Subject: [Fwd: a new request]
From: Barbara Schroeder <Barbara.Schroeder@noaa.gov>
Date: Mon, 26 Apr 2010 09:33:57 -0400
To: Teri Rowles <Teri.Rowles@noaa.gov>, Brian Stacy <StacyB@mail.vetmed.ufl.edu>, David Cottingham <David.Cottingham@noaa.gov>

-------- Original Message --------
Subject: a new request
Date: Sun, 25 Apr 2010 14:26:56 -0400
From: Sheryan Epperly <Sheryan.Epperly@noaa.gov>
To: Lance Garrison <Lance.Garrison@noaa.gov>, Peter Thompson <Peter.Thompson@noaa.gov>, Theo Brainerd <Theo.Brainerd@noaa.gov>, Bonnie Ponwith <Bonnie.Ponwith@noaa.gov>, Guy Davenport <Guy.Davenport@noaa.gov>, Lisa Desfosse <Lisa.Desfosse@noaa.gov>, Roger Zimmerman <Roger.Zimmerman@noaa.gov>
CC: Jim Bohnsack <Jim.Bohnsack@noaa.gov>, Lisa Belskis <Lisa.Belskis@noaa.gov>, Wendy Teas <Wendy.Teas@noaa.gov>, Barbara Schroeder <Barbara.Schroeder@noaa.gov>, Keith D Mullin <Keith.D.Mullin@noaa.gov>

Lance, I just got a call from Gary Shigenaka in Seattle. He asked if we can pull together the MM and sea turtle information for him. It sounds like what they want is general/synoptic information on the resources at risk in the northern Gulf of Mexico. I told him what I knew we (actually you) have resulting from the GOM aerial surveys in 2007. If I recall, the maps in the report you submitted to Eglin would suffice. He needs summer survey results only. Ideally, they want more than the transects mapped with sightings, by species. They want the transects interpolated (as you have done) and show, for each species, their distribution and density. Is that something you can pull from your report and send him? Do you have the shape files for those graphics?

They (Gary and the Scientific Support Coordinator, Charlie Henry) want to have something pulled together by this evening. Soon they will begin deploying to the field, but Gary will continue to coordinate (from Houma).

I learned, also, that they soon will be applying dispersants to the slick; it likely will be the biggest deployment of chemical dispersants ever in the U.S. It is Corexit 9527. I asked about what they know about it. According to Gary, it primarily is surfactant-based, intended to remove the oil from the surface (increases oil's solubility) but exposing the oil to the water column; it also accelerates microbial activity. It is supposed to be less toxic than previous generation dispersants which were solvent based, and much less toxic than the oil itself. A quick search on the web indicates is isn't so benign!

I believe that Gary said that they will have a call later today with head Fisheries staff in HQ. Bonnie, I indicated that you and Roy needed to be plugged into all this. He had your name on his spreadsheet, but not your phone number.

--

Barbara Schroeder

National Sea Turtle Coordinator
National Oceanic and Atmospheric Administration - NMFS

email: barbara.schroeder@noaa.gov
Phone: 301-713-2322

To cherish what remains of the earth, and to foster its renewal, is our only legitimate hope. Wendell Berry

Subject: [Fwd: SEFSC distribution data]
From: Blair Mase <Blair.Mase@noaa.gov>
Date: Mon, 26 Apr 2010 11:21:50 -0400
To: Teri Rowles <Teri.Rowles@noaa.gov>, erin fougeres <erin.fougeres@noaa.gov>, kim amendola <kim.amendola@noaa.gov>

Subject: SEFSC distribution data
From: Lance.Garrison@noaa.gov
Date: Mon, 26 Apr 2010 10:57:23 -0400
To: Gary Shigenaka <Gary.Shigenaka@noaa.gov>
CC: Keith.D.Mullin@noaa.gov, Sheryan.Epperly@noaa.gov, Blair.Mase@noaa.gov

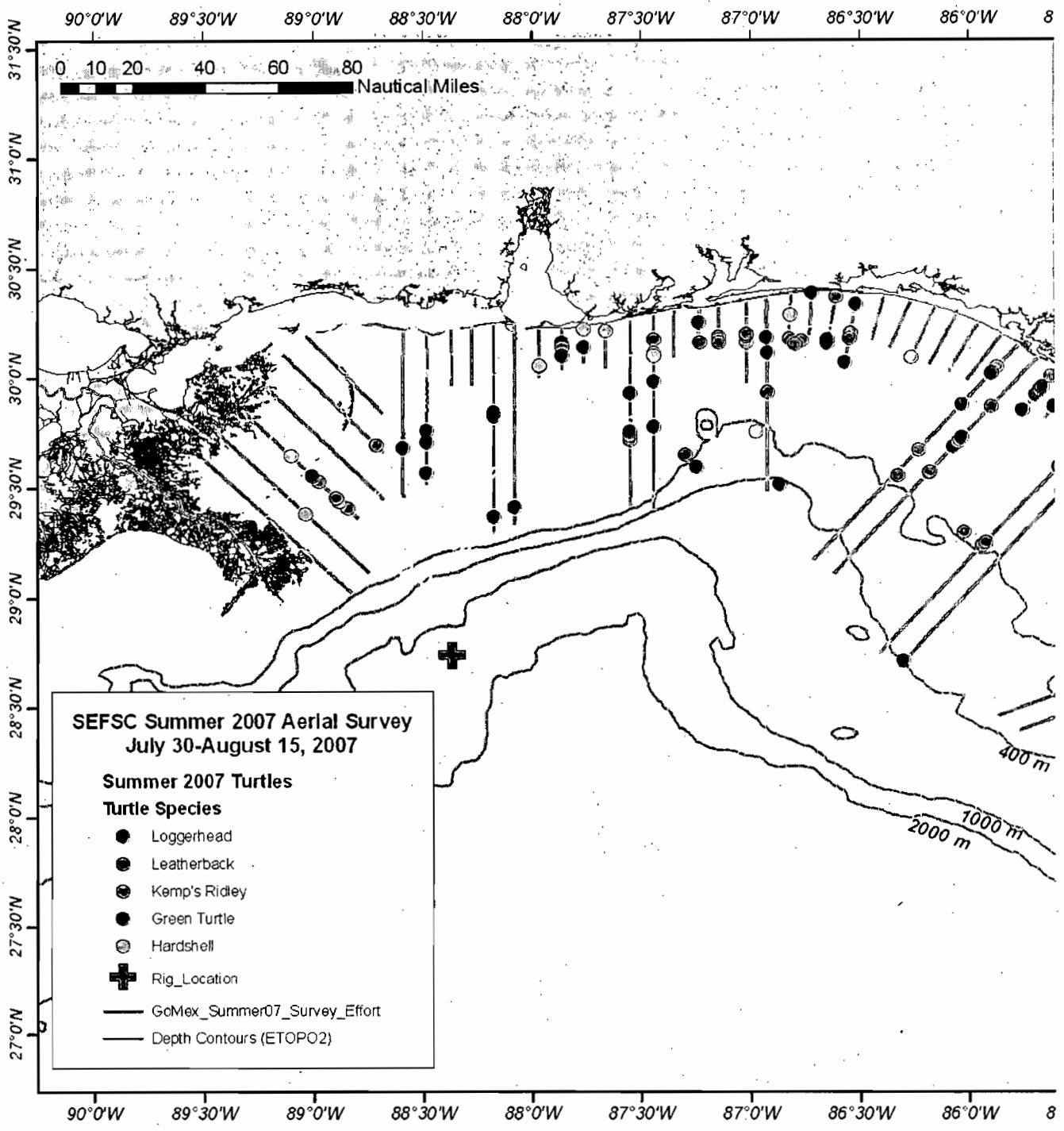
Good morning Gary..

Please find attached 4 maps showing our available distribution information for marine mammals and turtles. In addition to these, we have vessel survey data from the spring (April-May) of 2004 that may provide additional useful information on marine mammals, which I should be able to provide shortly. In short, though, once you go deeper than the 500 m isobath, the GOM marine mammal community becomes very diverse and includes a number of different species.

For the turtles, Sheryan Epperly indicates that the current water temperatures (~21 C) are likely to represent a "warm water" distribution. Therefore, the summer data may be more relevant, but we are certainly in a transition period for which we have relatively little data. Regardless of season, it is reasonable to expect that leatherbacks, loggerheads, and Kemp's Ridley turtles are likley in any potential impact zone in nearshore waters.

Please let me know if these are good as a starting point and let me know what else I can send you.

Lance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Nautical Miles
SEFSC Summer 2007 Aerial Survey
July 30-August 15, 2007
Summer 2007 Turtles
Turtle Species
Loggerhead
Leatherback
Kemp's Ridley
Green Turtle
Hardshell
Rig_Location
GoMex_Summer07_Survey_Effort
Depth Contours (ETOPO2)
400 m
1000 m
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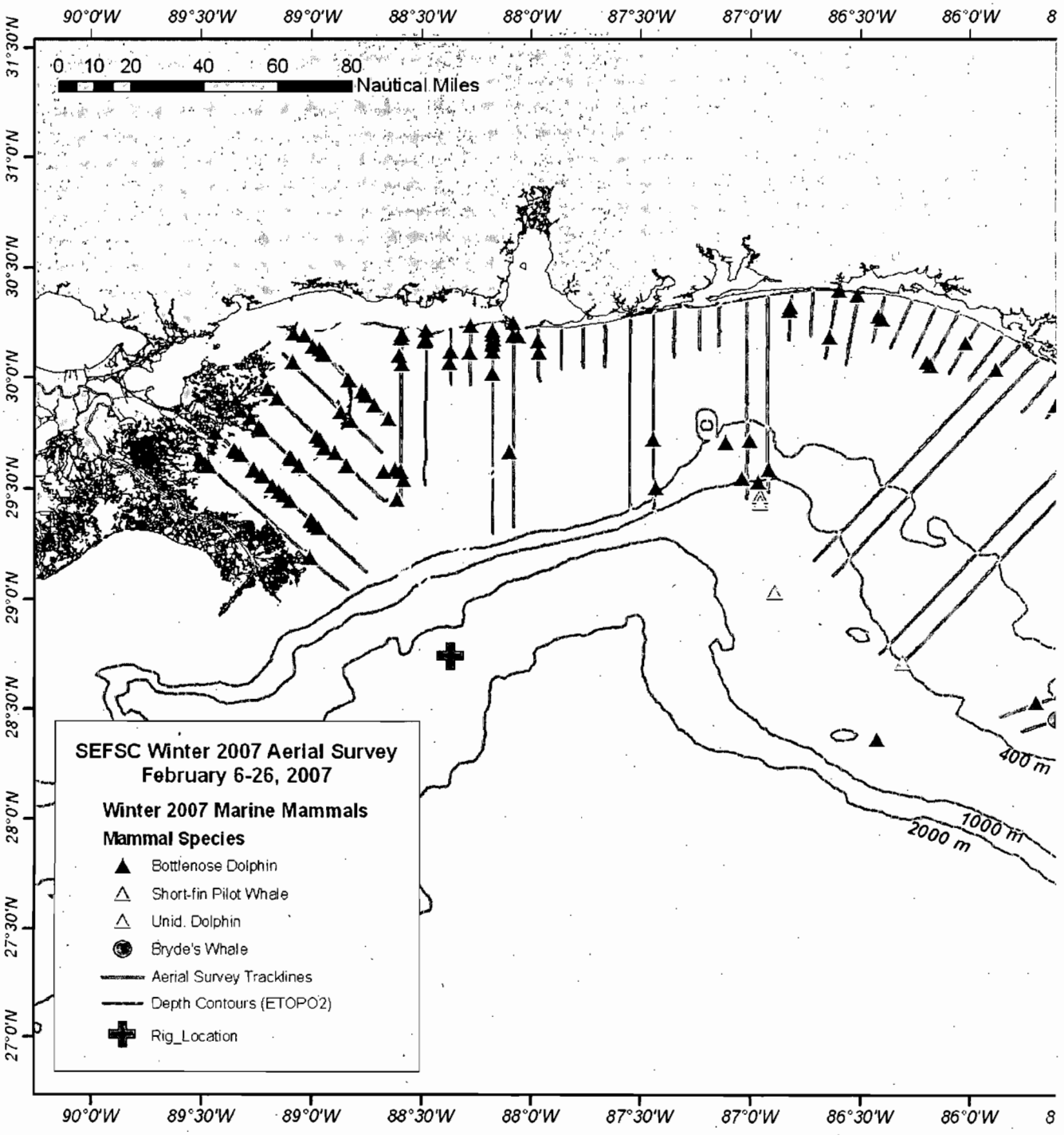
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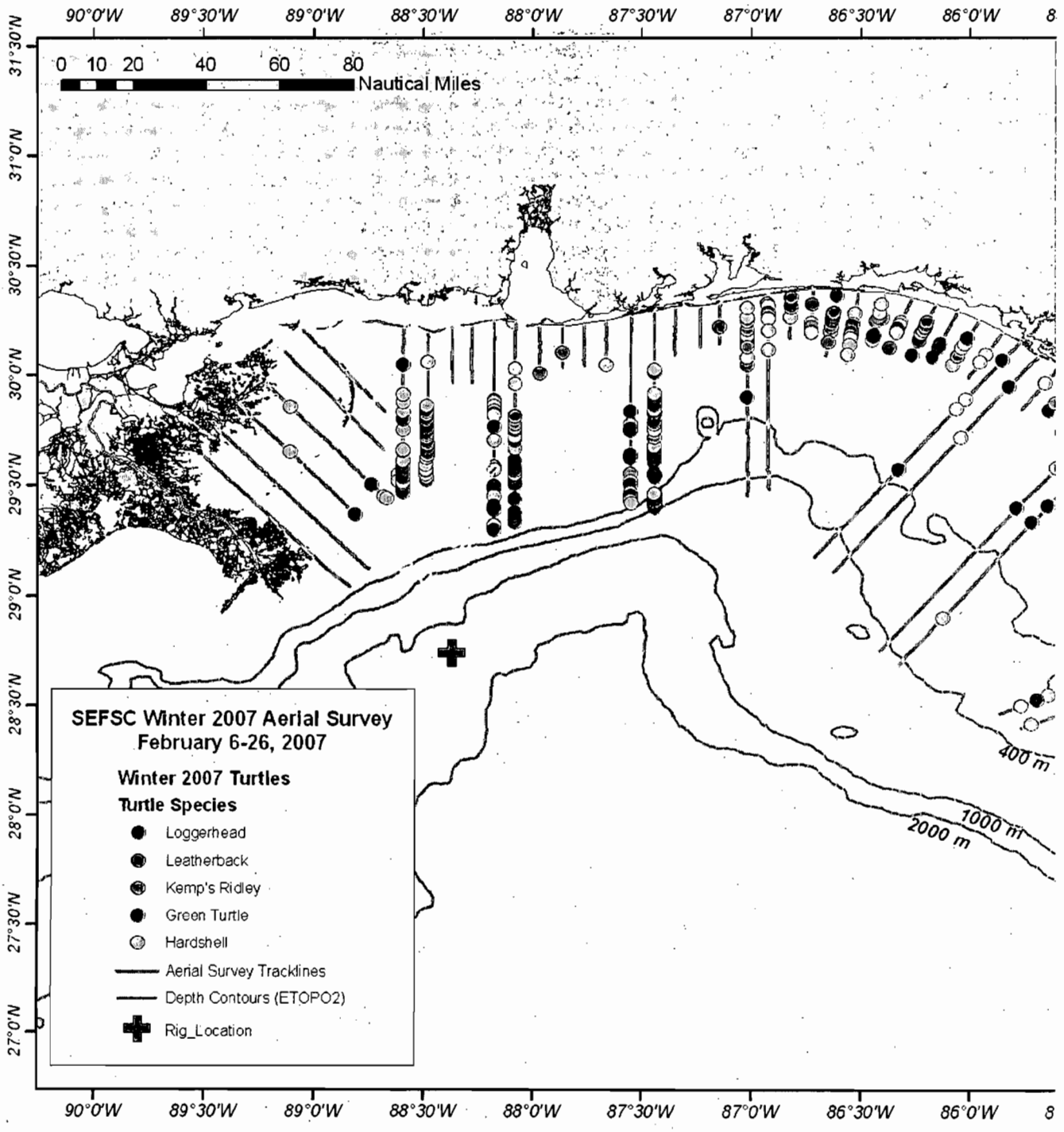
Nautical Miles
400 m
1000 m
2000 m
SEFSC Winter 2007 Aerial Survey
February 6-26, 2007
Winter 2007 Marine Mammals
Mammal Species
Bottlenose Dolphin
Short-fin Pilot Whale
Unid. Dolphin
Bryde's Whale
Aerial Survey Tracklines
Depth Contours (ETOPO2)
Rig_Location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Nautical Miles
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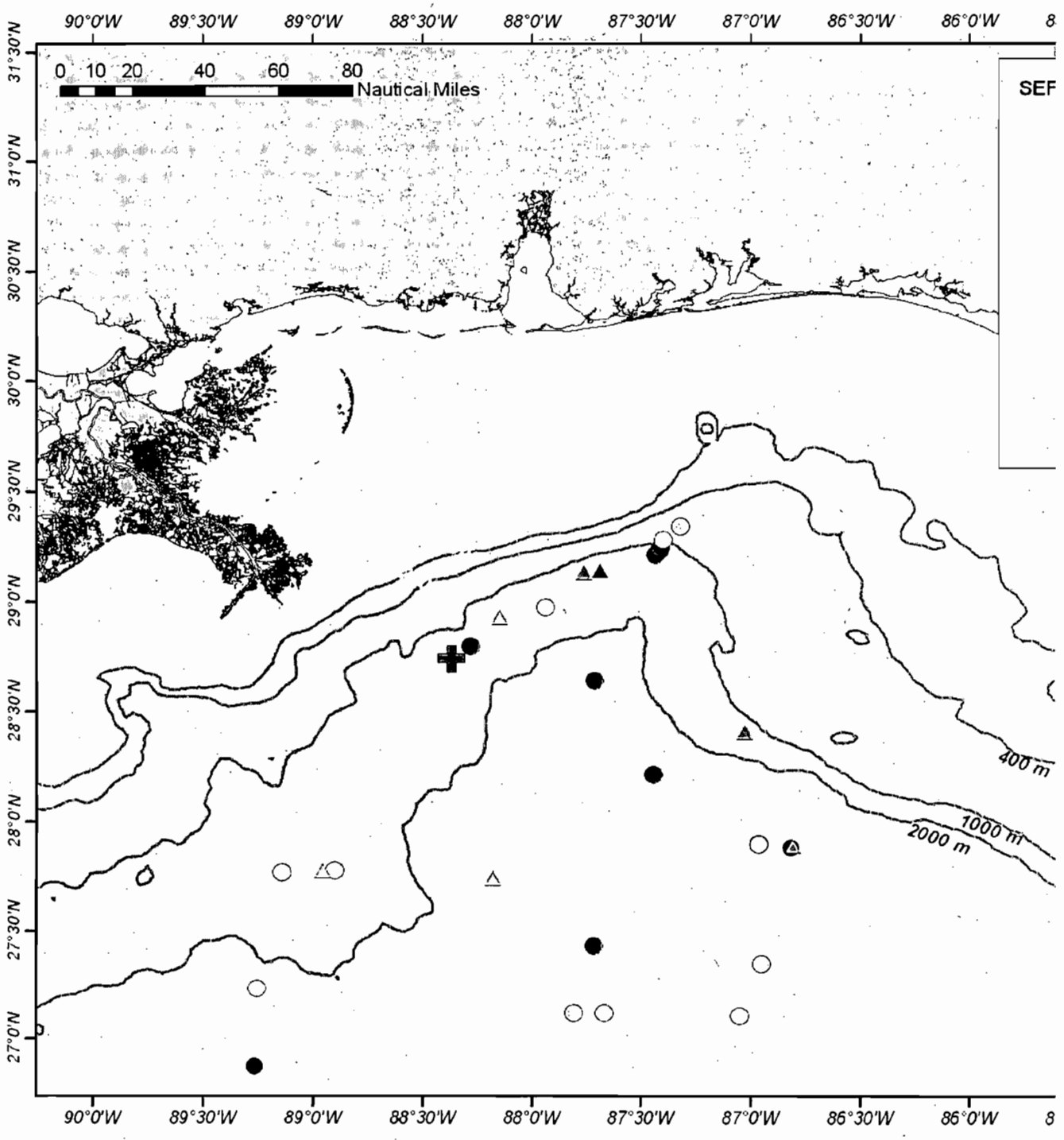
SEFSC Winter 2007 Aerial Survey
February 6-26, 2007
Winter 2007 Turtles
Turtle Species
Loggerhead
Leatherback
Kemp's Ridley
Green Turtle
Hardshell
Aerial Survey Tracklines
Depth Contours (ETOPO2)
Rig_Location



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SEFSC_Aerial_Survey_Winter2007_Turtles.jpg	**Content-Type:** image/jpeg **Content-Encoding:** base64

SEFSC_Offshore_Mammals.jpg	**Content-Type:** image/jpeg **Content-Encoding:** base64

Subject: [Fwd: Gulf of Mexico Cetacean Species List et al.]
From: Blair Mase <Blair.Mase@noaa.gov>
Date: Mon, 26 Apr 2010 11:26:59 -0400
To: Teri Rowles <Teri.Rowles@noaa.gov>, erin fougeres <erin.fougeres@noaa.gov>, Liz Tuohy-Sheen <Elizabeth.Tuohy-Sheen@noaa.gov>

Subject: Gulf of Mexico Cetacean Species List et al.
From: Keith Mullin <Keith.D.Mullin@noaa.gov>
Date: Mon, 26 Apr 2010 09:54:52 -0500
To: kim amendola <kim.amendola@noaa.gov>
CC: Lance Garrison <Lance.Garrison@noaa.gov>, Blair Mase <Blair.Mase@noaa.gov>

Kim,

Here is the cetacean species list and fact sheets on marine mammals and sea turtles.
I probably should have included manatees on the species list and called it a marine mammal list. Let me know if you'd like me to do that.

