2	**0.144**	**L**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Passage Impediments/Barriers	0.050	New Exchequer Dam	0.150	0.036	4	**0.144**	**L**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Predation	0.050	Predation in the Delta	0.150	0.036	4	**0.144**	**L**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Water Quality	0.050	Ag, Urban, Heavy Metals in the Bays	0.150	0.036	4	**0.144**	**L**
Merced River	0.16	Adult Immigration and Holding	0.20	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Merced River	0.200	0.032	4	**0.128**	**L**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Predation	0.050	Predation in the Bays	0.100	0.024	4	**0.096**	**L**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Merced River	0.100	0.024	4	**0.096**	**L**

Merced River Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Merced River	0.16	Adult Immigration and Holding	0.20	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bay	0.150	0.024	4	**0.096**	**L**
Merced River	0.16	Adult Immigration and Holding	0.20	Harvest/Angling Impacts	0.050	Bays	0.100	0.016	5	**0.080**	**L**
Merced River	0.16	Adult Immigration and Holding	0.20	Harvest/Angling Impacts	0.050	Ocean	0.100	0.016	5	**0.080**	**L**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Entrainment	0.050	Contra Costa Power Plant	0.050	0.012	6	**0.072**	**L**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Entrainment	0.050	Pittsburg Power Plant	0.050	0.012	6	**0.072**	**L**
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Passage Impediments/Barriers	0.050	Tributary Barriers	0.050	0.012	4	**0.048**	**L**
Merced River	0.16	Embryo Incubation	**0.20**	Water Quality	0.100	Water Pollution	0.100	0.032	1.00	**0.032**	**L**
Merced River	0.16	Embryo Incubation	**0.20**	Harvest/Angling Impacts	0.050	Redd disturbance	0.050	0.008	1.00	**0.008**	**L**
Merced River	0.16	Embryo Incubation	**0.20**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills, physical disturbance	0.050	0.008	1	**0.008**	**L**
Merced River	0.16	Spawning	0.30	Barrier	0.000	Redd superimposition, competition for habitat, hybridization/genetic integrity	1.000	0.000	1	**0.000**	
Merced River	0.16	Spawning	0.30	Hatchery Effects	0.000	Redd superimposition, competition for habitat, Genetic Integrity	1.000	0.000	1	**0.000**	
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Hatchery Effects	0.000	Bays	0.000	0.000	4	**0.000**	
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Hatchery Effects	0.000	Delta	0.000	0.000	4	**0.000**	
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Hatchery Effects	0.000	Merced River	0.000	0.000	4	**0.000**	
Merced River	0.16	Juvenile Rearing and Outmigration	0.30	Hatchery Effects	0.000	San Joaquin River	0.000	0.000	4	**0.000**	

Tuolumne River Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Tuolumne River	0.16	Spawning	0.35	Spawning Habitat Availability	0.500	Habitat Suitability	1.000	2.800	1	**2.800**	**VH**
Tuolumne River	0.16	Adult Immigration and Holding	0.20	Passage Impediments/Barriers	0.350	La Grange	0.500	0.560	4	**2.240**	**VH**
Tuolumne River	0.16	Adult Immigration and Holding	0.20	Passage Impediments/Barriers	0.350	Don Pedro	0.350	0.392	5	**1.960**	**VH**
Tuolumne River	0.16	Spawning	0.35	Physical Habitat Alteration	0.300	Limited Instream Gravel Supply	1.000	1.680	1	**1.680**	**VH**
Tuolumne River	0.16	Embryo Incubation	**0.20**	Flow Conditions	0.600	Flow Fluctuations	0.600	1.152	1	**1.152**	**VH**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Water Temperature	0.200	San Joaquin River	0.450	0.360	3	**1.080**	**VH**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Flow Conditions	0.125	Flow Dependent Habitat Availability in the Tuolumne River	0.350	0.175	5	**0.875**	**VH**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Water Temperature	0.200	Tuolumne River	0.350	0.280	3	**0.840**	**VH**
Tuolumne River	0.16	Adult Immigration and Holding	0.20	Water Temperature	0.200	San Joaquin River	0.400	0.256	3	**0.768**	**VH**
Tuolumne River	0.16	Adult Immigration and Holding	0.20	Water Temperature	0.200	Tuolumne River	0.400	0.256	3	**0.768**	**VH**