Also, let me know if you see any errors or misspellings.

Keith

--
Keith D. Mullin, Ph.D.
Marine Mammal Program Manager
Southeast Fisheries' Science Center
National Marine Fisheries Service, NOAA
3209 Frederic Street
P.O. Drawer 1207
Pascagoula, MS 39568
USA

Phone: 228-549-1632
Email: Keith.D.Mullin@noaa.gov

Gulf of Mexico Cetacean Species List et al..eml	**Content-Type:** message/rfc822 **Content-Encoding:** 7bit

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Turtle_RAR.docx	**Content-Type:** application/vnd.openxmlformats-officedocument.wordprocessingml.document **Content-Encoding:** base64

CETACEAN SPECIES THAT COMMONLY OCCUR IN THE NORTHERN GULF OF MEXICO[1]

BAY, SOUNDS & ESTUARIES

Family Delphinidae
- Bottlenose dolphin (*Tursiops truncatus*)

CONTINENTAL SHELF (<200 M DEEP)

Family Delphinidae
- Bottlenose dolphin (*Tursiops truncatus*)
- Atlantic spotted dolphin (*Stenella frontalis*)

OCEANIC WATERS (>200 M DEEP)

Family Balaenopteridae
- Bryde's whale (*Balaenoptera edeni*)

Family Physeteridae
- Sperm whale (*Physeter macrocephalus*) (ESA-listed)

Family Kogiidae
- Dwarf sperm whale (*Kogia sima*)
- Pygmy sperm whale (*Kogia breviceps*)

Family Ziphiidae
- Cuvier's beaked whale (*Ziphius cavirostris*)
- Blainville's beaked whale (*Mesoplodon densirostris*)
- Gervais' beaked whale (*Mesoplodon europaeus*)

Family Delphinidae
- Short-finned pilot whale (*Globicephala macrorhynchus*)
- Killer whale (*Orcinus orca*)
- False killer whale (*Pseudorca crassidens*)
- Pygmy killer whale (*Feresa attenuata*)
- Melon-headed whale (*Peponocephala electra*)
- Bottlenose dolphin (*Tursiops truncatus*)
- Risso's dolphin (*Grampus griseus*)
- Rough-toothed dolphin (*Steno bredanensis*)
- Fraser's dolphin (*Lagenodelphis hosei*)
- Pantropical spotted dolphin (*Stenella attenuata*)
- Striped dolphin (*Stenella coeruleoalba*)
- Clymene dolphin (*Stenella clymene*)
- Spinner dolphin (*Stenella longirostris*)

CETACEAN SPECIES WITH RECORDS FROM THE GULF OF MEXICO

(very uncommon to extremely rare)

Family Balaenidae
- Right whale (*Balaena glacialis*) (ESA-listed)

Family Balaenopteridae
- Blue whale (*Balaenoptera musculus*) (ESA-listed)
- Fin whale (*Balaenoptera physalus*) (ESA-listed)
- Minke whale (*Balaenoptera acutorostrata*)
- Sei whale (*Balaenoptera borealis*) (ESA-listed)
- Humpback whale (*Megaptera novaeangliae*) (ESA-listed)

Family Ziphiidae
- Sowerby's beaked whale (*Mesoplodon bidens*)

1 – Compiled by:
Keith D. Mullin, National Marine Fisheries Service, NOAA, 3209 Frederic Street, Pascagoula, MS 39568

Deepwater Horizon Incident

Resources at Risk Addendum: Marine Mammals

This summary is intended to provide more detail on the risk of oil encounter to marine mammals in the area of potential impact from the *Deepwater Horizon* drilling rig incident in the northern Gulf of Mexico.

Relevant facts from a rapid survey of literature and personal comm. with Keith Mullin, Marine Mammal Program Manager, Southeast Fisheries Science Center, Pascagoula, MS, include the following:

- **For the purposes of marine mammal ecology the northern Gulf of Mexico may be divided into three eco-regions:**
  (1) <u>offshore deep (>100m) water</u> where large whales and several species of dolphin feed, mate and breed;
  (2) <u>the coastal shelf,</u> home to mobile Bottlenose and Atlantic spotted dolphins, and;
  (3) <u>bays, estuaries and passes</u> home to resident Bottlenose dolphins and West Indian Manatees
  Marine mammals from all three regions can be exposed to oil spills from deepwater (100-2000m) oil operations.
- **The northern Gulf of Mexico, beyond the 100 m isobath, is important habitat for endangered Sperm whale (*Physeter macrocephalus*)**
- **A small population of Bryde's whale (*Balaenoptera edeni*), the only baleen whale to commonly occur in the Gulf, inhabits the shelf break region in the northeastern Gulf.**
- **Pods of transient Killer whales (*Orcinus orca*) have been sighted with increasing frequency over the past several decades in the Gulf of Mexico, including off the Mississippi Delta.**
- **Bottlenose dolphin (*Tursiops truncatus*) are abundant and common in bays, estuaries and inter-bay passes in the northern Gulf of Mexico, and have less opportunity to avoid oil than do offshore whales and dolphins.**
- **Although toothed whales have smooth, oil-repellent, skin, and can avoid oil on the surface, bottlenose dolphin surfaced in fresh oil during the 1990 *Mega Borg* spill off Texas with unknown consequences.**
- **The primary risk of oil spills to whales is inhalation of volatile compounds from fresh oil. It is thought that this was the primary cause of death of killer whales, which surfaced in oil from the 1989 Exxon Valdez oil spill in Alaska. In the long-term, impacts on prey species are a potential risk.**
- **There is increasing tourism dedicated to the opportunity to observe dolphins and whales.**

Of the 29 species of marine mammals known to occur in the Gulf of Mexico, all are protected and six (sperm, sei, fin, blue, humpback and North Atlantic right whales) are listed as endangered under the ESA. Of these, only the sperm whale is

considered to commonly occur.

Little information is available on the reproduction and calving of offshore whales and dolphins in the Gulf. However, a number of species do breed and calve in winter through early summer. Bottlenose dolphin may breed and calve throughout the year.

Bottlenose dolphins are divided into 38 stocks, 33 in bays, estuaries and sounds, 3 coastal stocks and 1 outer continental shelf stock. There is one Atlantic spotted dolphin (*Stenella frontalis*) stock, occurring mainly along the shelf edge.

West Indian manatee (*Trichechus manatus*), an ESA-listed species, occurs primarily in Florida bays, estuaries and coastal waters but their range appears to be expanding.

The National Marine Fisheries service routinely conducts annual surveys of whales and dolphins throughout the Gulf. Abundance estimates and interspecific associations are available for 20 species from surveys conducted 1996 to 2001 (Maze-Foley et al, 2006).

References

Fulling, G.L., K.D. Mullin and C.W. Hubard. 2003. Abundance and distribution of cetaceans in outer continental shelf waters of the U.S. Gulf of Mexico. Fishery Bulletin, 101(4): 923-932.

Maze-Foley, K and K.D. Mullin, 2006. Cetaceans of the oceanic northern Gulf of Mexico: Distributions, group sizes and interspecific associations. J. Cetacean Res. Manage. 8(2): 203-213.

Mullin, K.D. and G.L. Fulling, 2004. Abundance of cetaceans in the oceanic northern Gulf of Mexico, 1996-2001. Mar. Mammal Sci., 20(4):787-807.

Mullin, K.D., W. Hoggard and L.J. Hansen, 2004. Abundance and seasonal occurrence of cetaceans in outer continental shelf and slope waters of the north-central and northwestern Gulf of Mexico. Gulf of Mexico Science 2004(1): 62-73.

Waring, G.T., E. Josephson, K. Maze-Foley and P.E. Rosel, 2009. U.S. Atlantic and Gulf of Mexico Stock Assessment 2009. NOAA Technical Memorandum NMFS-NE-213. 528 pp.

Wursig, B., T.A. Jefferson and D.J. Schmidly, 2000. The marine mammals of the Gulf of Mexico. Texas A&M University Press. [electronic resource] Bibliographic record display An electronic book accessible through the World Wide Web via NOAA Library and Information Network Catalog.

Deepwater Horizon Incident
Resources at Risk Addendum: Sea Turtles

This summary is intended to provide more detail on the risk of oil encounter to sea turtles in the area of potential impact from the *Deepwater Horizon* drilling rig incident in the northern Gulf of Mexico.

Relevant facts from a rapid survey of literature and personal comm. with Barbara Schroeder of NOAA Fisheries, Office of Protected Resources include the following:

- **The northern Gulf of Mexico is important habitat for threatened/endangered sea turtle species and individuals can be expected to frequent all operational areas.**
- **Turtles are most likely to be encountered in offshore (vs. nearshore or inshore) waters, and in less than 100 m in depth;**
- **More frequent sightings from spring to fall, and mostly offshore;**
- **Loggerhead densities are much higher in the eastern Gulf (Florida) than western (Louisiana & Texas);**
- **Loggerheads do not range far and tend to return to the same location to rest at night.**
- **The area of highest risk for sea turtles is that within the 100 m isobath. Turtles are less likely to be encountered in deeper water.**
- **Nesting season is beginning—southwestern Florida, south of Big Bend is important habitat for loggerheads; "official" beginning of nesting season for loggerheads is May 15. Kemp's ridleys are already nesting in Padre Island area.**

Five species of endangered or threatened sea turtles inhabit the Gulf of Mexico. These are the Kemp's ridley *(Lepidochelys kempii),* green *(Chelonia mydas),* hawksbill *(Eretmochelys imbricata)* leatherback *(Dermochelys coriacea)* and loggerhead *(Caretta caretta).* While a great deal of information is available for the turtles with respect to beach nesting areas, data are comparatively much more limited for pelagic distributions and seasonal changes in occurrence in waters of the Gulf.

Aerial surveys of marine waters up to 222 km from shore in the Gulf of Mexico and nearby Atlantic Ocean suggest that marine turtles are largely distributed in waters less than 100 m in depth. The loggerhead turtle (*Caretta caretta*) was observed nearly 50 times as often in waters off eastern and western Florida as in the western Gulf of Mexico. Loggerheads were present year-round but the frequency of sightings in the winter months was lower than at other seasons. Green turtles (*Chelonia mydas*) were infrequently observed but were most conspicuous in waters off eastern Florida. Kemp's ridleys (*Lepidochelys kempi*) were most frequently sighted off southwestern Florida and rarely observed in the western Gulf of Mexico.

Leatherback turtles (*Dermochelys coriacea*) were more conspicuous on the continental shelf than in adjacent deeper waters.

Loggerhead turtles are known to frequent oil production platforms, and in fact research studies have used the structures as capture locations for sleeping individuals. Tracking of loggerheads fitted with satellite transmitters and monitored over several months indicated a tendency of the turtles to return to areas where they were captured and then remain in that vicinity—i.e., within an 8-km. radius of original capture location. The homing drive was especially strong for locations for night resting, typically within 10 m. regardless of the daytime area worked. The turtles studied for this project were found in relatively shallow (all < 75 m, most < 20 m) water depth, though all were 50 km or more offshore.

Recreational fishing surveys in 1991 and 1992 provided aggregated information for sightings of sea turtles of all species by anglers in three different categories of waters (inshore, nearshore, and offshore). Some general observations relevant to the spill incident can be extracted from the results:

- Sea turtle sightings peak in spring and summer months;
- Abundances are higher in offshore waters (> 5.6 km from shore) vs inshore (bays, inlets, sounds) or nearshore (< 5.6 km from shore).

References

Braun-McNeill, J. and S.P. Epperly. 2004. Spatial and temporal distribution of sea turtles in the western north Atlantic and the U.S. Gulf of Mexico from Marine Recreational Fishery Statistics Survey (MRFSS). Marine Fisheries Review 64(4):50-56.

Fritts, T.H., W. Hoffman, and M.A. McGeehee. 1983. The distribution and abundance of marine turtles in the Gulf of Mexico and nearby Atlantic waters. J. Herpetol. 17(4):327-344.

Renaud, M.L. and J.A. Carpenter. 1994. Movements and submergence patterns of loggerhead turtles (*Caretta caretta*) in the Gulf of Mexico determined through satellite telemetry. Bulletin of Marine Science 55(1):1-15.

Subject: Re: CALL for Strandings and Oil Spill Response
From: Sheryan Epperly <Sheryan.Epperly@noaa.gov>
Date: Tue, 27 Apr 2010 09:04:37 -0400
To: Teri.Rowles@noaa.gov
CC: Lisa Belskis <Lisa.Belskis@noaa.gov>, Blair Mase <Blair.Mase@noaa.gov>, Trevor Spradlin <Trevor.Spradlin@noaa.gov>, Brian Stacy <StacyB@vetmed.ufl.edu>, Barbara Schroeder <Barbara.Schroeder@noaa.gov>, Janet Whaley <Janet.Whaley@noaa.gov>, Jessica White <Jessica.White@noaa.gov>, Erin Fougeres <erin.fougeres@noaa.gov>, Laura Engleby <Laura.Engleby@noaa.gov>, Dave Rotstein <Dave.Rotstein@noaa.gov>, Brian Stacy <Brian.Stacy@noaa.gov>, Lance Garrison <Lance.Garrison@noaa.gov>, Wendy Teas <Wendy.Teas@noaa.gov>, Gary Shigenaka <Gary.Shigenaka@noaa.gov>, Ed Levine <Ed.Levine@noaa.gov>, Bonnie Ponwith <Bonnie.Ponwith@noaa.gov>, Jim Bohnsack <Jim.Bohnsack@noaa.gov>, Guy Davenport <Guy.Davenport@noaa.gov>, Lisa Desfosse <Lisa.Desfosse@noaa.gov>, Karen Mitchell <Karen.Mitchell@noaa.gov>, Roger Zimmerman <Roger.Zimmerman@noaa.gov>, Ben Higgins <Ben.Higgins@noaa.gov>, Nancy Evou <Nancy.Evou@noaa.gov>

Attached you will find two documents. One is the the most recent FR notice which allows any agent or employee of NMFS, the USFWS, USCG, or any other Federal land or water management agency, or any agency or employee of a state agency responsible for fish and wildlife, when acting in the course of his or her official duties, to take endangered sea turtles encountered in the marine environment if such taking is necessary to aid a sick, injured, or entangled endangered sea turtle, or dispose of a dead endangered sea turtle, or salvage a dead endangered sea turtle that may be useful for scientific and educational purposes.

A similar provision exists for threatened marine turtle species and the USFWS has two parallel rules, also, for takes on land. The second attachment is a summary of all those other documents.

Thus, all federal and state employees are covered. Other contracted individuals are, too, if they are acting as our agents.

I've copied a much broader audience on this response to ensure that as many people as possible is aware of this accommodation. Any questions about these rules are best addressed to our HQ staff (e.g., Barbara Schroeder).

Soon we'll provide information on how to boat turtles and the contact information for the stranding networks that will be accepting animals transported from the water.

Sherry

On 4/26/10 9:04 PM, Teri.Rowles@noaa.gov wrote:

> Sherry, Jessica reminded me that said we would get them a document that states they may pick up sick or injured turtles (by untrained staff) and bring them in for treatment and assessment. I left that off.
>
> ----- Original Message -----
> From: Sheryan Epperly<Sheryan.Epperly@noaa.gov>
> Date: Monday, April 26, 2010 8:24 pm
> Subject: Re: CALL for Strandings and Oil Spill Response
>
>> re: (5) below. Summaries of historical sea turtle strandings can be
>> obtained on our website
>> http://www.sefsc.noaa.gov/seaturtleSTSSN.jsp

The problem is that we're missing quite a bit of data for Florida in
both 2008 and 2009. The zeros in the tables don't always mean no strandings, but also can mean (as in this case) no data submitted (yet).
We'll get you (3), (4), and (6) ASAP.