Tuolumne River	0.16	Adult Immigration and Holding	0.20	Flow Conditions	0.200	Low Flows - attraction, migratory cues in Tuolumne River	0.550	0.352	2	**0.704**	**VH**
Tuolumne River	0.16	Adult Immigration and Holding	0.20	Flow Conditions	0.200	Low Flows - attraction, migratory cues AND Flood Flows - non-natal area attraction in San Joaquin River	0.450	0.288	2	**0.576**	**VH**
Tuolumne River	0.16	Adult Immigration and Holding	0.20	Water Quality	0.150	Ag, Urban in the San Joaquin River	0.400	0.192	3	**0.576**	**VH**
Tuolumne River	0.16	Spawning	0.35	Flow Conditions	0.100	Flow Fluctuations	1.000	0.560	1	**0.560**	**VH**
Tuolumne River	0.16	Spawning	0.35	Water Temperature	0.100	Water temperature in the Tuolumne River	1.000	0.560	1	**0.560**	**VH**
Tuolumne River	0.16	Adult Immigration and Holding	0.20	Water Quality	0.150	Ag, Urban in the Tuolumne River	0.350	0.168	3	**0.504**	**VH**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Flow Conditions	0.125	Flow Dependent Habitat Availability in the San Joaquin River	0.200	0.100	5	**0.500**	**VH**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Flow Conditions	0.125	Reverse Flow Conditions	0.200	0.100	5	**0.500**	**VH**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Water Temperature	0.200	Delta	0.200	0.160	3	**0.480**	**H**
Tuolumne River	0.16	Adult Immigration and Holding	0.20	Passage Impediments/Barriers	0.350	Stockton Deep Water Ship Channel	0.100	0.112	4	**0.448**	**H**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Entrainment	0.050	Jones and Banks Pumping Plants	0.350	0.070	6	**0.420**	**H**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Loss of Floodplain Habitat	0.100	San Joaquin River	0.350	0.140	3	**0.420**	**H**

Tuolumne River Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Loss of Floodplain Habitat	0.100	Tuolumne River	0.350	0.140	3	**0.420**	**H**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Loss of Natural River Morphology	0.100	Delta	0.350	0.140	3	**0.420**	**H**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Loss of Natural River Morphology	0.100	San Joaquin River	0.350	0.140	3	**0.420**	**H**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Water Quality	0.075	Ag, Urban in the San Joaquin River	0.350	0.105	4	**0.420**	**H**
Tuolumne River	0.16	Adult Immigration and Holding	0.20	Water Temperature	0.200	Delta	0.200	0.128	3	**0.384**	**H**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Flow Conditions	0.125	Changes in Hydrology	0.150	0.075	5	**0.375**	**H**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Loss of Floodplain Habitat	0.100	Delta	0.300	0.120	3	**0.360**	**H**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Loss of Natural River Morphology	0.100	Tuolumne River	0.300	0.120	3	**0.360**	**H**
Tuolumne River	0.16	Adult Immigration and Holding	0.20	Water Quality	0.150	DO, Ag, Urban, Heavy Metals in th Delta	0.250	0.120	3	**0.360**	**H**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Predation	0.075	Predation in the San Joaquin River	0.300	0.090	4	**0.360**	**H**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Predation	0.075	Predation in the Tuolumne River	0.300	0.090	4	**0.360**	**H**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Water Quality	0.075	DO, Ag, Urban, Heavy Metals in th Delta	0.300	0.090	4	**0.360**	**H**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the San Joaquin River	0.400	0.080	4	**0.320**	**H**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Entrainment	0.050	Individual Diversions in the San Joaquin River	0.250	0.050	6	**0.300**	**H**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Passage Impediments/Barriers	0.050	Don Pedro	0.500	0.100	3	**0.300**	**H**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Passage Impediments/Barriers	0.050	La Grange	0.500	0.100	3	**0.300**	**H**
Tuolumne River	0.16	Adult Immigration and Holding	0.20	Harvest/Angling Impacts	0.050	Tuolumne River	0.350	0.056	5	**0.280**	**M**
Tuolumne River	0.16	Spawning	0.35	Harvest/Angling Impacts	0.050	Recreational, Poaching, Angler Impacts	1.000	0.280	1	**0.280**	**M**