On 4/26/10 6:54 PM, Teri Rowles wrote:

> Thank you for the call.
>
> Summary of tasks outlined in the stranding call, please edit,

did I

> leave anything out?
>
> 1. Rhonda Murgatroyb (BP wildlife branch) and Jessica White

(NOAA)

> will ask Unified Command
> a. how we want to handle marine mammal and sea turtle

response on

> oiled beaches if many of our normal responders have not had

HAZWOPR

> (24hours) or HAZCOM (8 hours) training (options to consider are
> bringing in outside folks or providing training)
> b. Oil sample handling and shipping protocols or storage if

that

> is the preferred option
> 2. SEFSC/SERO will provide list of assets and responders in the

area

> that will have capacity for response to injured, oiled or

stranded

> marine mammals (including assets for rehab, necropsy or

freezing)

> This will include a list of trained personnel (8 hour and 24

hour and

> date of last training)
> 3. SEFSC/SERO will provide communication tree and contact

information

> for stranded animals (both turtles and marine mammals) on shore

in

non-oiled areas, stranded animals on shore in oiled areas (depends on 1 above), and animals injured, dead or sighted in oiled waters.
4. SEFSC/PR will provide injured, ill or oiled sea turtle handling protocol if sighted by boat in water and outline communication strategy. This would include bringing the turtle to port for treatment.> 5. SEFSC/SERO will provide historic stranding data (sea turtles and marine mammals) for April, May, June for the panhandle of Florida, MS, AL, and LA so that everyone is aware of what the natural stranding rates would be and may help us evaluate resources needed.
6. SEFSC/PR will provide observation sheets for the OPS group to use for vessels on the water and aerial assets to report animal sightings, behavior, etc so that the appropriate data is collected.
7. PR will talk with west coast folks to see what personnel would be available that is both HAZWOPR and sea turtle/marine mammal trained. (note: talked with Mike Zaccardi and he has The Marine Mammal Center and Sea World San Diego that have sea turtle and appropriate oil spill response training and both have small cetacean rehab experience- he will send us information on who is available)
8. PR will provide oil spill response manual for marine mammals and

necropsy protocols for review as well as start draft fact sheet
for
impacts on marine mammals and sea turtles.
9. SEFSC/PR/SERO will hold a conference call tomorrow with all
the
marine mammal stranding leads for each state within the
potential
impact area to cover protocols, communications, actions and
training.
(I thought the turtle team might be doing the same, is that right?)

On unoiled beaches: stranding response reporting as normal and
all
animals examined for ingested or external oil.
On oiled beaches: first responders will likely be non-stranding
personnel and we will await list of trained personnel and
information
from Unified Command.
Zaccardi is available to do training if we need that done.

Teri Rowles wrote:

All, We will have a call at 3:30 CENTRAL time (4:30 eastern
time)
to discuss stranding readiness and operations for marine
mammals and
turtles including communication strategies. The call in
information is:
888 935 0561
pass code is 2544115#

Blair is planning a call with our stranding network responders
in
this region tomorrow to clarify operations and communications.
Some

of our stranding responders are not exactly plugged into the

ICS and

Oil Spill Response.
Those in SSMC 3, we have room 10817.

70 FR 42508 July 25 2005 endangeredSTSSN final rule.pdf	**Content-Type:** application/pdf **Content-Encoding:** base64

summary.doc	**Content-Type:** application/msword **Content-Encoding:** base64

Summary of regulations regarding exceptions to take prohibitions for stranded or dead sea turtles:

50CFR17.21(c)(3, 4 and 5) Subpart C: Endangered Species, USFWS

(3) Notwithstanding paragraph (c)(1) of this section, any employee or agent of the Service, any other Federal land management agency, the National Marine Fisheries Service, or a State conservation agency, who is designated by his agency for such purposes, may, when acting in the course of his official duties, take endangered wildlife without a permit if such action is necessary to:
(i) Aid a sick, injured or orphaned specimen; or
(ii) Dispose of a dead specimen; or
(iii) Salvage a dead specimen which may be useful for scientific study; or
(iv) Remove specimens which constitute a demonstrable but nonimmediate threat to human safety, provided that the taking is done in a humane manner; the taking may involve killing or injuring only if it has not been reasonably possible to eliminate such threat by live-capturing and releasing the specimen unharmed, in a remote area.
(4) Any taking under paragraphs (c)(2) and (3) of this section must be reported in writing to the U.S. Fish and Wildlife Service, Office of Law Enforcement, 4401 North Fairfax Drive, LE–3000, Arlington, VA 22203, within five days. The specimen may only be retained, disposed of, or salvaged under directions from the Office of Law Enforcement
(5) Notwithstanding paragraph (c)(1)of this section, any qualified employee or agent of a State Conservation Agency which is a party to a Cooperative Agreement with the Service in accordance with section 6(c) of the Act, who is designated by his agency for such purposes, may, when acting in the course of his official duties take those endangered species which are covered by an approved cooperative agreement for conservation programs in accordance with the Cooperative Agreement, provided that such taking is not reasonably anticipated to result in:
(i) The death or permanent disabling of the specimen;
(ii) The removal of the specimen from the State where the taking occurred;
(iii) The introduction of the specimen so taken, or of any progeny derived from such a specimen, into an area beyond the historical range of the species; or
(iv) The holding of the specimen in captivity for a period of more than 45 consecutive days.

50CFR17.31(b) Subpart D: Threatened Species, USFWS

(b) In addition to any other provisions of this part 17, any employee or agent of the Service, of the National Marine Fisheries Service, or of a State conservation agency which is operating a conservation program pursuant to the terms of a Cooperative Agreement with the Service in accordance with section 6(c) of the Act, who is designated by his agency for such purposes, may, when acting in the course of his official duties, take those threatened species of wildlife which are covered by an approved cooperative agreement to carry out conservation programs.

50CFR17.42(b) (1) Subpart D: Threatened Species, Special rules-reptiles, USFWS

(b) Green sea turtle (*Chelonia mydas*), loggerhead sea turtle (*Caretta caretta*), olive ridley sea turtle (*Lepidochelys olivacea*) (these do not include the populations listed as endangered in § 17.11).
(1) *Prohibitions.* Subject to the permits allowable under the following paragraph (b)(2) of this section, all of the provisions set forth in § 17.31 (which incorporate portions of § 17.21) shall apply to this wildlife with the following exceptions:
(i) Section 17.21(c)(2) (self-defense) is not applicable.
(ii) In § 17.21(c)(3)(i), the word "orphaned" is replaced by the word "stranded."
(iii) Delete § 17.21(c)(3)(iv) (Wildlife threatening human safety).
(iv) [Reserved]
(v) The prohibition against taking shall not apply to incidental catches, as specified in 50 CFR 227.72(e).
(vi) The prohibition against taking within the United States or the territorial sea of the United States shall not apply to subsistence taking, as specified in 50 CFR 227.72(f).

50CFR222.310 (a, b) Subpart C: Endangered Species, NMFS

§ 222.310 *Permit authority for designated agents and employees of specified Federal and state agencies.*
(a) This section constitutes a programmatic permit, pursuant to 16 U.S.C. 1539(a)(1)(A), that authorizes activities by agents and employees of Federal and state agencies, as described in paragraph (b) of this section, to aid stranded endangered sea turtles, and to salvage, collect data from, and dispose of, dead carcasses of endangered sea turtles in the marine environment. For purposes of this section, 'stranded' means endangered sea turtles, in the marine environment, that are alive but sick, injured, or entangled.
(b) If any member of any endangered species of sea turtle is found stranded or dead in the marine environment, any agent or employee of the National Marine Fisheries Service, the Fish and Wildlife Service, the U.S. Coast Guard, or any other Federal land or water management agency, or any agent or employee of a state agency responsible for fish and wildlife who is designated by his or her agency for such purposes, may, when acting in the course of his or her official duties, take such endangered sea turtles if such taking is necessary to aid a stranded sea turtle, or dispose of or salvage a dead sea turtle, or collect data from a dead sea turtle which may be useful for scientific and educational purposes. Live turtles will be handled as described in § 223.206(d)(1). Whenever possible, live sea turtles shall be returned to their aquatic environment as soon as possible. The following data collection activities for live turtles while they are in the marine environment are allowed:
(1) Turtles may be flipper and passive integrated transponder (PIT) tagged, prior to release. Flipper tags would be applied to the trailing edge of either the front or rear flippers with standard tagging applicators after the tagging area has been cleaned with alcohol or iodine solution. PIT tags would be inserted according to best practice, approved scientific protocols, after cleaning the insertion site with alcohol or iodine solution. Before application of flipper tags or insertion of PIT tags, all flippers and the neck/shoulder area will be examined and scanned for the presence of any pre-existing flipper or PIT tags.
(2) Turtles may also be weighed, measured, and photographed prior to release.
(3) When handling turtles exhibiting fibropapilloma, all equipment (tagging equipment, tape measures, etc.) that comes in contact with the turtle shall be cleaned with a mild bleach solution.
(c) Every action shall be reported in writing to the Assistant Administrator, or authorized representative, via the agency or institution designated by the state to record such events. Reports shall contain the following information:
(1) Name and position of the official or employee involved;
(2) Description of the sea turtle(s) involved including species and condition of the animal;
(3) When applicable, description of entangling gear, its location on the turtle, and the amount of gear left on the turtle at release;
(4) Method, date and location of disposal of the sea turtle(s), including, if applicable, where the sea turtle(s) has been retained in captivity; and
(5) Such other information as the Assistant Administrator, or authorized representative, may require.
[70 FR 42509, July 25, 2005]

50CFR223.206(b) Subpart B: Threatened Species, NMFS

(b) *Exception for injured, dead, or stranded specimens.* If any member of any threatened species of sea turtle is found injured, dead, or stranded, any agent or employee of the National Marine Fisheries Service, the Fish and Wildlife Service, the U.S. Coast Guard, or any other Federal land or water management agency, or any agent or employee of a state agency responsible for fish and wildlife who is designated by his or her agency for such purposes, may, when acting in the course of his or her official duties, take such specimens without a permit if such taking is necessary to aid a sick, injured, or stranded specimen or dispose of a dead specimen or salvage a dead specimen which may be useful for scientific study. Whenever possible, live specimens shall be returned to their aquatic environment as soon as possible. Every action shall be reported in writing to the Assistant Administrator within 30 days, and reports of further occurrence shall be made as deemed appropriate by the Assistant Administrator until the specimen is either returned to its environment or disposed of. Reports shall be

mailed by registered or certified mail, return receipt requested, to the Assistant Administrator and shall contain the following information:
(1) Name and position of the official
or employee involved;
(2) Description of the specimen(s) involved;
(3) Date and location of disposal;
(4) Circumstances requiring the action;
(5) Method of disposal;
(6) Disposition of the specimen(s), including, where the specimen(s) has been retained in captivity, a description of the place and means of confinement, and the measures taken for its maintenance and care; and
(7) Such other information as the Assistant Administrator may require.

comes in contact with the turtle shall be cleaned with a mild bleach solution.

(c) Every action shall be reported in writing to the Assistant Administrator, or authorized representative, via the agency or institution designated by the state to record such events. Reports shall contain the following information:

(1) Name and position of the official or employee involved;

(2) Description of the sea turtle(s) involved including species and condition of the animal;

(3) When applicable, description of entangling gear, its location on the turtle, and the amount of gear left on the turtle at release;

(4) Method, date and location of disposal of the sea turtle(s), including, if applicable, where the sea turtle(s) has been retained in captivity; and

(5) Such other information as the Assistant Administrator, or authorized representative, may require.

[FR Doc. 05–14619 Filed 7–22–05; 8:45 am]

BILLING CODE 3510–22–S

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 622

[Docket No. 050708183–5183–01; I.D. 070505D]

RIN 0648–AT45

Fisheries of the Caribbean, Gulf of Mexico, and South Atlantic; Reef Fish Fishery of the Gulf of Mexico; Gulf Grouper Recreational Management Measures

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Temporary rule; interim measures; request for comments.

SUMMARY: This temporary rule implements management measures for the recreational grouper fishery in the exclusive economic zone (EEZ) of the Gulf of Mexico, as requested by the Gulf of Mexico Fishery Management Council (Council), to reduce overfishing of red grouper. This rule establishes a seasonal closure of the recreational fishery for all Gulf grouper species and reduces both the recreational bag limit for red grouper and the aggregate grouper bag limit. The intended effects are to reduce overfishing of red grouper in the Gulf of Mexico and to minimize potential adverse impacts on other grouper stocks that could result from a shift in fishing effort from red grouper to other grouper species.

DATES: This rule is effective August 9, 2005 through January 23, 2006.

Comments must be received no later than 5 p.m., eastern standard time, on August 24, 2005.

ADDRESSES: You may submit comments on this temporary rule by any of the following methods:

- *E-mail: 0648–AT45.Interim@noaa.gov.* Include in the subject line the following document identifier: 0648–AT45.
- *Federal e-Rulemaking Portal: http://www.regulations.gov.* Follow the instructions for submitting comments.
- *Mail:* Phil Steele, Southeast Regional Office, NMFS, 263 13th Avenue South, St. Petersburg, FL 33701.
- *Fax:* 727–824–5308; Attention: Phil Steele.

Requests for copies of documents supporting this rule may be obtained from the Southeast Regional Office, NMFS, 263 13th Avenue South, St. Petersburg, FL 33701.

FOR FURTHER INFORMATION CONTACT: Phil Steele, telephone: 727–551–5784; fax: 727–824–5308; e-mail: *phil.steele@noaa.gov.*

SUPPLEMENTARY INFORMATION: The reef fish fishery of the Gulf of Mexico is managed under the Fishery Management Plan for the Reef Fish Resources of the Gulf of Mexico (FMP). The FMP was prepared by the Council and is implemented under the authority of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) by regulations at 50 CFR part 622.

Background

In October 2000, based on the results of a 1999 stock assessment, NMFS declared the red grouper stock overfished and undergoing overfishing. The 2002 stock assessment indicated the red grouper stock was in an improved condition and no longer overfished. However, the stock had not yet reached the biomass level (B_{MSY}) that is capable of producing maximum sustainable yield on a continuing basis. Therefore, a rebuilding plan was still necessary to restore the stock to the B_{MSY} level in 10 years or less. On June 15, 2004, NMFS implemented Secretarial Amendment 1 to the FMP to end overfishing of red grouper and rebuild the stock. The amendment established a commercial quota, a 2-fish recreational bag limit, and a 10-year rebuilding plan for red grouper. In addition, the amendment reduced the shallow-water and deep-water grouper commercial quotas and provided for closure of the entire commercial shallow-water grouper fishery when either the commercial shallow-water quota or commercial red grouper quota is reached.

The 10-year red grouper rebuilding plan is based on a stepped rebuilding strategy. During the first 3-year interval (2003–2005) of the plan, the allowable biological catch (ABC) is 6.56 million lb (2.98 million kg) gutted weight (GW), which equates approximately to a 9.4-percent reduction in both commercial and recreational landings compared to the average landings during 1999–2001. Based on historical landings, the commercial fishery would account for 81 percent of the ABC (5.31 million lb (2.41 million kg)), and the recreational fishery would account for 19 percent (1.25 million lb (0.57 million kg)). In both 2003 and 2004, recreational red grouper landings exceeded the 1.25-million lb (0.57-million kg) GW target level, while commercial landings were less than the 5.31-million lb (2.41-million kg) GW commercial quota. Recreational landings in 2003 were only slightly greater than the target level and totaled 1.35 million lb (0.61 million kg) GW. However, in 2004, recreational landings were nearly 2.5 times greater than the recreational target level, totaling 3.10 million lb (1.4 million kg) GW.

During the March 7–10, 2005, Council meeting, the Council reviewed red grouper landings and concluded that without additional regulations recreational red grouper landings in 2005 are again likely to exceed the recreational target level. Based on average recreational landings during 2003 and 2004, it is estimated that as much as a 43-percent reduction in recreational red grouper landings is needed to end overfishing in 2005. Although the Council intends to consider permanent recreational management measures as part of a regulatory amendment in 2006, action is needed in the interim to reduce recreational red grouper landings in 2005. The Council passed a motion and subsequently submitted a letter requesting NMFS to implement an interim rule to reduce the 2005 recreational red grouper catch to levels consistent with the rebuilding plan specified in Secretarial Amendment 1.

Provisions of This Temporary Rule

The purpose of this temporary rule is to reduce the likelihood of overfishing red grouper, while minimizing biological impacts on gag and other groupers that could result from shifts in effort due to red grouper management actions. To achieve this objective, this temporary rule reduces the red grouper

tags be applied 'subcutaneously' with a specification that such tags will be applied according to best practice and approved scientific protocols. This is necessary to ensure that the most current protocols are used. Protocols are based on the results of directed research (permitted through separate actions) for development of tagging methods, and are conveyed through annual STSSN training programs and through published literature (*e.g.*, The World Conservation Union Marine Turtle Specialist Group's 2002 Research and Management Techniques for the Conservation of Sea Turtles).

Summary

The STSSN was established in response to the need to better understand threats to sea turtles in the marine environment and to provide aid to stranded sea turtles, or dispose of a dead endangered sea turtle, or salvage a dead endangered sea turtle that may be useful for scientific and educational purposes. Maintaining a stranding network is identified as a recovery task in all federal sea turtle recovery plans. The extensive training requirements, comprehensive data collection, and frequent review and evaluation of these programs, satisfy the requirements described for individual directed research permits. Actions taken by stranding and entanglement networks improve survivability of sick, injured, entangled or stranded turtles and improve our knowledge about population structure, the etiology of disease, environmental stressors and manmade threats in the marine environment. This final rule authorizes activities that clearly provide a bona fide and desirable benefit to the enhancement and survival of endangered sea turtles.

For the reasons described above, the Assistant Administrator for Fisheries has determined that this permit by regulation complies with section 10 of the ESA. The activity and the exceptions provided for in this permit by regulation are being undertaken in good faith. No individual or organization receives any financial gain or any career advancement as a result of their volunteer activities for the STSSN. Further, the activity will increase the probability, for each rescued endangered sea turtle, of survival and reproduction of that sea turtle. This activity can therefore operate only to the advantage of endangered species involved. Further, this activity is consistent with relevant purposes and policy set forth in ESA section 2. The STSSN was established for the sole purpose of the conservation of endangered sea turtles. Maintaining a stranding network is identified as a recovery task in all federal sea turtle recovery plans. NMFS is using its authority under 10(a)(1)(A) to issue this regulation for the specific purpose of conserving endangered sea turtles. While the STSSN and the rescuing of endangered sea turtles does not impact water resources in any state, it is worth noting that the STSSN is at its heart a cooperative effort between NMFS, FWS and state conservation agencies.

Classification

This final rule has been determined to be not significant for purposes of Executive Order 12866.

This final rule does not contain new reporting or recordkeeping requirements.

This final rule does not duplicate, overlap or conflict with other Federal rules.

This final rule does not limit state policymaking or preempt state law and, therefore, does not contain policies with federalism implications under Executive Order 13132.

For the proposed rule, the Assistant General Counsel for Legislation and Regulation of the Department of Commerce certified to the Chief Counsel for Advocacy of the Small Business Administration that the rule, if adopted, would not have a significant economic impact on a substantial number of small businesses, organizations, or governments pursuant to the Regulatory Flexibility Act, 5 U.S.C. § 601 *et seq.* The factual basis for the certification was published in the proposed rule. No comments were received regarding the economic impacts of this action. As a result, no regulatory flexibility analysis was prepared.

Dated: July 20, 2005.

James W. Balsiger,

Acting Deputy Assistant Administrator for Regulatory Programs, National Marine Fisheries Service.

List of Subjects in 50 CFR Part 222

Administrative practice and procedure, Endangered and threatened species, Exports, Imports, Reporting and recordkeeping requirements.

■ For the reasons set forth in the preamble, 50 CFR part 222 is amended as follows:

PART 222—GENERAL ENDANGERED AND THREATENED MARINE SPECIES

■ 1. The authority citation for 50 CFR part 222 continues to read as follows:

Authority: 16 U.S.C. 1531 *et seq.*; 16 U.S.C. 742a *et seq.*; 31 U.S.C. 9701.

■ 2. In subpart C, § 222.310 is added to read as follows:

§ 222.310 Permit authority for designated agents and employees of specified Federal and state agencies.