Tuolumne River	0.16	Spawning	0.35	Water Quality	0.050	Water quality in Tuolumne River	1.000	0.280	1	**0.280**	**M**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Invasive Species/Food Web Disruption	0.050	Asian clam, A. aspera, Microcystis, etc. in the Delta	0.700	0.140	2	**0.280**	**M**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Flow Conditions	0.125	Diversion into Central Delta	0.100	0.050	5	**0.250**	**M**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Entrainment	0.050	Individual Diversions in the Delta	0.200	0.040	6	**0.240**	**M**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Loss of Tidal Marsh Habitat	0.050	Delta	0.600	0.120	2	**0.240**	**M**

Tuolumne River Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Predation	0.075	Predation in the Bays	0.200	0.060	4	**0.240**	**M**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Predation	0.075	Predation in the Delta	0.200	0.060	4	**0.240**	**M**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.300	0.060	4	**0.240**	**M**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Water Quality	0.075	Ag, Urban in the Tuolumne River	0.200	0.060	4	**0.240**	**M**
Tuolumne River	0.16	Adult Immigration and Holding	0.20	Passage Impediments/Barriers	0.350	Suisun Marsh Salinity Control Structure	0.050	0.056	4	**0.224**	**M**
Tuolumne River	0.16	Adult Immigration and Holding	0.20	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the San Joaquin River	0.350	0.056	4	**0.224**	**M**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Loss of Riparian Habitat and Instream Cover	0.050	Delta	0.350	0.070	3	**0.210**	**M**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Loss of Riparian Habitat and Instream Cover	0.050	San Joaquin River	0.350	0.070	3	**0.210**	**M**
Tuolumne River	0.16	Adult Immigration and Holding	0.20	Harvest/Angling Impacts	0.050	San Joaquin River	0.250	0.040	5	**0.200**	**M**
Tuolumne River	0.16	Embryo Incubation	**0.20**	Water Temperature	0.250	Water Temperature in the Tuolumne River	0.250	0.200	1	**0.200**	**M**
Tuolumne River	0.16	Adult Immigration and Holding	0.20	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.300	0.048	4	**0.192**	**M**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Entrainment	0.050	Individual Diversions in the Tuolumne River	0.150	0.030	6	**0.180**	**L**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Loss of Riparian Habitat and Instream Cover	0.050	Tuolumne River	0.300	0.060	3	**0.180**	**L**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Water Quality	0.075	Ag, Urban, Heavy Metals in the Bays	0.150	0.045	4	**0.180**	**L**
Tuolumne River	0.16	Adult Immigration and Holding	0.20	Harvest/Angling Impacts	0.050	Delta	0.200	0.032	5	**0.160**	**L**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Loss of Tidal Marsh Habitat	0.050	Bays	0.400	0.080	2	**0.160**	**L**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bays	0.200	0.040	4	**0.160**	**L**
Tuolumne River	0.16	Adult Immigration and Holding	0.20	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Tuolumne River	0.200	0.032	4	**0.128**	**L**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Invasive Species/Food Web Disruption	0.050	Asian clam, A. aspera, Microcystis, etc. in the Bays	0.300	0.060	2	**0.120**	**L**
Tuolumne River	0.16	Adult Immigration and Holding	0.20	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bay	0.150	0.024	4	**0.096**	**L**
Tuolumne River	0.16	Adult Immigration and Holding	0.20	Harvest/Angling Impacts	0.050	Bays	0.100	0.016	5	**0.080**	**L**

Tuolumne River Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Tuolumne River	0.16	Adult Immigration and Holding	0.20	Harvest/Angling Impacts	0.050	Ocean	0.100	0.016	5	**0.080**	**L**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Tuolumne River	0.100	0.020	4	**0.080**	**L**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Entrainment	0.050	Contra Costa Power Plant	0.050	0.010	6	**0.060**	**L**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Entrainment	0.050	Pittsburg Power Plant	0.050	0.010	6	**0.060**	**L**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Hatchery Effects	0.025	Bays	0.025	0.003	4	**0.010**	**L**
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Hatchery Effects	0.025	Delta	0.025	0.003	4	**0.010**	**L**