(a) This section constitutes a programmatic permit, pursuant to 16 U.S.C. 1539(a)(1)(A), that authorizes activities by agents and employees of Federal and state agencies, as described in paragraph (b) of this section, to aid stranded endangered sea turtles, and to salvage, collect data from, and dispose of, dead carcasses of endangered sea turtles in the marine environment. For purposes of this section, 'stranded' means endangered sea turtles, in the marine environment, that are alive but sick, injured, or entangled.

(b) If any member of any endangered species of sea turtle is found stranded or dead in the marine environment, any agent or employee of the National Marine Fisheries Service, the Fish and Wildlife Service, the U.S. Coast Guard, or any other Federal land or water management agency, or any agent or employee of a state agency responsible for fish and wildlife who is designated by his or her agency for such purposes, may, when acting in the course of his or her official duties, take such endangered sea turtles if such taking is necessary to aid a stranded sea turtle, or dispose of or salvage a dead sea turtle, or collect data from a dead sea turtle which may be useful for scientific and educational purposes. Live turtles will be handled as described in § 223.206(d)(1). Whenever possible, live sea turtles shall be returned to their aquatic environment as soon as possible. The following data collection activities for live turtles while they are in the marine environment are allowed:

(1) Turtles may be flipper and passive integrated transponder (PIT) tagged, prior to release. Flipper tags would be applied to the trailing edge of either the front or rear flippers with standard tagging applicators after the tagging area has been cleaned with alcohol or iodine solution. PIT tags would be inserted according to best practice, approved scientific protocols, after cleaning the insertion site with alcohol or iodine solution. Before application of flipper tags or insertion of PIT tags, all flippers and the neck/shoulder area will be examined and scanned for the presence of any pre-existing flipper or PIT tags.

(2) Turtles may also be weighed, measured, and photographed prior to release.

(3) When handling turtles exhibiting fibropapilloma, all equipment (tagging equipment, tape measures, etc.) that

Budget Rent-A-Car Corporation
Dollar Rent-A-Car Systems, Inc.
Donlen Corporation
Enterprise Rent-A-Car
Enterprise Fleet Services [1]
GE Capital Fleet Services
Hertz Rent-A-Car Division (subsidiary of The Hertz Corporation)
Lease Plan USA, Inc.
PHH Vehicle Management Services/PHH Arval
U-Haul International, Inc. (Subsidiary of AMERCO)
Wheels Inc.

[1] Indicates a newly listed company, which must file a report beginning with the report due October 25, 2005.

[2] National Car Rental System, Inc., and Alamo Rent-A-Car Inc., became ANC Rental Corporation in 2002.

Issued on: July 13, 2005.

Stephen R. Kratzke,

Associate Administrator for Rulemaking.

[FR Doc. 05–14139 Filed 7–22–05; 8:45 am]

BILLING CODE 4910–59–P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 222

[Docket No. 050224044–5185–02; I.D. 092304A]

RIN 0648–AS57

Sea Turtle Conservation; Exceptions to Taking Prohibitions for Endangered Sea Turtles

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Final rule.

SUMMARY: NMFS is allowing any agent or employee of NMFS, the U.S. Fish and Wildlife Service (FWS), the U.S. Coast Guard, or any other Federal land or water management agency, or any agent or employee of a state agency responsible for fish and wildlife, when acting in the course of his or her official duties, to take endangered sea turtles encountered in the marine environment if such taking is necessary to aid a sick, injured, or entangled endangered sea turtle, or dispose of a dead endangered sea turtle, or salvage a dead endangered sea turtle that may be useful for scientific and educational purposes. This action is necessary to provide equal conservation and protection measures to stranded endangered sea turtles as is afforded for threatened sea turtles under 50 CFR 223.206.

DATES: Effective August 24, 2005.

FOR FURTHER INFORMATION CONTACT: Therese Conant, phone: 301–713–1401, fax:301–427–2523.

SUPPLEMENTARY INFORMATION:

Background

All sea turtles that occur in U.S. waters are listed as either endangered or threatened under the Endangered Species Act (ESA). Kemp's ridley (*Lepidochelys kempii*), leatherback (*Dermochelys coriacea*), and hawksbill (*Eretmochelys imbricata*) sea turtles are listed as endangered. Loggerhead (*Caretta caretta*), green (*Chelonia mydas*), and olive ridley (*Lepidochelys olivacea*) sea turtles are listed as threatened, except for breeding colony populations of green turtles in Florida and on the Pacific coast of Mexico and breeding colony populations of olive ridleys on the Pacific coast of Mexico which are listed as endangered. NMFS and the FWS share jurisdictional responsibility for sea turtles under the ESA. FWS has responsibility in the terrestrial environment and NMFS has responsibility in the marine environment.

Under the ESA and its implementing regulations, taking endangered sea turtles - even incidentally - is prohibited. The ESA allows take of threatened species; however, section 4(d) of the ESA allows NMFS to implement regulations for the conservation of threatened species. NMFS implemented a section 4(d) regulation that extended the take prohibitions to threatened sea turtles with exceptions identified in 50 CFR 223.206 which allows appropriate handling of sick, injured, entangled, or dead threatened sea turtles found in the marine environment. The take of endangered species may be authorized by an incidental take statement pursuant to section 7 or a permit or programmatic permit regulation issued pursuant to section 10 of the ESA.

Surveying, documenting and responding to sick, injured, entangled, and dead turtles have been ongoing for over 30 years and became institutionalized in 1980 with the establishment of the NMFS' Sea Turtle Stranding and Salvage Network (STSSN). The STSSN consists of agents or employees of NMFS, the FWS, the U.S. Coast Guard, or any other Federal land or water management agency, or any agent or employee of a state agency responsible for fish and wildlife. The FWS grants authority to each state with an official ESA section 6 agreement for permitting land-based activities (i.e., on the beach and in holding facilities) related to the STSSN. FWS also implemented regulations to allow any employee or agent of FWS, NMFS, or a state conservation agency, to aid, dispose, salvage or humanely remove endangered species that constitute a demonstrable threat to human safety (50 CFR 17.21). NMFS currently has ESA section 6 agreements with only 10 states/territories: Florida, Georgia, South Carolina, North Carolina, Maryland, New Jersey, New York, Massachusetts, Puerto Rico, and U.S. Virgin Islands (note: On June 11, 1997, NMFS entered into a Memorandum of Agreement with the California Department of Fish and Game, Office of Oil Spill Prevention and Response to aid sick, injured or stranded sea turtles impacted by oil and other hazardous material spills). The STSSN encompasses all U.S. states and territories. The ESA does not allow exceptions to takings for endangered species through section 4(d). Therefore, NMFS is granting authority under ESA section 10(a)(1)(A) to provide for the aid, collection, and disposition of, stranded endangered sea turtles found in the marine environment. By definition, the term 'stranded' includes live endangered sea turtles that are sick, injured, or entangled and dead endangered sea turtles found in the marine environment. Because the activities of the STSSN are similar in nature and scope, NMFS is issuing this final programmatic permit by regulation pursuant to section 10(a)(1)(A). Implementing this section 10(a)(1)(A) provides consistency with FWS regulations that allow such activities on land as described in 50 CFR 17.21. For a description of the activities related to the STSSN, see the proposed rule published on March 29, 2005 (70 FR 15800).

Comments on the Proposed Rule and Changes to the Final Rule

NMFS did not receive any public comments germane to the proposed rule. However, upon further internal agency review, NMFS is making two minor changes to clarify the requirements of the final rule. First, NMFS is requiring that all equipment (tagging equipment, tape measures, etc.) that comes in contact with turtles exhibiting fibropapilloma, be cleaned with a mild bleach solution. Fibropapilloma is a tumor-forming and debilitating transmissible disease of sea turtles. A herpes virus and retrovirus have been identified in association with fibropapilloma, but the etiology of the disease has not been determined. Cleaning equipment that has come in contact with fibropapilloma turtles may help prevent transmission. Second, NMFS is replacing the specification that passive integrated transponder (PIT)

Subject: Fwd: Re: in-situ burn
From: Sheryan Epperly <Sheryan.Epperly@noaa.gov>
Date: Wed, 28 Apr 2010 08:20:31 -0400
To: Teri Rowles <Teri.Rowles@noaa.gov>, Trevor Spradlin <Trevor.Spradlin@noaa.gov>

-------- Original Message --------
Subject: Re: in-situ burn
Date: Wed, 28 Apr 2010 07:54:35 -0400
From: Robert Hoffman <Robert.Hoffman@noaa.gov>
To: Sheryan Epperly <Sheryan.Epperly@noaa.gov>
CC: Bonnie Ponwith <Bonnie.Ponwith@noaa.gov>, Theo Brainerd <Theo.Brainerd@noaa.gov>, Peter Thompson <Peter.Thompson@noaa.gov>, Jim Bohnsack <Jim.Bohnsack@noaa.gov>, Lance Garrison <Lance.Garrison@noaa.gov>, Blair Mase <Blair.Mase@noaa.gov>, Wendy Teas <Wendy.Teas@noaa.gov>

There is no old biop, just the informal you attached to the original e-mail and all it says is to conduct on-site surveys for listed species, so it really is their call as to how they do it and whether or not they do the burn. Now they should base their call on expert opinion and what they think their legal liability is considering the datedness of the consultation and reinitiation requirements. Its my opinion that they should conduct emergency consultation with us prior to the burn then they wouldn't be relying on a 1995 informal consult, but it really is up to them. As far as dispersants go there is only an informal from 1996, and it pretty much is similar to the burn one. Although I will say that I agreed on Sunday nights call with the use of the 1996 consultation as section 7 compliance for the use of dispersants in the approved areas, and I still agree with that approach now.

Sheryan Epperly wrote:
> The problem is that until today, we don't think they've been operating
> within their protocols to have a dedicated observer searching for the
> animals. Today, we begin both helicopter flights over the slick and
> aerial surveys of the larger area - all with dedicated and trained
> observers. Also, searches from the air would not detect any of the
> oceanic stage animals because they're too small. Only boat surveys
> would detect them and I haven't heard that they're doing any of those
> yet, for the purpose of surveying in advance of proposed operations.
>
> What does the old BiOp require them to do in advance of burns or
> dispersant application?
>
> On 4/28/10 6:49 AM, Robert Hoffman wrote:
>> If they decide to burn and turtles are present they could consult
>> under the emergency section 7 regs at 50 cfr 402.05 and we would have
>> to do a Biop after the fact. Also, even though the current consult
>> is dated if they follow the requirements to survey and find no sea
>> turtles it is their decision whether or not to move forward.
>> Sheryan Epperly wrote:
>>> Appears they are serious about an in-situ burn. Unfortunately the
>>> last consultation was in 1995 and we know a lot more about affected
>>> species now. The write-up about burning doesn't even mention sea
>>> turtles. There is no way that a burn of an area the size of the
>>> slick will not impact listed species.
>>>

>>> My understanding of the protocols is that, like dispersants, burning
>>> cannot be used when marine mammals and sea turtles are present,
>>> which they most certainly are and likely will be confirmed by
>>> tomorrow's flights.
>>>
>>>
>

Subject: Aerial Observations?
From: "Barbara.Schroeder" <Barbara.Schroeder@noaa.gov>
Date: Mon, 26 Apr 2010 22:21:15 -0400
To: Teri Rowles <Teri.Rowles@noaa.gov>, Trevor Spradlin <Trevor.Spradlin@noaa.gov>, Sheryan Epperly <Sheryan.Epperly@noaa.gov>, Lisa Belskis <Lisa.Belskis@noaa.gov>, Brian Stacy <StacyB@vetmed.ufl.edu>

The NOAA home page says aerial observations "did not see marine mammals today" -- I guess I"m still unclear whether aerial observations are already happening and, if so, what altitude they are flying and who is up there? I would be very surprised if no turtles were observed at all. Does anyone have clarification on this? Not sure who is drafting text for this type of stuff, but would like to make sure the concerns for turtles (likely way more abundant than marine mammals in total numbers) are kept in the forefront of concerns. I attach FFWCC's grant report on pelagic juvenile loggerheads in the GOM from recent survey work. We need to remember that a lot of pelagic juveniles are out there and though the survey effort is not an exact match with the spill site, their distribution is likely broad.

FINAL REPORT Neonate 2601 Densities.pdf	**Content-Type:** application/pdf **Content-Encoding:** base64

A Final Programmatic Report Submitted to the
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PELAGIC NEONATE AND JUVENILE SEA TURTLES IN GULF AND ATLANTIC SURFACE WATERS OFF FLORIDA: DISTRIBUTION, DENSITIES, THREATS, HABITAT DESCRIPTIONS, AND BEHAVIOR

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PELAGIC NEONATE AND JUVENILE SEA TURTLES IN GULF AND ATLANTIC SURFACE WATERS OFF FLORIDA: DISTRIBUTION, DENSITIES, THREATS, HABITAT DESCRIPTIONS, AND BEHAVIOR

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INTRODUCTION

Florida beaches host the majority of loggerhead (*Caretta caretta*), green turtle (*Chelonia mydas*), and leatherback (*Dermochelys coriacea*) nesting in the United States, and most of this nesting occurs along Florida's central and southern Atlantic coast. Hatchlings from these Atlantic beaches enter the ocean, swim from land, and remain between the Florida peninsula and the Gulf Stream for a period of several days to several weeks (Witherington 2002). Important loggerhead nesting beaches are also located on the Gulf of Mexico in southwest Florida.

Loggerhead post-hatchlings are known to inhabit lines of surface convergence near the boundaries of major currents, in slicks (calm surfactant layers lining surface downwelling zones), and in Langmuir circulation cells (windrows) (Witherington 2002). Although green turtle post-hatchlings are found within convergence lines less frequently than expected from their proportion among all hatchlings leaving east Florida beaches, analysis of gut contents (FWC/FWRI unpublished data) suggests that neonate green turtles forage on surface organisms commonly associated with convergence lines. There are currently no empirical observations of foraging neonate leatherbacks.

In addition to post-hatchling turtles that have recently recruited from Florida nesting beaches, turtles from other nesting beaches are likely to inhabit convergence zones off Florida. These young oceanic-stage (epi-pelagic) turtles would be present off Florida if transported there within geostrophic currents like the Loop Current (Eastern Gulf of Mexico), the Florida Current (Straits of Florida and Atlantic), or combinations including surface advection from eddies and seasonal wind forcing. Some nesting beaches 'upstream' from waters off Florida include Tamaulipas, Mexico (Kemp's ridley, *Lepidochelys kempii*, nesting) and Yucatan, Mexico (loggerhead, green turtle, and hawksbill, *Eretmochelys imbricata*, nesting).

The extent to which lines of surface convergence and other epi-pelagic (open surface waters) habitat have been modified by pollution is an important conservation concern. Surface convergence sweeps neonate sea turtles together with the floating substrates they forage among, but these same forces also concentrate buoyant petroleum, plastics, and other anthropogenic debris. Preliminary work has shown that neonate sea turtles ingest this debris at a high frequency and incur mortality from its effects. Witherington and Hirama (2006) reported that of 83 post-hatchling loggerheads stranded in east Florida, 83.1% had ingested plastics and 33.7% had ingested tar.

In addition to the chronic threat of debris ingestion there is the potential for massive mortality from acute events such as oil spills, chemical spills, and ship-test explosions. Fisheries that operate at the productive fronts where neonate sea turtles live are also likely to take sea turtles. This take is especially likely for fisheries like *Sargassum* harvesting that collect habitat substrate. The need for information about abundance, distribution, and biology of newly recruited sea turtles and about threats to their survival has not been filled by any other research project in the Western Atlantic. The purpose of this study was to locate and describe areas of the Atlantic Ocean and Gulf of Mexico near Florida that serve as developmental habitat for oceanic-stage sea turtles including neonates newly recruited from Florida nesting beaches. Important elements of this assessment were to quantify threats and gather life-history information. As part of our assessment of threats, we attempted to measure rates of plastics and tar ingestion in both wild-captured and stranded neonate sea turtles.

This report provides descriptions and analyses for information on neonate sea turtles collected at sea between 2005 and 2008, and recovered as strandings between 2004 and 2007. We report on gut contents from turtles stranded between 1996 and 2007.

STUDY AREAS

Study areas included locations in the Atlantic Ocean and Gulf of Mexico off Florida (Fig. 1). There were seven locations described by the ports closest to the offshore areas studied: St Augustine, Cape Canaveral/Sebastian Inlet, Key West, Marco Island, Sarasota, Apalachicola, and Pensacola. The areas were defined by the extent of locations where epi-pelagic habitat was found. Habitat included floating *Sargassum* algae, seagrasses, and other drift material. Patches of floating material that were smaller than 1 m^2 and not aligned in linear rows were generally not surveyed. Patches of habitat were believed to be at areas of surface convergence brought about at geostrophic current boundaries, centers of surface eddies, slicks (as from downwelling behind internal wave crests, and other sources), wind-generated rows (as from Langmuir circulation cells), and other lines of downwelling created by surface advection.

MATERIALS AND METHODS

We conducted searches for epi-pelagic habitat, ran transects, and captured turtles using an 8.2 m power catamaran vessel launched at eight ports along Florida's Atlantic and Gulf coasts. Searches were made for patches and lines of consolidated floating material (weed lines) that would indicate potential habitat for neonate sea turtles. Our work seasons were July through September during the years 2004—2008. Offshore trips were made during periods of calm sea state (Beaufort force 0—3) when weather conditions were suitable for locating weedlines (wind disperses the floating material).

Searches for habitat were made along courses extending out from each port approximately perpendicular to the coastline. Upon reaching an area where we expected to find habitat (e.g., near locations of previously found habitat or near oceanographic features correlated with previously found habitat) we would often deviate course right or left and continue along zigzag search paths. We used predictions of geostrophic currents from satellite-based altimeter data (measuring sea-surface height anomalies) to target searches for epi-pelagic habitat. These data

were available in near real-time format at the site:

http://www.aoml.noaa.gov/phod/dataphod/work/trinanes/INTERFACE/index.html

The geostrophic current features we targeted included areas of high local advective shear (where there were changes in current vectors along a spatial gradient), frontal occlusions, and associated frontal eddies.

When habitat was found, we began searching along transects that passed through the center of the floating material making up the habitat. Because the floating material was mostly linear, transects were also approximately linear. Occasionally, transects were along bent lines to accommodate windrows that existed as interrupted offset lines. We rarely encountered habitat that existed only as individual, nonlinear patches. Patches like this greater than 10 m across were searched along two parallel transects.

Search transects through habitat were timed. Vessel speed relative to surrounding water, bearing, and transect path over ground (from WAAS GPS) were recorded automatically, approximately every minute during transect searches. Distance over water was calculated for each transect using vessel speed and search time. During search transects the vessel always maintained a bearing away from the transect starting point so that no turtle within the habitat could be counted more than once (vessel speed during transects was approximately five times the swimming speed of the most active post-hatchling loggerheads observed, mean = 6.4 km/hr).

Data recorded for turtles observed along transects included time, behavior, distance from the closest floating object, identity of the closest floating object, and perpendicular distance from the transect line (vessel path at time of observation). Behaviors were divided between five categories containing 12 modal action patterns previously observed in neonate sea turtles:

1) Motionless

a. Motionless spread—turtles floating motionless with flippers held away from the body.

b. Motionless tuck—turtles floating motionless with the ventral surface of front flippers pressed flat against the lateral carapace, and with rear flippers overlapping posterior to tail.

2) Breath

a. Breath without dogpaddle—turtles at the surface with head raised (and on closest examination, with inflated buccal-pharyngeal region indicating breaths taken) but little other movement.

b. Dogpaddle—turtles at the surface with head raised (and on closest examination, with inflated buccal-pharyngeal region indicating breaths taken) and with alternating, circular movements of all flippers.