Tuolumne River	0.16	Embryo Incubation	**0.20**	Harvest/Angling Impacts	0.050	Redd disturbance	0.050	0.008	1.00	**0.008**	**L**
Tuolumne River	0.16	Embryo Incubation	**0.20**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills, physical disturbance	0.050	0.008	1	**0.008**	**L**
Tuolumne River	0.16	Embryo Incubation	**0.20**	Water Quality	0.050	Water Pollution	0.050	0.008	1.00	**0.008**	**L**
Tuolumne River	0.16	Spawning	0.35	Barrier	0.000	Redd superimposition, competition for habitat, hybridization/genetic integrity	1.000	0.000	1	**0.000**	
Tuolumne River	0.16	Spawning	0.35	Hatchery Effects	0.000	Redd superimposition, competition for habitat, Genetic Integrity	1.000	0.000	1	**0.000**	
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Hatchery Effects	0.025	San Joaquin River	0.000	0.000	4	**0.000**	
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Hatchery Effects	0.025	Tuolumne River	0.000	0.000	4	**0.000**	
Tuolumne River	0.16	Juvenile Rearing and Outmigration	0.25	Passage Impediments/Barriers	0.050	Tributary Barriers	0.000	0.000	3	**0.000**	

Stanislaus River Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Stanislaus River	0.18	Spawning	0.35	Physical Habitat Alteration	0.350	Limited Instream Gravel Supply	1.000	2.205	1	**2.205**	**VH**
Stanislaus River	0.18	Spawning	0.35	Spawning Habitat Availability	0.350	Habitat Suitability	1.000	2.205	1	**2.205**	**VH**
Stanislaus River	0.18	Adult Immigration and Holding	0.20	Passage Impediments/Barriers	0.300	Goodwin Dam	0.350	0.378	5	**1.890**	**VH**
Stanislaus River	0.18	Adult Immigration and Holding	0.20	Passage Impediments/Barriers	0.300	New Melones	0.300	0.324	5	**1.620**	**VH**
Stanislaus River	0.18	Adult Immigration and Holding	0.20	Flow Conditions	0.350	Low Flows - attraction, migratory cues AND Flood Flows - non-natal area attraction in San Joaquin River	0.550	0.693	2	**1.386**	**VH**
Stanislaus River	0.18	Embryo Incubation	**0.20**	Flow Conditions	0.600	Flow Fluctuations	0.600	1.296	1	**1.296**	**VH**
Stanislaus River	0.18	Spawning	0.35	Flow Conditions	0.200	Flow Fluctuations	1.000	1.260	1	**1.260**	**VH**
Stanislaus River	0.18	Adult Immigration and Holding	0.20	Flow Conditions	0.350	Low flows limiting attraction into the Stanislaus River	0.450	0.567	2	**1.134**	**VH**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Flow Conditions	0.125	Flow Dependent Habitat Availability in the Stanislaus River	0.400	0.225	5	**1.125**	**VH**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Water Temperature	0.150	San Joaquin River	0.500	0.338	3	**1.013**	**VH**
Stanislaus River	0.18	Adult Immigration and Holding	0.20	Passage Impediments/Barriers	0.300	Tulloch Dam	0.180	0.194	5	**0.972**	**VH**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Flow Conditions	0.125	Changes in Hydrology	0.300	0.169	5	**0.844**	**VH**
Stanislaus River	0.18	Adult Immigration and Holding	0.20	Passage Impediments/Barriers	0.300	Stockton Deep Water Ship Channel	0.150	0.162	5	**0.810**	**VH**
Stanislaus River	0.18	Adult Immigration and Holding	0.20	Water Quality	0.150	Ag, Urban in the San Joaquin River	0.450	0.243	3	**0.729**	**VH**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Water Quality	0.100	Ag, Urban in the San Joaquin River	0.400	0.180	4	**0.720**	**VH**
Stanislaus River	0.18	Adult Immigration and Holding	0.20	Water Quality	0.150	DO, Ag, Urban, Heavy Metals in th Delta	0.400	0.216	3	**0.648**	**VH**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Water Temperature	0.150	Delta	0.300	0.203	3	**0.608**	**VH**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Entrainment	0.050	Jones and Banks Pumping Plants	0.400	0.090	6	**0.540**	**VH**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Loss of Riparian Habitat and Instream Cover	0.100	Stanislaus River	0.400	0.180	3	**0.540**	**VH**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Water Quality	0.100	DO, Ag, Urban, Heavy Metals in th Delta	0.300	0.135	4	**0.540**	**VH**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Loss of Floodplain Habitat	0.100	San Joaquin River	0.350	0.158	3	**0.473**	**H**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Loss of Floodplain Habitat	0.100	Stanislaus River	0.350	0.158	3	**0.473**	**H**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Predation	0.050	Predation in the Stanislaus River	0.500	0.113	4	**0.450**	**H**