3) Slow swim

a. Undetermined surface movement—turtles floating with water movement indicating motion but with no observation of flippers.

b. Slow swim—turtles with sluggish movement of front flippers but with their carapace remaining above the water's surface.

c. Rear-flipper kick (RFK)—turtles with the ventral surface of front flippers pressed flat against the lateral carapace; and with rear flippers making repeated simultaneous swimming strokes. Their carapace remains above the water's surface.

4) Subsurface swim

a. Powerstroke—turtles beneath the water's surface swimming horizontally using front-flipper strokes. Swimming interrupted by breath and dogpaddle pattern every 5—30 seconds. This is the swimming pattern shown by hatchlings during their first hours after entering the sea after leaving the nesting beach.

b. Dive—turtles beneath the water's surface swimming vertically using front-flipper strokes. Dives were observed to last up to several minutes and appeared to extend down to 10 m.

5) Feeding in or manipulating *Sargassum*

a. Feeding—turtles with various swimming or crawling strokes that were attempting to bite objects in front of them.

b. Crawling—turtles crawling on floating material with an alternating flipper movements similar to the gait used by hatchlings on the beach.

c. Parting with front flippers—turtles using their front flippers to move, part, separate, or manipulate floating material, typically *Sargassum*.

Behavior determinations were made at the instant we observed each turtle. Turtles believed to have been responding to the presence of the vessel or observers were categorized as such and not used in analyses.

We approximated each turtle's distance from the closest floating object in the categories of touching, near (within 1 m), and distant (outside 1 m). Identity of the closest floating object was given simple descriptions such as *Sargassum*, seagrass leaf, seagrass rhizome, plastic, etc. Perpendicular distance from the transect line was estimated by comparing or extrapolating distances from a graduated pole (the pole supporting our capture dipnet) that was four meters long.

A subsample of observed turtles was captured using a long-handled (4-m) dip net. Information recorded for captured turtles included health condition, injuries, straight carapace length (nuchal notch to longest pygal tip, SCL), weight, and evidence of plastic and tar ingestion from mouth

examinations.

To gather additional information on the behavior of juvenile Kemp's ridleys, we captured four of these turtles and tracked them during overnight periods. Tracking was facilitated by the attachment of a sonic pinger (Sonotronics AST-05), which also logged time and depth. AST-05 instruments were fitted to turtles with a harness made of weak latex straps (breaking strength 2 kg new) secured around the carapace just anterior to the widest point. The harness held the AST-05 tightly to the turtle's plastron and bore a small foam float that made the combination neutrally buoyant (total weight = 50 g). The combination harness was adjusted to be hydrodynamic and have low potential for fouling on *Sargassum* or debris. Deterioration of the thin, latex straps would release the harness if the turtle could not be recaptured. Turtles were captured and released within 20 minutes at the *Sargassum* patch marking the location where they were originally observed (all turtles were captured from *Sargassum* patches).

We approximated the locations of the tracked turtle by recording signal strength and direction of the pinger through a directional hydrophone (DH-4) and receiver (USR-96). Locations were logged approximately every 20 minutes with the tracking vessels WAAS GPS for "close" signal strengths (estimated distance within 300 m from the turtle). "Close" distances correlated with strong sonic signals that were minimally directional (isotropic) and were verified by periodic triangulation of points.

The AST-05 recorded depths at 6-second intervals with a resolution of 3 cm. When the tracking episode concluded the tracked ridley was located by the pinger and recaptured by dipnet. The time/depth data were downloaded from the AST-5 upon retrieval of the turtle.

We randomly selected 133 loggerheads and 87 green turtles from a group of post-hatchlings that had stranded on Florida's Atlantic coast between August and December 1996 to 2007. All strandings were associated with storm events such as tropical storms and hurricanes. These turtles were necropsied, and their gut contents fully examined for the presence of plastics and tar. In a sub-sample of 70 green turtles and in all 133 loggerheads, we recorded percent frequency of ingested items. To do this we identified gut-content material under a binocular dissecting scope to the lowest possible taxon. Synthetic material was categorized by material, shape, and color. In a separate, randomly selected sub-sample, gut contents from 94 loggerheads and 87 green turtles were evaluated for dry mass of synthetic and non-synthetic components. After items were identified in these sub-samples we separated synthetic material (e.g., plastics, tar) from non-synthetic material (plant and animal tissue) and dried each in a drying oven until a constant mass was measured (typically 24 hours). Dry mass of synthetic and non-synthetic items from each turtle was determined by weighing on a digital balance ($\pm$ 0.001 g).

A GIS database was created for oceanographic information within the spatial range of the search effort, habitat locations and turtle capture locations described in this report. Oceanographic information included surface circulation, sea-surface temperature, Gulf Stream boundaries, and drifter paths. Surface circulation vectors were from interpolation of sea-surface height anomaly data recorded through multiple sensors (Jason-1, TOPEX, ERS-2, ENVISAT, and GFO). The data described 10-day periods and had a 0.25-degree spatial resolution. Data were available online through the NOAA Coast Watch Caribbean/Gulf of Mexico Regional Node

(http://www.aoml.noaa.gov/phod/dataphod/work/trinanes/INTERFACE/index.html).

RESULTS

We made 13 trips in 2005 (July—September), five trips in 2006 (July—August), six trips in 2007 (May—August), and 10 trips in 2008 (May—August) for a total of 34 offshore trips. We made trips from St Augustine, Cape Canaveral and Sebastian Inlet, Key West, Marco Island, Sarasota, Apalachicola, and Pensacola (Fig. 1).

Transect searches of varying length and duration were conducted at locations off each port location. Between 2005 and 2008, sums of transect distances (calculated from logged GPS tracks) were 40.29 km off St Augustine, 85.53 km off Cape Canaveral/Sebastian Inlet, 22.57 km off Key West, 51.33 km off Marco Island, 59.36 km off Sarasota, 153.49 km off Apalachicola, and 9.45 km off Pensacola.

We observed 258 turtles on transects within epi-pelagic habitat (Figs 2—7). Densities of turtles varied between the four study areas surveyed (Table 1). The highest densities of loggerheads occurred in Atlantic areas, and the highest densities of green turtles, hawksbills and Kemp's ridleys were in northern and southern Gulf areas.

Of the 258 turtles observed on transects within epi-pelagic habitat, 187 were loggerheads, 43 were green turtles, 22 were Kemp's ridleys, four were hawksbills, and two were not identified. All but one of the observed loggerheads was considered to be likely young of the year (YOY, <10 cm SCL). Thirteen of the 43 green turtles were YOY, none of the 22 Kemp's ridleys were YOY, and none of the four hawksbills were YOY (Table 2).

We approximated an effective transect width in order to calculate turtle density within the habitat surveyed. Perpendicular distances from transect line for both small, YOY turtles (Fig. 8), and larger juveniles (Fig. 9) showed decreasing frequency of observations with distance. Given our assessment of the floating habitat and the locations of turtles relative to floating material, we believe that the frequency of turtle observations was a function distance due to both detectability and habitat width. We used the methods of Ramsey and Scott (1981) to estimate effective transect width based on cumulative frequencies of perpendicular distances. This effective transect width was similar (3—4 m) for both small YOY turtles and larger juveniles. From estimated widths of linear habitat made during transects, we calculated mean habitat width to be 6.3 m (SD = 6.8 m, n = 34 measures). Given the closeness of these estimates, we used 3.5 m as a conservative transect strip width, which excluded observations of 22 juveniles (14 green turtles and eight Kemp's ridleys) and 36 YOY (all loggerheads) from density calculations (Table 1).

We conducted additional analyses to estimate turtle densities using DISTANCE modeling (Thomas et al. 2004) of turtle observations and their perpendicular distance from the transect. Because sample size (number of individual transects) and number of observations (turtles) did not allow a division between species and locations, we divided turtles between only three groupings: young of the year (YOY), juveniles, and all turtles.

The total number of individual transects for all epi-pelagic turtle observations was 228 and

extended 422.02 km. Models were run on data sets truncated at 6 m from transect (turtles observed > 7 m from transect were excluded). For all models, we used Akaike's information criterion to establish goodness of fit.

DISTANCE modeling of truncated YOY turtle observations (n=185) best fit a hazard-rate (broad-shoulder) model with a cosine function. For this model the estimated number of YOY turtles per hectare within the habitat transected was 0.827 (95% CI = 0.318—2.152 turtles/ha).

DISTANCE modeling of truncated juvenile turtle observations (n=45) best fit a half-normal (narrow-shoulder) model with a cosine function. For this model the estimated number of juvenile turtles per hectare within the habitat transected was 0.144 (95% CI = 0.0613—0.338 turtles/ha).

DISTANCE modeling of all trucated turtle observations (n=230) best fit a hazard-rate (broad-shoulder) model with a cosine function. For this model the estimated number of all turtles per hectare within the habitat transected was 0.957 (95% CI = 0.430—2.129 turtles/ha).

Behaviors of observed turtles indicated an association with floating material and low or moderate activity (Table 3). Most loggerheads were in the tuck behavior and within a meter of the closest floating material. Most green turtles were also within a meter of the closest floating material, but were most commonly feeding near or crawling upon the material. Most ridleys were swimming slowly within a meter of floating material, and the hawksbills were either in a tuck or using their front flippers to part the floating material, in both cases within a meter of it.

We captured and collected additional data on 188 loggerheads, 22 green turtles, 10 Kemp's ridleys, and four hawksbills (Table 2). All captured loggerheads were believed to be YOY. Of 22 captured green turtles, eight were YOY and 14 were larger juveniles. All hawksbills and Kemp's ridleys observed or captured were juveniles larger than YOY. SCL estimates of turtles not captured were made with the help of close-proximity size comparisons of turtles missed by the capture dipnet and the dipnet itself (later measured).

We used spatial comparisons of data and observations, mesoscale and smaller, to detect commonalities that would describe epi-pelagic sea turtle habitat (Figs. 10—40). Habitat locations and turtle observations in the Atlantic were correlated with sea-surface temperature indications and other assessments of the western Gulf Stream (Florida Current) front. Sea-surface height anomaly data indicated eddies at the western Gulf Stream boundary and at the northern extent of the Loop Current (Gulf of Mexico south of Apalachicola) that appeared to correspond to both habitat and observed turtle locations (Figs. 10—40).

We captured and released four juvenile Kemp's ridleys with sonic tracking and time/depth logging instruments (Figs. 41—44). Three turtles were recaptured so that data from the logging instrument could be retrieved. One turtle could not be recaptured.

Each tracked ridley showed minimal movement that was not obviously different from local surface geostrophic currents (Figs. 41—44). Dive depth data for the three recaptured turtles showed that they spent the majority of their time within 1 m of the water's surface (Figs. 45—47). Deepest dives were to no more than 30% of bottom depth and tended to flatten at this depth

(i.e., turtles dove to a specific depth and remained there until their ascent). The longest dive durations were approximately 17 minutes. Many of the deepest and longest dives occurred at night, although each turtle showed a period of quiescence within a few hours of midnight. We observed that the deepest dives extended to the depth where we noted the location of the nocturnal scattering layer as recorded by the tracking vessel's sonar chart plotter.

A comparison of live-captured and dead-stranded loggerheads (Fig. 48) and green turtles (Fig. 49) revealed that stranded turtles used in this study were representative of the sizes of live YOY turtles found in the open Atlantic near Florida during the study season. A high proportion of dead stranded loggerhead (81%, n=181) and green turtle (83%, n=93) post-hatchlings had ingested plastics or tar. From the sizes of loggerheads and green turtles examined in this study, it appeared that larger/older post-hatchlings were more likely to have ingested synthetic debris (Figs. 50 & 51).

Dead loggerhead and green turtle post-hatchlings were found to have ingested a wide variety of synthetic material (Table 4, Figs. 52 & 53). Principal colors of synthetics were white and transparent. Most black synthetics were tar or covered with tar. In a random sub-sample of dead loggerhead post-hatchlings, synthetic debris made up 28.6% of the dry mass of their gut contents (Table 5). In a similar sub-sample from green turtles, this proportion was 46.1% (Table 5).

DISCUSSION

Characterizing Epi-pelagic Habitat for Sea Turtles

We observed post-hatchling and juvenile sea turtles in habitat composed of floating material that varied greatly in extent. By far, the most common floating material in this habitat was pelagic *Sargassum* species. The most common orientation of this floating material was in lines less than 10 m wide, although small clumps of *Sargassum* < 1 m^2 were often observed distant from any other floating material. Although it was difficult to quantify density and linearity of floating material, our qualitative assessments were that density of sea turtles increased proportionally with both density and linearity of *Sargassum*.

GIS analysis revealed that the most conspicuous oceanographic feature correlated with observations of epi-pelagic sea turtles was convergence at the western boundary of the Gulf Stream Front (Figs. 10—16). During the study period there was not a conspicuous presence of other features hypothesized to hold pelagic turtle habitat such as mesoscale eddies from the Loop Current. Instead, habitat in the Gulf of Mexico appeared to be correlated with many smaller scale features less likely to be visible in remotely sensed data. Observations of pelagic turtles were commonly made within dense, linear *Sargassum*, probably assembled by small-scale eddies and other types of downwelling such as from thermocline waves. In all locations, dense lines of *Sargassum* and other floating material were seen to break up into windrows (multiple, interrupted, parallel lines) when surface winds were greater than approximately 10 kts. Although it was not straightforward to determine whether habitat was a windrow or not, we had the greatest number of zero-observation transects within windrows. We feel that both floating material and sea turtles are less dense in separated windrows than in single lines surveyed during calm winds.

Turtle Densities within Epi-pelagic Habitat

Loggerhead post-hatchlings (YOY) were most densely distributed in habitat east of St Augustine, Cape Canaveral, and Sebastian Inlet near the western Gulf Stream (Table 1). These habitats are east and north (downstream) from the most productive nesting beaches in Florida, on the Central Atlantic coast (Meylan et al. 1995). On the Gulf coast, the most productive loggerhead beaches are in southwestern Florida, which is probably why loggerhead density west of Sarasota and Marco Island was high in comparison to waters off Apalachicola and Pensacola (Table 1).

All but one of the 14 green turtles observed off Cape Canaveral and Sebastian Inlet near the western Gulf Stream were YOY (Table 2). These post-hatchlings were observed in 2005 during a high nesting year for green turtles on Florida Beaches (FWC/FWRI unpublished data). It is not surprising that more green turtles than ever recorded in this area (Witherington 2002) were seen in this year. Surface-current patterns and turtle sizes suggest that the juvenile green turtles we observed in Gulf waters were not from Florida nesting beaches.

We believe that our observations and captures of epi-pelagic Kemp's ridleys are the first reported. Ridleys were observed south of Apalachicola and Pensacola, and west of Sarasota and Marco Island (Table 1). It is likely that epi-pelagic Kemp's ridleys inhabit a broad area of the eastern Gulf of Mexico in similar densities, especially north and east of the Loop Current. More sampling is needed in these areas.

Hawksbills were the least common turtles observed (n=4) and only juveniles larger than YOY were recorded. Hawksbills do not nest in significant numbers on Florida beaches and it is likely that these two came from other nesting areas "upstream."

Turtle Behavior

Both YOY and juvenile turtles showed behavior consistent with low or moderate activity and a close association with surface drift material (Table 3). Loggerheads were least active. Most were in a tuck, a behavior wherein turtles are quiescent except for head-up breathing every 5—30 seconds. In loggerheads observed for several minutes, tuck and rear-flipper kick (RFK) patterns often alternated. RFK was the second most common behavior in post-hatchling loggerheads. Ninety percent of observed loggerheads were within a meter of floating material, most commonly *Sargassum*. Green turtles were just as likely to be in close association with floating material but were more often in moderately active behaviors such as dogpaddle, feeding, and crawling (on *Sargassum*). Three green turtles were powerstroke swimming. Juvenile turtles larger than YOY of all species were at the surface when first observed and the majority of these were swimming slowly (or inactive).

The extended observations we made of juvenile Kemp's ridleys during overnight tracking episodes confirmed that they did not make extensive movements outside of Sargassum lines (Figs. 41—44) and that most of their time was spent near the surface (Figs. 45—47). Dive profile from these turtles showed occasional early evening and early morning deep dives to the upper

level of the scattering layer as detected by sonar. No dives approached the sea bottom. We believe that these turtles are not likely to forage benthically in the locations where we observed them.

Plastics and Tar Ingestion

Dead stranded post-hatchlings offered an opportunity to completely sample gut contents for the presence of ingested plastics and tar. Our conclusions from the sample of post-hatchlings we examined were that ingestion of synthetic debris is high in these turtles (Tables 4 & 5), that probability of debris ingestion may increase with time (size/age of turtle, Figs. 50 & 51), and that white and transparent plastics were either favored or were most common in the habitat where these turtles forage (Figs. 52 & 53). Although we are not able to link the high levels of debris ingestion we observed with cause-of-death in this sample of turtles, it seems clear that the plastics and tar in their gut compromised many of them. Synthetic debris ingestion is no doubt an important conservation problem for epi-pelagic sea turtles.

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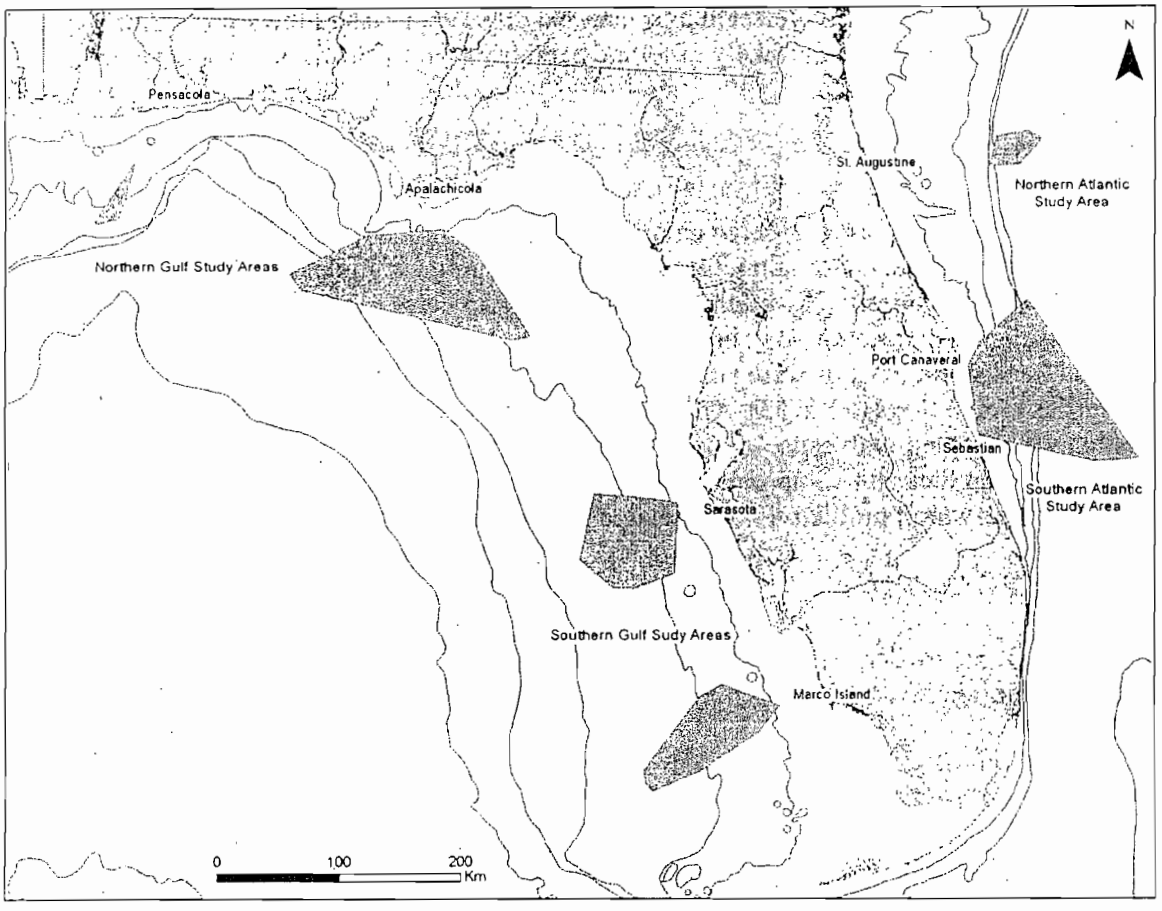

Figure 1. Areas searched for neonate sea turtles off six Florida (USA) ports, 2005—2008. Depth contours are in intervals of approximately 20, 40, 100, 200, and 2000 meters.

Table 1. Estimated sea turtles per square kilometer within epi-pelagic habitat (*Sargassum* lines) in the Atlantic Ocean and Gulf of Mexico off Florida (USA, Fig. 1). Florida port locations designate the nearest landfall to offshore epi-pelagic habitat searched during the years 2005—2008. Density estimates were made using turtles observed within variable-length strip transects that were 3.5 m wide (i.e., turtles outside 3.5 m were ignored in this analysis).

Port	Estimated Turtles per 100 hectares (1 km^2)					Total Transect Area (hectares)
	Caretta caretta	*Chelonia mydas*	*Eretmochelys imbricata*	*Lepidochelys kempii*	All Species	
St Augustine	69	--	--	--	64	14.10
Cape Canaveral/Sebastian Inlet	431	47	3	--	474	29.94
Key West	--	--	--	--	--	7.90
Marco Island	50	50	--	6	106	17.97
Sarasota	14	5	5	14	38	20.78
Apalachicola	2	19	2	11	34	53.72
Pensacola	--	30	--	30	60	3.31

Table 2. Straight carapace lengths (SCL) of neonate sea turtles captured in epi-pelagic habitat off Florida (USA) between 2004 and 2008. Captured turtles are divided between small (<10 cm SCL) young of the year (YOY) and larger juveniles (10—30 cm SCL).

	Mean SCL (SD) in cm			
	Caretta caretta	*Chelonia mydas*	*Eretmochelys imbricata*	*Lepidochelys kempii*
YOY	4.76 (0.539) n=188	5.43 (0.103) n=8 **	--	--
Juvenile	*	21.5 (1.70) n=14 ***	19.5 (4.3.) n=4	24.8 (2.33) n=10 ****

* Omits one additional turtle not captured with estimated SCL=25 cm.
** Omits three additional turtles not captured with estimated SCL=5—6 cm.
*** Omits 19 additional turtles not captured with estimated SCL=15—20 cm.
**** Omits 12 additional turtles not captured with estimated SCL=20—25 cm.

Table 3. Behavior upon first observation in a sample of neonate sea turtles in epi-pelagic habitat. Behaviors defined in text are: Motionless (**1**), Breath (**2**), Slow Swim (**3**), Subsurface Swim (**4**), and Feeding in or Manipulating *Sargassum* (**5**). Percent occurrence was calculated on the frequency of observations for each of the four species of sea turtles. Percent turtles is divided between three observed distances between turtles and the closest floating object: touching (0 m), near (0—1 m), and distant (> 1 m). Observations were made in epi-pelagic habitat off Florida (USA) between 2004 and 2008.

% Turtles by Species and Proximity to Floating Material

	Caretta caretta (n=182)			*Chelonia mydas* (n=38)			*Eretmochelys imbricata* (n=4)			*Lepidochelys kempii* (n=20)		
Behavior	0 m	0—1 m	>1 m	0 m	0—1 m	>1 m	0 m	0—1 m	>1 m	0 m	0—1 m	>1 m
1	50.5	5.5	1.1	28.9	0	0	50.0	25.0	0	30.0	5.0	0
2	2.2	2.7	0.5	5.3	2.6	0	0	0	0	0	0	0
3	24.7	2.2	0	7.9	10.5	5.3	0	0	0	5.0	10.0	5.0
4	7.7	0.5	0	5.3	13.2	0	25.0	0	0	0.0	0.0	0
5	1.1	0	0	21.1	0	0	0	0	0	15.0	25.0	0

Table 4. Frequency of occurrence for items found in the gut contents of 203 post-hatchling sea turtles stranded dead following storm events on Florida's Atlantic coast between 1996 and 2007. Each table entry is the proportion of turtles having the specific item in their gastrointestinal tract. Because turtles typically had more than one item in their gut, proportions do not add to 100%.

	Caretta caretta (% of n=133)	*Chelonia mydas* (% of n=70)
Debris Total	**87.2**	**59.0**
Synthetic Total	**87.2**	**59.0**
Plastic Total	**86.5**	**57.0**
Hard Plastic		
White	72.2	14.3
Clear	33.8	10.5
Blue	22.6	3.8
Red	16.5	5.3
Black	9.8	0.0
Pink	9.0	1.5
Green	8.3	3.0
Purple	5.3	0.8
Tan	5.3	1.5
Gray	5.3	0.0
Other	3.8	0.0
Orange	3.8	1.5
Yellow	1.5	0.0
Brown	1.5	1.5
Soft Plastic		
Clear	54.9	31.6
White	53.4	30.8
Black	30.8	15.8
Blue	15.8	9.0
Gray	11.3	3.0
Green	11.3	1.5
Silver	8.3	0.8
Red	6.8	1.5
Purple	4.5	0.0
Other	3.0	0.8
Yellow	2.3	2.3
Orange	1.5	1.5
Pink	0.8	0.8
Brown	0.8	0.0

	Fibrous Plastic		
	Clear	19.5	10.5
	Black	12.8	3.0
	White	8.3	4.5
	Blue	6.8	3.0
	Yellow	6.0	6.8
	Red	6.0	3.0
	Green	4.5	4.5
	Pink	1.5	0.0
	Purple	1.5	0.8
Tar		52.6	26.3
Latex Total		**27.1**	**12.9**
	Black	14.3	2.3
	Blue	6.8	1.5
	Orange	6.0	0.8
	Red	6.0	1.5
	Pink	2.3	0.0
	Yellow	0.8	0.8
	White	0.8	0.8
Polystyrene Foam			
	White	7.5	2.3
Paraffin			
	White	9.0	3.0
Synthetic Fibers			
	White	1.5	0.0
	Brown	0.8	0.0
Non-synthetic Total		**24.8**	**11.4**
Mineral Materials			
	Pumice	0.8	0.0
	Charcoal	24.1	6.8
Plant Total		**99.7**	**92.9**
Sargassum		90.2	41.4
Seagrasses			
	Thalassia	45.9	28.6
	Syringodium	60.2	25.6
	Rhizome	9.0	6.8
Seed		15.8	3.8
Woody Material		42.9	6.0
Unknown Plant Tissue		34.6	6.8

Animal Total	**99.2**	**100.0**
Nematoda		
Unknown	14.3	3.8
Coelenterata		
Hydroids	58.6	33.1
Mollusca		
Bivalves	12.0	0.8
Gastropods	14.3	0.8
Unknown	4.5	1.5
Annelida		
Polychaetes	0.8	0.0
Arthropoda		
Insects	46.6	14.3
Crustaceans		
Copepods	2.3	0.0
Isopods	0.8	0.0
Decapods	9.8	4.5
Unknown	6.0	0.8
Chordata		
Fish (bone, scale)	13.5	2.3
Bird (feather)	24.1	8.3
Unknown Animal Tissue	100.0	52.6

Table 5. Dry weight (mean ± SD) and proportion of plastics in gut contents of post-hatchling sea turtles stranded dead following storm events on Florida's Atlantic coast in 2005 and 2007. Turtles were from a sub-sample stranded in Brevard and Volusia County given a complete inventory of gut contents. In this sub-sample, 94 of 94 loggerheads had plastics in their gut contents, and 65 of 94 had tar in their gut contents. For green turtles, 71 of 87 had plastics in their gut contents, 45 of 87 had tar in their gut contents, and 12 of 87 had no plastics or tar.

	Loggerheads (n=94)	Green Turtles (n=87)
Dry Wt. Total Gut Contents (mg)	205 ± 127	45.7 ± 47.0
Dry Wt. Plastics and Tar (mg)	63.0 ± 57.9	24.3 ± 27.7
%·Plastics and Tar	28.6 ± 17.7	46.1 ± 55.2

Subject: Re: Aerial Observations?
From: Sheryan Epperly <Sheryan.Epperly@noaa.gov>
Date: Tue, 27 Apr 2010 07:26:53 -0400
To: "Barbara.Schroeder" <Barbara.Schroeder@noaa.gov>
CC: Teri Rowles <Teri.Rowles@noaa.gov>, Trevor Spradlin <Trevor.Spradlin@noaa.gov>, Lisa Belskis <Lisa.Belskis@noaa.gov>, Brian Stacy <StacyB@vetmed.ufl.edu>, Lance Garrison <Lance.Garrison@noaa.gov>

It is my understanding that the ops planes are in the area, mainly to guide the release of dispersants and survey the borders of the slick. They cannot release dispersants where MM and STs are sighted. Based on information provided in Sunday evening's conference call, there are several planes involved. The plane(s) spraying the dispersant is flying low (50-100 ft) which means it cannot see much underneath it. There is a spotter plane flying low(er?) and also a helicopter at about 500-1000 ft. There is another helicopter flying both "low and slow" as well as high (3000 ft). On Sunday one of these planes sighted 5 whales, about 25-30 ft in length in the oil area, but not where the dispersant was being used. I haven't heard about any turtle sightings.

Today, 2 observers from our Galveston Lab's oil and gas platform observer program is headed to La. where they will be picked up an begin flying (helicopter) over the slick for the specific purpose of surveying for mammals and turtles. Today, NOAA staff are amassing in Pascagoula (4 observers: 3 from Pascagoula and 1 from Miami (Lisa Belskis)) to begin transects of the region between the Delta and Cape San Blas, out to 1500 m. They will be flying low (prob. 600 ft) and recording wildlife, particularly mammals and turtles. Lance, please chime in here.

Barbara, I share your concern about the oceanic juveniles and have been conveying that concern to Gary Shigenaka (NOS OR&R, ERD) over the past couple of days. The RAR document on turtles indicated the problem would only be in shallow waters (<100m). Based on a exchange late yesterday, he will change that and indicate "turtles are everywhere".

On 4/26/10 10:21 PM, Barbara.Schroeder wrote:

> The NOAA home page says aerial observations "did not see marine mammals today" -- I guess I"m still unclear whether aerial observations are already happening and, if so, what altitude they are flying and who is up there? I would be very surprised if no turtles were observed at all. Does anyone have clarification on this? Not sure who is drafting text for this type of stuff, but would like to make sure the concerns for turtles (likely way more abundant than marine mammals in total numbers) are kept in the forefront of concerns. I attach FFWCC's grant report on pelagic juvenile loggerheads in the GOM from recent survey work. We need to remember that a lot of pelagic juveniles are out there and though the survey effort is not an exact match with the spill site, their distribution is likely broad.

Subject: Re: Aerial Observations?
From: Barbara Schroeder <Barbara.Schroeder@noaa.gov>
Date: Tue, 27 Apr 2010 08:10:27 -0400
To: Sheryan Epperly <Sheryan.Epperly@noaa.gov>
CC: Teri Rowles <Teri.Rowles@noaa.gov>, Trevor Spradlin <Trevor.Spradlin@noaa.gov>, Lisa Belskis <Lisa.Belskis@noaa.gov>, Brian Stacy <StacyB@vetmed.ufl.edu>, Lance Garrison <Lance.Garrison@noaa.gov>

Great, thanks. Yes, I agree turtles are everywhere and that needs to be conveyed. I thought I had also conveyed that to Gary, but with so much going on I know he is information overwhelmed so we just need to reinforce this. These small turtles may be the most seriously affected at the end of the day.

Sheryan Epperly wrote:

> It is my understanding that the ops planes are in the area, mainly to guide the release of dispersants and survey the borders of the slick. They cannot release dispersants where MM and STs are sighted. Based on information provided in Sunday evening's conference call, there are several planes involved. The plane(s) spraying the dispersant is flying low (50-100 ft) which means it cannot see much underneath it. There is a spotter plane flying low(er?) and also a helicopter at about 500-1000 ft. There is another helicopter flying both "low and slow" as well as high (3000 ft). On Sunday one of these planes sighted 5 whales, about 25-30 ft in length in the oil area, but not where the dispersant was being used. I haven't heard about any turtle sightings.
>
> Today, 2 observers from our Galveston Lab's oil and gas platform observer program is headed to La. where they will be picked up an begin flying (helicopter) over the slick for the specific purpose of surveying for mammals and turtles. Today, NOAA staff are amassing in Pascagoula (4 observers: 3 from Pascagoula and 1 from Miami (Lisa Belskis)) to begin transects of the region between the Delta and Cape San Blas, out to 1500 m. They will be flying low (prob. 600 ft) and recording wildlife, particularly mammals and turtles. Lance, please chime in here.
>
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> > The NOAA home page says aerial observations "did not see marine mammals today" -- I guess I"m still unclear whether aerial observations are already happening and, if so, what altitude they are flying and who is up there? I would be very surprised if no turtles were observed at all. Does anyone have clarification on this? Not sure who is drafting text for this type of stuff, but would like to make sure the concerns for turtles (likely way more abundant than marine mammals in total numbers) are kept in the forefront of concerns. I attach FFWCC's grant report on pelagic juvenile loggerheads in the GOM from recent survey work. We need to remember that a lot of pelagic juveniles are out there and though the survey effort is not an exact match with the spill site, their distribution is likely broad.

Subject: Re: CALL for Strandings and Oil Spill Response
From: Sheryan Epperly <Sheryan.Epperly@noaa.gov>
Date: Tue, 27 Apr 2010 08:48:20 -0400
To: Teri Rowles <Teri.Rowles@noaa.gov>
CC: Lisa Belskis <Lisa.Belskis@noaa.gov>, Blair Mase <Blair.Mase@noaa.gov>, Trevor Spradlin <Trevor.Spradlin@noaa.gov>, Brian Stacy <StacyB@vetmed.ufl.edu>, Barbara Schroeder <Barbara.Schroeder@noaa.gov>, Janet Whaley <Janet.Whaley@noaa.gov>, Jessica White <Jessica.White@noaa.gov>, Erin Fougeres <erin.fougeres@noaa.gov>, Laura Engleby <Laura.Engleby@noaa.gov>, Dave Rotstein <Dave.Rotstein@noaa.gov>, Brian Stacy <Brian.Stacy@noaa.gov>, Lance Garrison <Lance.Garrison@noaa.gov>, Wendy Teas <Wendy.Teas@noaa.gov>

Already a correction to my response about #5. Ignore last night's e-mail.

re: (5) below. Summaries of historical sea turtle strandings can be obtained on our website. The maps showing the zones are also on the website.
http://www.sefsc.noaa.gov/seaturtleSTSSN.jsp

The problem is that we're missing some data for Florida Gulf. For 2008 we have Jan-Mar and May-Sep (e.g., no April 2008 or Oct-Dec). We will ask FL to enter the basic data ASAP for April for the counties of concern. For 2009, the basic data for Florida for Jan-Jun have been entered (missing Jul-Dec). These two years can be obtained from the above website by accessing the "Weekly Reports".

The data prior to 2008 are best accessed through the "Online Stranding Reports".

Wendy Teas, the STSSN coordinator, is on her way back today and should be available by tomorrow.

We're working on the other items below.

On 4/26/10 6:54 PM, Teri Rowles wrote:

> Thank you for the call.
>
> Summary of tasks outlined in the stranding call, please edit, did I leave anything out?
>
> 1. Rhonda Murgatroyb (BP wildlife branch) and Jessica White (NOAA) will ask Unified Command
> a. how we want to handle marine mammal and sea turtle response on oiled beaches if many of our normal responders have not had HAZWOPR (24hours) or HAZCOM (8 hours) training (options to consider are bringing in outside folks or providing training)
> b. Oil sample handling and shipping protocols or storage if that is the preferred option
> 2. SEFSC/SERO will provide list of assets and responders in the area that will have capacity for response to injured, oiled or stranded marine mammals (including assets for rehab, necropsy or freezing) This will include a list of trained personnel (8 hour and 24 hour and date of last training)
> 3. SEFSC/SERO will provide communication tree and contact information for stranded animals (both turtles and marine mammals) on shore in non-oiled areas, stranded animals on shore in oiled areas (depends on 1 above), and animals injured, dead or sighted in oiled waters.
> 4. SEFSC/PR will provide injured, ill or oiled sea turtle handling protocol if sighted by boat in water and outline communication strategy. This would include bringing the turtle to port for treatment.
> 5. SEFSC/SERO will provide historic stranding data (sea turtles and marine mammals) for April, May, June for the panhandle of Florida, MS, AL, and LA so that everyone is aware of what the natural stranding rates would be and may help us

evaluate resources needed.
6. SEFSC/PR will provide observation sheets for the OPS group to use for vessels on the water and aerial assets to report animal sightings, behavior, etc so that the appropriate data is collected.
7. PR will talk with west coast folks to see what personnel would be available that is both HAZWOPR and sea turtle/marine mammal trained. (note: talked with Mike Zaccardi and he has The Marine Mammal Center and Sea World San Diego that have sea turtle and appropriate oil spill response training and both have small cetacean rehab experience- he will send us information on who is available)
8. PR will provide oil spill response manual for marine mammals and necropsy protocols for review as well as start draft fact sheet for impacts on marine mammals and sea turtles.
9. SEFSC/PR/SERO will hold a conference call tomorrow with all the marine mammal stranding leads for each state within the potential impact area to cover protocols, communications, actions and training. (I thought the turtle team might be doing the same, is that right?)

On unoiled beaches: stranding response reporting as normal and all animals examined for ingested or external oil.
On oiled beaches: first responders will likely be non-stranding personnel and we will await list of trained personnel and information from Unified Command. Zaccardi is available to do training if we need that done.

Teri Rowles wrote:

> All, We will have a call at 3:30 CENTRAL time (4:30 eastern time) to discuss stranding readiness and operations for marine mammals and turtles including communication strategies. The call in information is:
>
> 888 935 0561
> pass code is 2544115#
>
> Blair is planning a call with our stranding network responders in this region tomorrow to clarify operations and communications. Some of our stranding responders are not exactly plugged into the ICS and Oil Spill Response. Those in SSMC 3, we have room 10817.