Stanislaus River Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Stanislaus River	0.18	Adult Immigration and Holding	0.20	Water Temperature	0.100	Delta	0.400	0.144	3	**0.432**	**H**
Stanislaus River	0.18	Adult Immigration and Holding	0.20	Water Temperature	0.100	San Joaquin River	0.400	0.144	3	**0.432**	**H**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Flow Conditions	0.125	Flow Dependent Habitat Availability in the San Joaquin River	0.150	0.084	5	**0.422**	**H**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Water Temperature	0.150	Stanislaus River	0.200	0.135	3	**0.405**	**H**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Loss of Floodplain Habitat	0.100	Delta	0.300	0.135	3	**0.405**	**H**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Loss of Natural River Morphology	0.100	Delta	0.300	0.135	3	**0.405**	**H**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Loss of Natural River Morphology	0.100	San Joaquin River	0.300	0.135	3	**0.405**	**H**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Loss of Riparian Habitat and Instream Cover	0.100	Delta	0.300	0.135	3	**0.405**	**H**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Loss of Riparian Habitat and Instream Cover	0.100	San Joaquin River	0.300	0.135	3	**0.405**	**H**
Stanislaus River	0.18	Adult Immigration and Holding	0.20	Harvest/Angling Impacts	0.050	Stanislaus River	0.400	0.072	5	**0.360**	**H**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the San Joaquin River	0.400	0.090	4	**0.360**	**H**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Water Quality	0.100	Ag, Urban in the Stanislaus River	0.200	0.090	4	**0.360**	**H**
Stanislaus River	0.18	Spawning	0.35	Harvest/Angling Impacts	0.050	Recreational, Poaching, Angler Impacts	1.000	0.315	1	**0.315**	**H**
Stanislaus River	0.18	Spawning	0.35	Water Quality	0.050	Water quality in Stanislaus River	1.000	0.315	1	**0.315**	**H**
Stanislaus River	0.18	Spawning	0.35	Water Temperature	0.050	Water temperature in the Stanislaus River	1.000	0.315	1	**0.315**	**H**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Invasive Species/Food Web Disruption	0.050	Asian clam, A. aspera, Microcystis, etc. in the Delta	0.700	0.158	2	**0.315**	**H**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Passage Impediments/Barriers	0.050	Goodwin Dam	0.330	0.074	4	**0.297**	**M**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Passage Impediments/Barriers	0.050	New Melones	0.330	0.074	4	**0.297**	**M**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Passage Impediments/Barriers	0.050	Tulloch Dam	0.330	0.074	4	**0.297**	**M**
Stanislaus River	0.18	Adult Immigration and Holding	0.20	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the San Joaquin River	0.400	0.072	4	**0.288**	**M**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Flow Conditions	0.125	Reverse Flow Conditions	0.100	0.056	5	**0.281**	**M**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Entrainment	0.050	Individual Diversions in the San Joaquin River	0.200	0.045	6	**0.270**	**M**

Stanislaus River Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Loss of Natural River Morphology	0.100	Stanislaus River	0.200	0.090	3	**0.270**	**M**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Loss of Tidal Marsh Habitat	0.050	Delta	0.600	0.135	2	**0.270**	**M**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.300	0.068	4	**0.270**	**M**
Stanislaus River	0.18	Adult Immigration and Holding	0.20	Water Quality	0.150	Ag, Urban in the Stanislaus River	0.150	0.081	3	**0.243**	**M**
Stanislaus River	0.18	Adult Immigration and Holding	0.20	Harvest/Angling Impacts	0.050	San Joaquin River	0.250	0.045	5	**0.225**	**M**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Predation	0.050	Predation in the San Joaquin River	0.250	0.056	4	**0.225**	**M**
Stanislaus River	0.18	Embryo Incubation	**0.20**	Water Temperature	0.250	Water Temperature in the Stanislaus River	0.250	0.225	1	**0.225**	**M**