Subject: Deep Water Horizon oil spill response effort in Gulf
From: Blair Mase <Blair.Mase@noaa.gov>
Date: Fri, 23 Apr 2010 10:22:00 -0400
To: erin fougeres <erin.fougeres@noaa.gov>, Peter Thompson <Peter.Thompson@noaa.gov>, Jim Bohnsack <Jim.Bohnsack@noaa.gov>, Patricia Rosel <Patricia.Rosel@noaa.gov>, Lance Garrison <Lance.Garrison@noaa.gov>, Jenny Litz <Jenny.Litz@noaa.gov>, ruth ewing <Ruth.Ewing@noaa.gov>, Liz Tuohy-Sheen <Elizabeth.Tuohy-Sheen@noaa.gov>, Laura A Dias <laura.dias@noaa.gov>, Teri Rowles <Teri.Rowles@noaa.gov>, Keith D Mullin <Keith.D.Mullin@noaa.gov>, Theo Brainerd <Theo.Brainerd@noaa.gov>, Trevor Spradlin <Trevor.Spradlin@noaa.gov>, Laura Engleby <Laura.Engleby@noaa.gov>

Hello folks,
I just wanted to let you know that I have been in communication with Jim Jeansome and Charlie Henry from ORR in regards to the current situation in the Gulf. The Incident Command System is underway, the Wildlife Response Branch is currently getting geared up and the Scientific Support Coordinator knows the appropriate contact numbers if there are any impacts to turtles and/or marine mammals. The wind is currently blowing oil NNE so may impact MS and AL. For access to hotline and the latest information on the Deep Water Horizon incident in the Gulf, click on the website below and type in your NOAA email address and password. Let me know if you have any questions.

Blair

https://responselink.orr.noaa.gov/hotline/incidents/8220

1st Batch FOIA
(1st week of spill)
for 0518 + 0519

Teri

Subject: Fwd: in-situ burn
From: Sheryan Epperly <Sheryan.Epperly@noaa.gov>
Date: Tue, 27 Apr 2010 22:18:01 -0400
To: Teri Rowles <Teri.Rowles@noaa.gov>

more for distribution

-------- Original Message --------
Subject:in-situ burn
Date: Tue, 27 Apr 2010 22:17:13 -0400
From: Sheryan Epperly <Sheryan.Epperly@noaa.gov>
To: Bonnie Ponwith <Bonnie.Ponwith@noaa.gov>, Theo Brainerd <Theo.Brainerd@noaa.gov>, Peter Thompson <Peter.Thompson@noaa.gov>, Jim Bohnsack <Jim.Bohnsack@noaa.gov>, Robert Hoffman <Robert.Hoffman@noaa.gov>
CC: Lance Garrison <Lance.Garrison@noaa.gov>, Blair Mase <Blair.Mase@noaa.gov>, Wendy Teas <Wendy.Teas@noaa.gov>

Appears they are serious about an in-situ burn. Unfortunately the last consultation was in 1995 and we know a lot more about affected species now. The write-up about burning doesn't even mention sea turtles. There is no way that a burn of an area the size of the slick will not impact listed species.

My understanding of the protocols is that, like dispersants, burning cannot be used when marine mammals and sea turtles are present, which they most certainly are and likely will be confirmed by tomorrow's flights.

InSituBurnPreAuthorize.pdf	**Content-Type:** application/pdf **Content-Encoding:** base64

ORR_ISB_Background.pdf	**Content-Type:** application/pdf **Content-Encoding:** base64

Subject: Re: talking points to go into fact sheet format
From: Sheryan Epperly <Sheryan.Epperly@noaa.gov>
Date: Tue, 27 Apr 2010 11:56:53 -0400
To: Teri.Rowles@noaa.gov
CC: Trevor.Spradlin@noaa.gov, Janet.Whaley@noaa.gov, Brian.Stacy@noaa.gov, Lisa Belskis <Lisa.Belskis@noaa.gov>, Wendy Teas <Wendy.Teas@noaa.gov>

I'm ok with the comments I last sent. I see that you have consulted Chapter 4 of Shigenaka (ed).

One other point is that I think we also should be addressing things other than the oil, such as the effects of the dispersants being used. Also, just today I understand they are considering in-situ burning and that needs to be addressed, also.

On 4/27/10 10:33 AM, Teri.Rowles@noaa.gov wrote:

> i did not add what we are doing....stranding response wise....I included turtles, sherry please edit.

Subject: Re: oil spill plans for today
From: Helen Golde <Helen.Golde@noaa.gov>
Date: Tue, 27 Apr 2010 08:55:26 -0400
To: Teri.Rowles@noaa.gov
CC: Jim.Lecky@noaa.gov, Angela.Somma@noaa.gov, David.Cottingham@noaa.gov

Teri-- I don't know what brief you are referring to. I didn't receive anything. Can you forward, or is it something that can be found on ResponseLink?

Thanks-- Helen

Teri.Rowles@noaa.gov wrote:

> Reading the NOAA brief this morning, I am a little concerned and have safety questions re turtles and mm with the in situ burning of the oil.....

--
Helen M. Golde
Deputy Director
Office of Protected Resources
NOAA Fisheries Service
301-713-2332 x 108

Open-water Response Strategies: In-situ Burning

What is in-situ burning?

"In-situ" is Latin for "In-place." In-situ burning involves controlled burning of oil that has spilled from a vessel or a facility, at the location of the spill. Typically, the oil is contained within a boom and ignited using a hand-held igniter or an igniter suspended from a helicopter. The burn will continue only as long as the oil is thick enough—usually about 1/10 of an inch or 2 to 3 millimeters. When conducted properly, in-situ burning significantly reduces the amount of oil on the water and minimizes the adverse effect of the oil on the environment.

Why conduct in-situ burning?

When a spill occurs it is best to minimize the spread of the oil slick and remove as much of the oil as possible at the site of the spill. In-situ burning may provide a response method to help achieve this goal. Under favorable conditions in-situ burning is a fast, efficient, and relatively simple way of removing spilled oil from the water. Furthermore, it greatly reduces the need for storage and disposal of the collected oil and the waste it generates. When an oil spill occurs in ice-covered water or in a marsh, in-situ burning may be the only spill response method available. In-situ burning, however, should complement, not exclude, other means of spill response. When possible, spill responders start mechanical recovery immediately, using booms, skimmers, and other equipment. They may also use dispersants if conditions allow it.

How is in-situ burning done?

On open water, in-situ burning is likely to be done by two boats towing a fire-resistant boom in a U configuration. The open end of the U is maneuvered through the oil slick and a "boomful" of oil is collected. The boom is towed away from the main slick and the oil is ignited. During the burning, the pooled boom slowly advances ahead of the current to ensure that the oil is concentrated at the back end of the boom and maintains maximum thickness. After the oil is burned, the process may be repeated for as long as in-situ burning is feasible.

When a spill occurs in a river and the current is not too swift (below one knot) a fire-resistant boom may be anchored across the river to collect the oil. When the oil layer in the boom is thick enough, the oil is ignited.

In both cases it is possible to stop the burn by releasing one end of the boom, or by towing it faster so that the oil is no longer contained.

In-situ burning has been done successfully on numerous occasions when oil was trapped in ice, or spilled into sensitive marshland. Unlike burning on open water, burning on land is more difficult to extinguish.

What are the limiting factors?

One of the disadvantages of in-situ burning is that any of a number of factors may prevent its use.

Environmental

Oil thickness

In order to burn on the water, oil has to be thicker than 1-2 millimeters. During combustion the oil vapors ignite and burn, rather than the liquid itself. About 2-3% of the heat generated by the combustion is returned to the oil layer where it causes additional vapors to escape and burn (Buist 1994). When the oil layer is thinner than 1-2 mm, the heat is lost to the water, not enough vapors are released, and combustion ceases.

Waves and wind

Experiments have shown that in-situ burning is possible only under relatively calm conditions. When winds are stronger than approximately 20 knots and waves are higher than 3 feet, burning becomes increasingly difficult because the oil cannot be contained in a boom and because it would rapidly emulsify due to wave action (Allen 1993).

Current

The same limitations that apply to ordinary booms apply to fire-proof booms. When the current is stronger than about one knot the boom cannot contain the oil, which splashes above the boom or escapes beneath it.

Emulsification

Emulsification occurs when crude oil spilled on the water takes in microscopic droplets of water. This usually requires mixing energy in the form of waves. When oil emulsifies its viscosity greatly increases, the total volume of "oily material" increases and most significantly for in-situ burning, ignition and combustion of the spilled oil become increasingly difficult. Water-in-oil emulsion of over 50% will preclude in-situ burning of even light crudes or refined products, while much less than that is required for heavier crudes. It is interesting to note that experiments with emulsion breakers applied to and mixed into the oil enable a mixture of 60% water in oil emulsion to ignite and burn in a fairly normal fashion (Buist, 1995).

Operational

Boom

The present open-water in-situ burning technique requires a fire-resistant boom. This boom needs to withstand the combined forces of heat exceeding 2,000°F, wave action, and towing. The most prevalent boom is made of

ceramic fireproof fabric; other booms are made of stainless steel material. Tests and real burns have shown that further improvements are needed in order to make fireproof booms viable for several consecutive burns. A program to test new booms and improve existing ones is underway (Walton 1997).

Booms are stockpiled in different locations around the nation where in-situ burning has been incorporated as a spill response technique. However, lack or insufficient amount of fireproof boom will limit or prevent the execution of open-water in-situ burning.

Human health

Human health has been one of the major concerns regarding in-situ burning. Essentially, in-situ burning converts the oil from a slick on the water into airborne gases and particulates that may travel long distances and potentially come in contact with people. To prevent possible human health impact, policies and guidelines have been established to limit in-situ burning to condition that will not risk the general population.

Natural resources

In general, any action that limits the spread of the spilled oil or treats it in-situ is seen as beneficial to wildlife and other natural resources. However, there may be situations in which in-situ burning may threaten natural resources. In-situ burning policies adopted by regions around the US incorporate provisions for protection of natural resources when conducting in-situ burning.

Approval

In-situ burning has a narrow window of opportunity. Approval for burning should be given either ahead of time (preapproval) or quickly on a case-by-case basis. If the approval process takes longer than it takes to prepare for the burn, the opportunity for using in-situ burning may be lost.

Emissions from in-situ burning

Studies of the emissions from in-situ burning have shown fairly consistent results. About 85 to 95% of the burned oil becomes carbon dioxide and water, 5 to 15% of the oil is not burned efficiently and is converted to particulates, mostly soot, and the rest, 1-3%, is comprised of nitrogen dioxide, sulfur dioxide, carbon monoxide, polynuclear aromatic hydrocarbons (PAH), ketones, aldehydes, and other combustion by-products (Ferek 1997). No "exotic" chemicals are formed. Rather, the burning of oil on water seems to be similar to burning the oil in a furnace or a car, with the exception that the burn is oxygen-starved and not very efficient, so that it generates ample amount of black soot particulates that absorb sunlight and create the black smoke.

Past burns

Many in-situ burns of oil were conducted over the years or occurred accidentally, in different types of environments. Most of them were successful in removing part or most of the spilled oil. A few examples are given below:

Burmah Agate

In November 1979, the tanker *Burmah Agate* carrying 14 million gallons of crude oil collided with a freighter near Galveston, Texas. The oil ignited and burned for more than a week, creating a large smoke plume. It is estimated that about 75% of the oil burned (Buist 1994).

Exxon Valdez

In March 1989 the tanker *Exxon Valdez* ran aground on Blight Reef in Prince William Sound, Alaska, spilling approximately 11 million gallons of North Slope crude oil. On the second day of the spill, in calm weather, between 15,000 and 30,000 gallons of the oil was collected and burned, using 150 meters of fireproof boom towed by two boats. This successful burn using a fireproof boom boosted the efforts to incorporate in-situ burning as a spill response method.

Kuwait

By far the largest in-situ burning to date occurred in 1991 in Kuwait, when the retreating Iraqi forces set ablaze about 700 oil wells. At the height of this environmental disaster, about 6 million barrels of oil were burned daily (Ferek 1997). It is estimated that more than a billion barrels of oil were burned over nine months until the fires were extinguished. The fires created a massive smoke plume that darkened the sky in the area for many months. When the flames subsided, it became apparent that the massive fires greatly reduced the amount of oil that actually spilled and polluted both the landscape and the marine environment, and that the long-lasting effects of the smoke plume were minimal.

San Jacinto River

Following massive floods, four pipelines containing gasoline, diesel fuel, light crude oil, and liquefied petroleum gas ruptured over the San Jacinto River near Houston in October 1994 and caught fire. The fire lasted for several days. When the floods subsided, a boom was anchored across part of the river to collect the oil escaping from the fire. The oil was ignited and burned in the boom for about 12 hours. Both the accidental and deliberate burning significantly reduced the extent of environmental impact (NTSB 1996).

Marsh burns

In recent years, in-situ burning has been conducted on land more often than on open water. In April 1993, spilled jet fuel was ignited in an ice covered marsh near Brunswick Air Force Base in Maine. After mechanical removal reached the limit of its efficiency, about 30,000 gallons remained in the marsh,

and were almost completely burned. Pipeline spills were ignited both in Texas, near Copano Bay in January 1992 and at the Rockefeller Nature Refuge in Louisiana in March 1995. In both cases most of the oil was burned. Studies are being conducted to assess marsh recovery.

Human health concerns

One of the main objections for conducting in-situ burning was based on the concern that the smoke generated could affect the health of the general public downwind of the burn. The health and safety of the responders conducting the burn was also a consideration.

Responders

Safety hazards for in-situ burning operations are similar to those of ordinary skimming at sea, with the added hazards related to the combustion process. Several points are especially useful to keep in mind:

- A specific burn plan should be prepared in order to methodically address safety hazards, protection measures, training requirements, communication, and other operational elements that have to be considered for a successful and safe burning operation. A burn site safety plan should be included in the general burn plan.
- The burning should be controlled, and flashback to the source prevented. Great care must be taken so that the fire is controlled at all times.
- Ignition of the oil slick, especially by aerial ignition methods (such as the helitorch), must be well coordinated with neighboring vessels and be carefully executed. Proper safety distances should be kept at all times.
- In-situ burning at sea will involve several vessels working relatively close to each other, perhaps at night or in other poor-visibility conditions. Such conditions are hazardous by nature and require a great degree of practice, competence, and coordination.
- Response personnel must receive the appropriate safety training. Training should include proper use of personal protective equipment, respirator training and fit-testing, heat stress considerations, first aid, small boat safety, and any training required to better prepare them to perform their job safely.

Safety hazards are substantial and should be given due attention. Usually they pose a much greater risk to the responders than chemical exposure.

General public

In-situ burning generates mostly carbon dioxide and water, particulates, and small quantities of nitrogen oxides, sulfur dioxide, ketones, aldehyde, and other minor combustion gases. PAHs, some of which are suspected human carcinogens, are found in minute concentrations, adsorbed to the soot particulates. Studies on in-situ burning smoke components indicate that particulates in the smoke plume remain the only agent of concern more than

a mile or two downwind. The gases created in the burn dissipate to background levels a short distance downwind, and the level of PAHs attached to the particulates is much below the level of concern (Fingas 1994). Public exposure to smoke particulates from the burn is not expected unless the smoke plume sinks to ground level. However, since the general public may include individuals sensitive to air pollutants their tolerance to particulates may be significantly lower than that of the responders.

Particulate size

Since 10 micrometers (μm) in diameter is the size below which particulates may be inhaled and become a burden on the respiratory system, scientists divide the particulate mass into "total" particulates, which include any size measurable, and "PM-10," which is the fraction of particulates smaller than 10 μm in diameter.

Particulate size also plays a crucial role in determining how long they will be suspended in the air. Larger particulates (tens of μm in diameter) would precipitate rather quickly close to the burning site. Smaller particulates (ranging from a fraction of a μm to several μm in diameter) would stay suspended in the air for a long time and be carried over long distances by the prevailing winds. Particulates small enough to be inhaled (PM-10) are also the ones to remain suspended. If those particulates do not descend to ground level (where people are), they will not threaten the population downwind.

Particulate level of concern

The general public may be protected by minimizing exposure and conducting the burn only when conditions are favorable and exposure to particulates from the burn is below the level of concern. The National Response Team-recommended level of concern for the general public is 150 micrograms of particulates per one cubic meter of air, over a one hour period (NRT 1995). This level is much more conservative than the present legal requirement set at 150 microgram of particulates in a cubic meter of air, but averaged over 24 hours. In the process of adopting in-situ burning, the different regions around the country adopted the NRT's recommendation for a health-protective particulate level of concern.

Monitoring and modeling the smoke plume

The easiest and simplest way to monitor the smoke plume is by visual observation, which provides useful information on the plume direction and behavior. However, to try and assess the smoke component in the plume, instruments tethered from a blimp collected data on gases and particulate composition and concentration, while remote controlled helicopters took samples in the smoke, and a Light Detection and Ranging (LIDAR) instrument, which uses laser beams to detect particulate concentration in the plume was used from an aircraft in several test burns (Fingas 1994). These methods were very useful in providing information on the smoke

composition and component concentrations, but they can't be used on a real-time basis to provide immediate feedback during the burn itself.

Real-time aerosol monitors are now available. They are small and portable, may be carried by hand and in a helicopter, and are easy to operate. Since they count particles by light scattering, their output is not as accurate as more traditional methods that weigh the particulates as they accumulate on a filter media. However, these instruments may provide useful real-time feedback during in-situ burning operations if population exposure to the smoke plume becomes an issue.

Modeling is another approach to estimating the concentration of particulates in the plume. Several models were developed, including a relatively simple model developed by NOAA, and ALOFT, a complicated model developed by the National Institute of Standards and Technology. Using information available on atmospheric conditions, burn parameters, and even terrain characteristics, this model, which is now available for use on a powerful PC, can predict the plume behavior and both ground and plume particulate concentrations over distance. The model has been used for several test burns, and was found to be reasonably accurate. Models are particularly useful for planning purposes and for situations in which direct air sampling is not possible.

Environmental Concerns

Burn residue

Generally, the composition of burn residue is similar to that of the original oil. The difference is that the residues have less volatile hydrocarbons with low boiling points, and are denser and more viscous than unburned oil.

Experience has shown that the burn residues may either float or sink. In a controlled test burn during the *Exxon Valdez* spill, an estimated 15,000 to 30,000 gallons of Prudhoe Bay crude oil were burned. Following this burn, about 300 gallons of "stiff, taffy-like burn residue that could be picked up easily" remained (Allen 1990).

During the 1991 explosion and burning of the tanker *Haven* off Genoa, Italy, burn residues sank. Reliable estimates of the amount of oil actually burned were not possible, but the tanker was laden with 141,000 tons of Iranian heavy crude, and very little remained in the wreck following the accident and fire. Moller (1992) reported that several 1991 surveys confirmed that there was sunken oil offshore and along the coast.

In other cases, the residues stay afloat while warm, but sink as they cool off. In a series of test burns in Prudhoe Bay, Alaska using Alaska North Slope crude,

it was found that, as the residues cooled, some of it sank (Buist 1995). The sunken residues formed a brittle solid, while the residues that stayed afloat were semi-solid tar. It seems, therefore, that prompt collection of the residues can at least in some cases prevent the residues from sinking.

Direct temperature effect

Burning oil on the surface of the water could adversely affect those organisms at or near the interface between oil and water, although the area affected would presumably be relatively small. Observations during large-scale burns using towed containment boom did not indicate a temperature impact on surface waters. Thermocouple probes in the water during the Newfoundland test burn showed no increase in water temperatures during the burn (Fingas 1994). It appears that the burning layer may not remain over a given water surface long enough to change the temperature because the ambient-temperature seawater is continually being supplied below the oil layer as the boom is towed.

Water-column toxicity

Environment Canada coordinated a series of studies to determine whether in-situ burning caused water-column toxicity beyond that attributable to allowing the slick to remain on the surface of the water. While these studies centered on the Newfoundland in-situ burn field trials conducted in August 1993, they also included laboratory tests to investigate potential effects in a more controlled environment (Daykin 1994).

Results from the laboratory and field studies indicated that, although toxicity increased in water samples collected beneath oil burning on water, this increase was generally no greater than that caused by the presence of an unburned oil slick on water. Chemical analyses performed along with the biological tests reflected low hydrocarbon levels in the water samples.

Effect on surface microlayer

The surface of the water represents a unique ecological niche called the "surface microlayer," which has been the subject of many recent biological and chemical studies. The microlayer, often considered to be the upper millimeter or less of the water surface, is habitat for many sensitive life stages of marine organisms, including eggs and larval stages of fish and crustaceans, and reproductive stages of other plants and animals. It is known that cod, sole, flounder, hake, anchovy, crab, and lobster have egg or larval stages that develop in this layer.

There is little doubt that in-situ burning would kill the organism in the area of the burn. However, when considering the small area affected by in-situ burning, the rare nature of this event, and the rapid renewal of the surface microlayer from adjacent areas, the long-term biomass loss is negligent (Shigenaka 1993).

Birds and mammals

In the wake of a major oil spill, any spill response method that would prevent the oil from spreading and impacting large areas is clearly advantageous for birds and mammals. During the *Exxon Valdez* spill thousands of birds were killed by the oil spreading hundreds of miles away from its source. Based upon our limited experience, birds and mammals are more capable of handling the risk of a local fire and temporary smoke plume than of handling the risk posed by a spreading oil slick. Birds flying in the plume can become disoriented and could suffer toxic effects. This risk, however, is minimal when compared to oil coating and ingestion, the result of birds' exposure to the oil slick.

The effect of in-situ burning on mammals is yet to be seen. It is not likely that sea mammals will be attracted to the fire, and the effect of smoke on marine mammals is likely to be minimal. Mammals, on the other hand, are adversely affected by oil ingestion and oil coating of their fur. Therefore, reducing the spill size by burning the spilled oil can reduce the overall hazard to mammals.

Once coated by oil, neither birds nor mammals have responded well to rehabilitation efforts, and although much has been learned and rehabilitation methods have greatly improved, the success rate of wildlife rehabilitation has been moderate at best.

Burning vs. Evaporation

Leaving the oil untreated has a deleterious effect on air quality. Spilled oil left untreated would evaporate at a rate that depends upon the type of oil, time elapsed from release, wind, waves, and water and air temperatures. The amount evaporated is substantial. The ADIOS oil behavior model developed by NOAA predicts that 33% of spilled Alberta Sweet crude would evaporate after 24 hours in 70°F water and 10 knot wind, and after five days 43% would have evaporated. This evaporation pattern, similar in other oil types, emphasizes the need for quick action if in-situ burning is selected as the response tool.

The decision of whether to burn involves a tradeoff: burning the oil would reduce or eliminate the environmental impact of the oil slick and convert most of the oil to carbon dioxide and water. Burning, however, would generate particulates and cause air pollution. Not burning the oil would enable the slick to spread over a large area and affect the environment. Particulates would not be produced, but up to 50% of the oil would evaporate, causing a different kind of air pollution.

Waste generation

Review of the environmental impacts would not be complete without considering the waste an oil spill can potentially generate. It was estimated that 350 miles of sorbent boom was used during the first summer of the *Exxon Valdez* cleanup (Ferriere 1993); more than 25,000 tons of sorbent material of all kinds was sent to landfills, and oily water twice the volume of the oil spilled (from skimming a fraction of the oil) had to be treated (Fahys 1990). Enough energy was used that summer to support the energy needs of 11,000 people, power 1,300 boats of all sizes, and provide hot water equal to the needs of a city of 500,000 people (Ferriere 1993).

In-situ burning of oil is going to generate waste. Even the most efficient burning will leave a taffy-like residue that will have to be collected and treated or disposed of. Burning the oil at sea will not be as efficient as burning it in engines, furnaces, or power plants, and will generate a substantial amount of particulates. However, by minimizing the solid and liquid waste generated by beach cleanup, and by reducing the energy required to support the response operation, burning even some of the oil at sea is likely to reduce the overall waste generation of a spill.

Summary

Like any spill response method, in-situ burning can offer important advantages over other response methods in specific cases, and may not be advisable in others, depending upon the overall mix of circumstances.

Pros:

- In-situ burning can potentially remove large quantities of oil from the surface of the water with a relatively minimal investment of equipment and manpower.

- Burning may offer the only realistic means of spill response where logistics and environmental conditions preclude other options, such as spills in ice-covered water.

- In-situ burning may prevent or significantly reduce the extent of shoreline impacts, including exposure of sensitive natural, recreational, and commercial resources.

- Burning rapidly removes oil from the environment, particularly when compared to shoreline cleanup activities that may take months or even years.

- In-situ burning reduces storage and disposal requirements by converting the oil to gases and particulates that naturally disperse in the atmosphere. Residues left at the end of the burn need to be collected and disposed of, but they represent a small fraction of the initial oil volume.

- In-situ burning is versatile. It may be conducted on open water, ice-covered water, on rivers, on wetlands and marshes, and on dry land.

Cons:

- The method generates large quantities of highly visible smoke that may adversely affect human population downwind.

- In-situ burning pose risks to response personnel, and requires training, communication, and coordination.

- Burn residues may sink and affect natural resources. The longer-term effects of burn residues on exposed populations of marine organisms have not been investigated. It is not known whether these materials would be significantly toxic in the long run

- In-situ burning can be done only over a short period of time following a spill. It requires fast action and response. Furthermore, in-situ burning can be done only in relatively calm weather.

- As of this writing, all the booms currently tested have suffered from flaws. A sturdy, long lasting, effective, and relatively inexpensive fireproof boom is not yet available.

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Walton, D.W., Program Coordinator, National Institute for Standards and Technologies, Personal Communication, August 1997

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE

Southeast Regional Office
9721 Executive Center Dr. N.
St. Petersburg, FL 33702

FILE # 1514-22 k2
1995

March 17, 1995 F/SEO13:DMB

Captain Gerald W. Abrams, USCG
Chief, Marine Safety Division
Seventh Coast Guard District
Brickell Plaza
Federal Building
909 SE First Avenue
Miami, Florida 33131-3050

Dear Captain Abrams:

This responds to your February 3, 1995 letter regarding the proposed policy to pre-authorize Federal On-Scene Coordinators (FOSCs) to conduct in-situ burning as an oil-spill response measure. A Biological Assessment (BA) was submitted pursuant to Section 7 of the Endangered Species Act of 1973 (ESA). We concur with the finding of the BA that the proposed policy is unlikely to adversely affect endangered or threatened species under National Marine Fisheries Service (NMFS) purview or their critical habitat.

The BA listed a number of elements of the action which mitigate any potential negative impacts: restricting the activity to beyond three miles from shore (nine miles on the west coast of Florida), conducting on-site surveys for listed species prior to conducting burns, consultation with natural resource specialists to determine site-specific risks to listed species, and limiting use of burning to favorable weather conditions. Sea turtles are most abundant in shallow waters, and the offshore restriction of the activity will make it unlikely to impact sea turtles. The two endangered species of whale likely to be encountered in the area of activity, the humpback and northern right whale, would occur during their winter breeding/calving season and should be easily spotted during a site survey. Listed species are therefore unlikely to be present, or can be avoided, in a burn area.

NMFS does wish to point out, however, that should listed species be present in a burn area, they could be killed or seriously injured by flame. Although it is unknown how a sea turtle might behave if burning oil is present on the sea surface, the sea turtle likely could not sense the fire by temperature sensation or vision from the beneath the surface and might emerge into the flames. Similarly, a surfacing marine mammal might not detect the flames from below or be able to distinguish the burn area from other oil slicks. Since the scope of the current proposed policy makes these interactions unlikely, the incidental take of listed species is not authorized through this informal

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consultation. Should the Coast Guard anticipate using in-situ burning in a broader array of situations, however, NMFS recommends that the Coast Guard seek formal consultation on the issue.

This concludes consultation responsibilities under Section 7 of the ESA. Consultation should be reinitiated, however, if new information reveals impacts of the identified activity that may affect listed species, a new species is listed, new critical habitat is designated, or the activity is subsequently modified.

If you have any questions, please contact LTJG David Bernhart, Fishery Biologist, at 813/570-5312.

Sincerely yours,

Andrew J. Kemmerer
Regional Director

cc: F/PR2

ıbject: Re: CALL for Strandings and O il Spill Response
rom: Lisa Belskis <Lisa.Belskis@noaa. gov>
Date: Tue, 27 Apr 2010 09:36:30 -0400
To: Teri.Rowles@noaa.gov
CC: Sheryan Epperly <Sheryan.Epperly@ noaa.gov>, Blair Mase <Blair.Mase@noaa.gov>, Trevor Spradlin <Trevor.Spradlin@noaa.gov>, Br ian Stacy <StacyB@vetmed.ufl.edu>, Barbara Schroeder <Barbara.Schroeder@noaa.gov>, Janet Wh aley <Janet.Whaley@noaa.gov>, Jessica White <Jessica.White@noaa.gov>, Erin Fougeres <erin.fougeres@noaa.gov>, Laura Engleby <Laura.Engleby@noaa.gov>, Dave Rotstei n <Dave.Rotstein@noaa.gov>, Brian Stacy <Brian.Stacy@noaa.gov>, Lance Garrison < Lance.Garrison@noaa.gov>, Wendy Teas <Wendy.Teas@noaa.gov>, "Foley, Allen" < Allen.Foley@MyFWC.com>

I brought this up in the call yesterd ay but I would like to ensure this doesn't get overlooked as there is a lot going on. The STSSN coordinators (National and State) and likely for marine mammals will nee d to be provided with sampling needs and protocols for oil on animals. For tur tles, the carcasses I assume may be put in their individual bags and frozen for l ater sampling. However for live animals the first line of care is likely to get t ne oil off and out (if internal) so if this oil needs to be sampled we need 1) to determine who will be collecting the sample 2) at what point (field/ rehab facili y) 3) if the STSSN will collect oil sample we need to be provided a proper collection techniques protocol.

Also in preparing for the possibi lity of oiled animals (and hoping for none) is there nationally a proper chain of cus tody plan that can be distributed to the State Coordinators? If there isn't, St ates will likely need or want to implement this themselves. Who takes the lead f or chain of custody? Allen Foley, Florida State STSSN Coordinator, is copied here.

Lisa

Teri.Rowles@noaa.gov wrote:

> Sherry, Jessica reminded me that said we would get them a document that states they may pick up sick or injured t urtles (by untrained staff) and bring them in for treatment and assessment. I l eft that off.
>
> ----- Original Message -----
> From: Sheryan Epperly <Sheryan.Epper ly@noaa.gov>
> Date: Monday, April 26, 2010 8:24 pm
> Subject: Re: CALL for Strandings and Oil Spill Response
>
>> re: (5) below. Summaries of histori cal sea turtle strandings can be obtained on our website
>> http://www.sefsc.noaa.gov/seaturtle STSSN.jsp
>>
>> The problem is that we're missin g quite a bit of data for Florida in both 2008 and 2009. The zeros in the ta bles don't always mean no strandings, but also can mean (as in this case) no data submitted (yet).
>> We'll get you (3), (4), and (6) ASAP.
>>
>> On 4/26/10 6:54 PM, Teri Ro wles wrote:
>>
>>> Thank you for the call.
>>>
>>> Summary of tasks outl ined in the stranding call, please edit, did I
>>> leave anything out?
>>>
>>> 1. Rhonda Murgatroyb (BP wildlife branch) and Jessica White (NOAA)

will ask Unified Command
a. how we want to handle marine mammal and sea turtle response on
oiled beaches if many of our normal responders have not had HAZWOPR
(24hours) or HAZCOM (8 hours) training (options to consider are bringing in outside folks or providing training)
b. Oil sample handling and shipping protocols or storage if that
is the preferred option
2. SEFSC/SERO will provide list of assets and responders in the area
that will have capacity for response to injured, oiled or stranded
marine mammals (including assets for rehab, necropsy or freezing)
This will include a list of trained personnel (8 hour and 24 hour and
date of last training)
3. SEFSC/SERO will provide communication tree and contact information
for stranded animals (both turtles and marine mammals) on shore in
non-oiled areas, stranded animals on shore in oiled areas (depends on
1 above), and animals injured, dead or sighted in oiled waters.
4. SEFSC/PR will provide injured, ill or oiled sea turtle handling
protocol if sighted by boat in water and outline communication strategy.
This would include bringing the turtle to port for treatment.> 5. SEFSC/SERO will provide historic stranding data (sea turtles and
marine mammals) for April, May, June for the panhandle of Florida, MS,
AL, and LA so that everyone is aware of what the natural stranding
rates would be and may help us evaluate resources needed.
6. SEFSC/PR will provide observation sheets for the OPS group to use
for vessels on the water and aerial assets to report animal sightings,
behavior, etc so that the appropriate data is collected.
7. PR will talk with west coast folks to see what personnel would be
available that is both HAZWOPR and sea turtle/marine mammal trained.
(note: talked with Mike Zaccardi and he has The Marine Mammal Center
and Sea World San Diego that have sea turtle and appropriate oil spill
response training and both have small cetacean rehab experience- he
will send us information on who is available)
8. PR will provide oil spill response manual for marine mammals and

necropsy protocols for review as well as start draft fact sheet for
impacts on marine mammals and sea turtles.
9. SEFSC/PR/SERO will hold a conference call tomorrow with all the
marine mammal stranding leads for each state within the potential
impact area to cover protocols, communications, actions and training.
(I thought the turtle team might be doing the same, is that right?)

On unoiled beaches: stranding response reporting as normal and all
animals examined for ingested or external oil.
On oiled beaches: first responders will likely be non-stranding personnel
and we will await list of trained personnel and information
from Unified Command.
Zaccardi is available to do training if we need that done.

Teri Rowles wrote:

All, We will have a call at 3:30 CENTRAL time (4:30 eastern time)
to discuss stranding readiness and operations for marine mammals and
turtles including communication strategies. The call in information is:

888 935 0561
pass code is 2544115#

Blair is planning a call with our stranding network responders in
this region tomorrow to clarify operations and communications. Some
of our stranding responders are not exactly plugged into the ICS and
Oil Spill Response.
Those in SSMC 3, we have room 10817.

Lisa Belskis <Lisa.Belskis@noaa.gov>
Research Fishery Biologist
Protected Resources and Biodiversity
NOAA Fisheries

Subject: [Fwd: Oil slick overflight lines..]
From: Blair Mase <Blair.Mase@noaa.gov>
Date: Tue, 27 Apr 2010 11:01:01 -0400
To: Teri Rowles <Teri.Rowles@noaa.gov>, erin fougeres <erin.fougeres@noaa.gov>, Liz Tuohy-Sheen <Elizabeth.Tuohy-Sheen@noaa.gov>

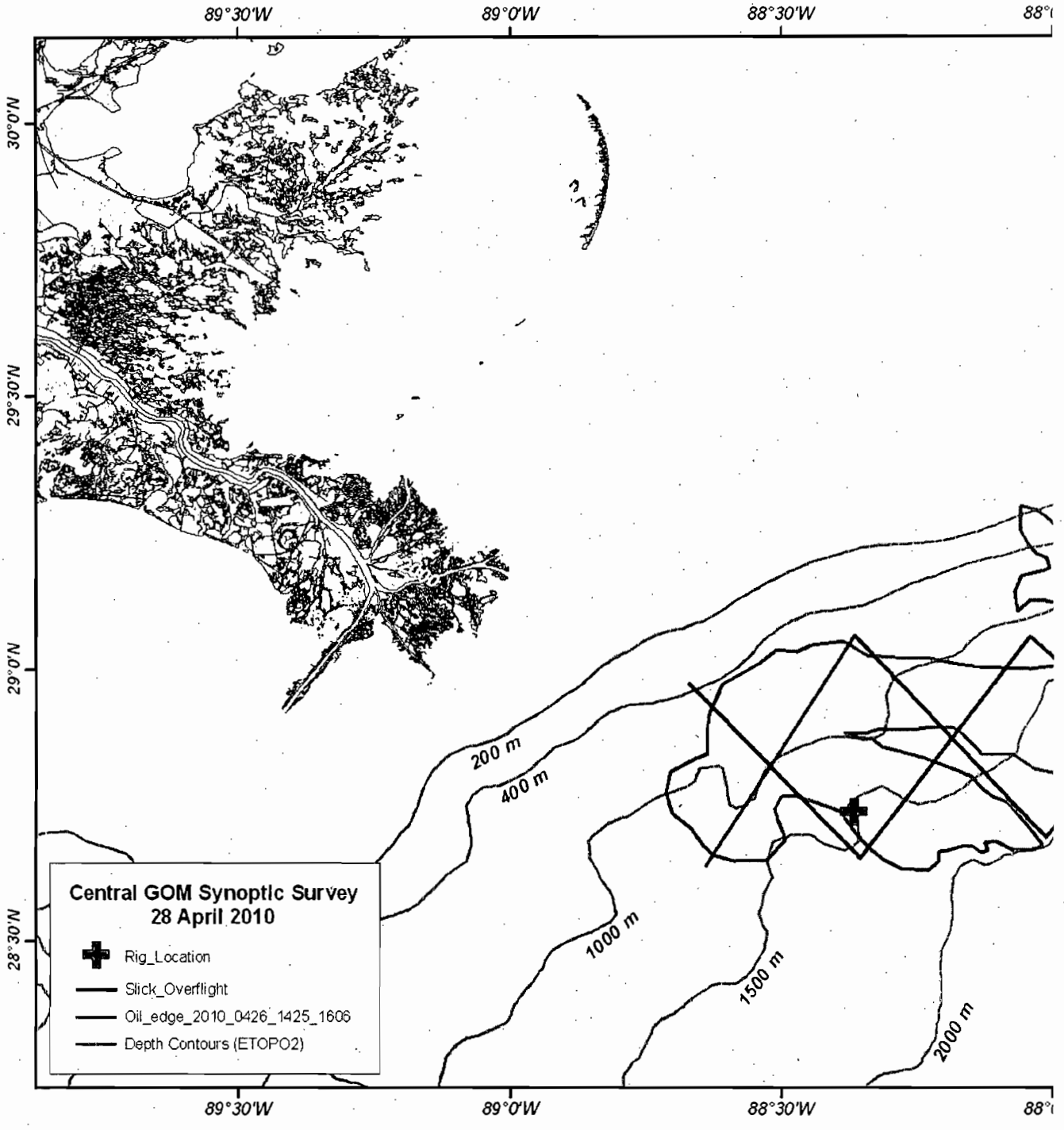
This will be the first helo flight tomorrow....

Subject: Oil slick overflight lines..
From: Lance.Garrison@noaa.gov
Date: Tue, 27 Apr 2010 10:45:00 -0400
To: Blair.Mase@noaa.gov, Keith.D.Mullin@noaa.gov, Sheryan.Epperly@noaa.gov

The proposed lines are attached, I am awaiting feedback from the aircraft operator. Gregg's folks will likely get there this evening, and we are hoping for a 7:30 am flight plus an afternoon flight.

Please let me know if you have any comments or concerns...Lance

---



Oil slick overflight lines...eml	**Content-Type:** message/rfc822 **Content-Encoding:** 7bit

SEFSC_Overflight_Survey.jpg	**Content-Type:** image/jpeg **Content-Encoding:** base64