Stanislaus River	0.18	Adult Immigration and Holding	0.20	Water Temperature	0.100	Stanislaus River	0.200	0.072	3	**0.216**	**M**
Stanislaus River	0.18	Adult Immigration and Holding	0.20	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Delta	0.300	0.054	4	**0.216**	**M**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Entrainment	0.050	Individual Diversions in the Delta	0.150	0.034	6	**0.203**	**M**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Entrainment	0.050	Individual Diversions in the Stanislaus River	0.150	0.034	6	**0.203**	**M**
Stanislaus River	0.18	Adult Immigration and Holding	0.20	Harvest/Angling Impacts	0.050	Delta	0.200	0.036	5	**0.180**	**M**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Loss of Tidal Marsh Habitat	0.050	Bays	0.400	0.090	2	**0.180**	**M**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bays	0.200	0.045	4	**0.180**	**M**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Water Quality	0.100	Ag, Urban, Heavy Metals in the Bays	0.100	0.045	4	**0.180**	**M**
Stanislaus River	0.18	Adult Immigration and Holding	0.20	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Stanislaus River	0.200	0.036	4	**0.144**	**L**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Flow Conditions	0.125	Diversion into Central Delta	0.050	0.028	5	**0.141**	**L**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Invasive Species/Food Web Disruption	0.050	Asian clam, A. aspera, Microcystis, etc. in the Bays	0.300	0.068	2	**0.135**	**L**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Predation	0.050	Predation in the Delta	0.150	0.034	4	**0.135**	**L**
Stanislaus River	0.18	Adult Immigration and Holding	0.20	Passage Impediments/Barriers	0.300	Suisun Marsh Salinity Control Structure	0.020	0.022	5	**0.108**	**L**
Stanislaus River	0.18	Adult Immigration and Holding	0.20	Harvest/Angling Impacts	0.050	Bays	0.100	0.018	5	**0.090**	**L**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Predation	0.050	Predation in the Bays	0.100	0.023	4	**0.090**	**L**

Stanislaus River Steelhead Stressor Matrix

Population	Pop Weight (0-1) Sum to 1	Life Stage	Life Stage Weight (0-1) Sum to 1	Primary Stressor Category	Primary Stressor Weight (0-1) Sum to 1	Specific Stressor	Specific Stressor Weight (0-1) Sum to 1	Composite Weight (X100)	# of Specific Stressors	Normalized Weight (Composite * # of specific stressors)	Overall Stressor Category
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Stanislaus River	0.100	0.023	4	**0.090**	**L**
Stanislaus River	0.18	Adult Immigration and Holding	0.20	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills in the Bay	0.100	0.018	4	**0.072**	**L**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Entrainment	0.050	Contra Costa Power Plant	0.050	0.011	6	**0.068**	**L**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Entrainment	0.050	Pittsburg Power Plant	0.050	0.011	6	**0.068**	**L**
Stanislaus River	0.18	Adult Immigration and Holding	0.20	Harvest/Angling Impacts	0.050	Ocean	0.050	0.009	5	**0.045**	**L**
Stanislaus River	0.18	Embryo Incubation	**0.20**	Harvest/Angling Impacts	0.050	Redd disturbance	0.050	0.009	1.00	**0.009**	**L**
Stanislaus River	0.18	Embryo Incubation	**0.20**	Short-term Inwater Construction	0.050	Sedimentation, turbidity, acoustic effects, hazardous spills, physical disturbance	0.050	0.009	1	**0.009**	**L**
Stanislaus River	0.18	Embryo Incubation	**0.20**	Water Quality	0.050	Water Pollution	0.050	0.009	1.00	**0.009**	**L**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Hatchery Effects	0.025	Bays	0.000	0.000	4	**0.000**	**L**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Hatchery Effects	0.025	Delta	0.000	0.000	4	**0.000**	**L**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Hatchery Effects	0.025	San Joaquin River	0.000	0.000	4	**0.000**	**L**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Hatchery Effects	0.025	Stanislaus River	0.000	0.000	4	**0.000**	**L**
Stanislaus River	0.18	Juvenile Rearing and Outmigration	0.25	Passage Impediments/Barriers	0.050	Tributary Barriers	0.000	0.000	4	**0.000**	**L**