

## Dolphin-Safe Tuna Labeling (Lorraine Mitchell, ERS)

The development of a market for dolphin-safe tuna illustrates the role of consumers in influencing food labels. This example shows that labeling alone may be insufficient to achieve environmental quality goals. However, labeling may be a second-best solution if the alternative is regulation of imports and likely international trade disputes.

### Background

Dolphin-safe tuna labeling was one of many responses to concerns about tuna-fishing practices in which fishermen encircled dolphins with their nets, frequently entangling and killing the dolphins. The declining dolphin population led to the Marine Mammal Protection Act of 1972, which limited the killing of dolphins by U.S. fishing boats (but not by foreign boats). In the late 1980's, dolphins were still being killed, and some consumers boycotted tuna. In 1990, tuna-canning firms began purchasing tuna from fishermen who did not kill dolphins, and labeled the tuna "dolphin-safe." To prevent fraud, the government created a legal definition of "dolphin-safe." Also, the government imposed an import ban on tuna from countries whose fishing fleets killed more dolphins than U.S. fishermen did. Mexico filed a complaint with the GATT, which ruled that the import ban was illegal. In 1992, the United States joined an international environmental agreement for dolphin protection with Mexico and other countries. Signatories agreed to avoid killing dolphins, to adhere to a dolphin mortality quota, and to accept international observers on boats. The United States also banned the sale of "dolphin-unsafe" tuna. In 1997, Congress lifted the import embargo on tuna caught with nets and adjusted the meaning of "dolphin-safe" (Vogel, 1995; Buck, 1997). Figure 2 shows a timeline of regulations and dolphin deaths.

### Private Firms Had Incentives To Produce and Label Dolphin-Safe Tuna

Private firms had an incentive to produce and label dolphin-safe tuna because enough consumers were willing to pay for this quality attribute (and many were unwilling to accept the alternative). The first widespread manifestation of consumer concern over dolphin deaths came in the late 1980's with the canned-tuna boycott. While it is unclear whether the boycott noticeably affected total sales, producers realized that dolphin-safety was a quality that some consumers wanted

(Newsweek, 1990). For a time, two distinct types of tuna were sold: dolphin-safe tuna and generic tuna caught with any fishing method. The price premium dolphin-safe tuna commanded was measured at \$400 per ton (Lones, 1989; Vogel, 1995).

The price premium reflected demand and the higher production costs of dolphin safety. Tuna fishermen faced two options for producing dolphin-safe tuna, each more costly than using encircling nets. Fishermen could comply with the dolphin-safety regulations if they caught tuna on lines. Another option was to continue using nets, but move the fishing boats to the western Pacific, where dolphins and tuna do not swim together (Vogel, 1995). Most U.S. fleets took this latter route, but then had to change their off-loading locations, since the move placed them closer to Asia.

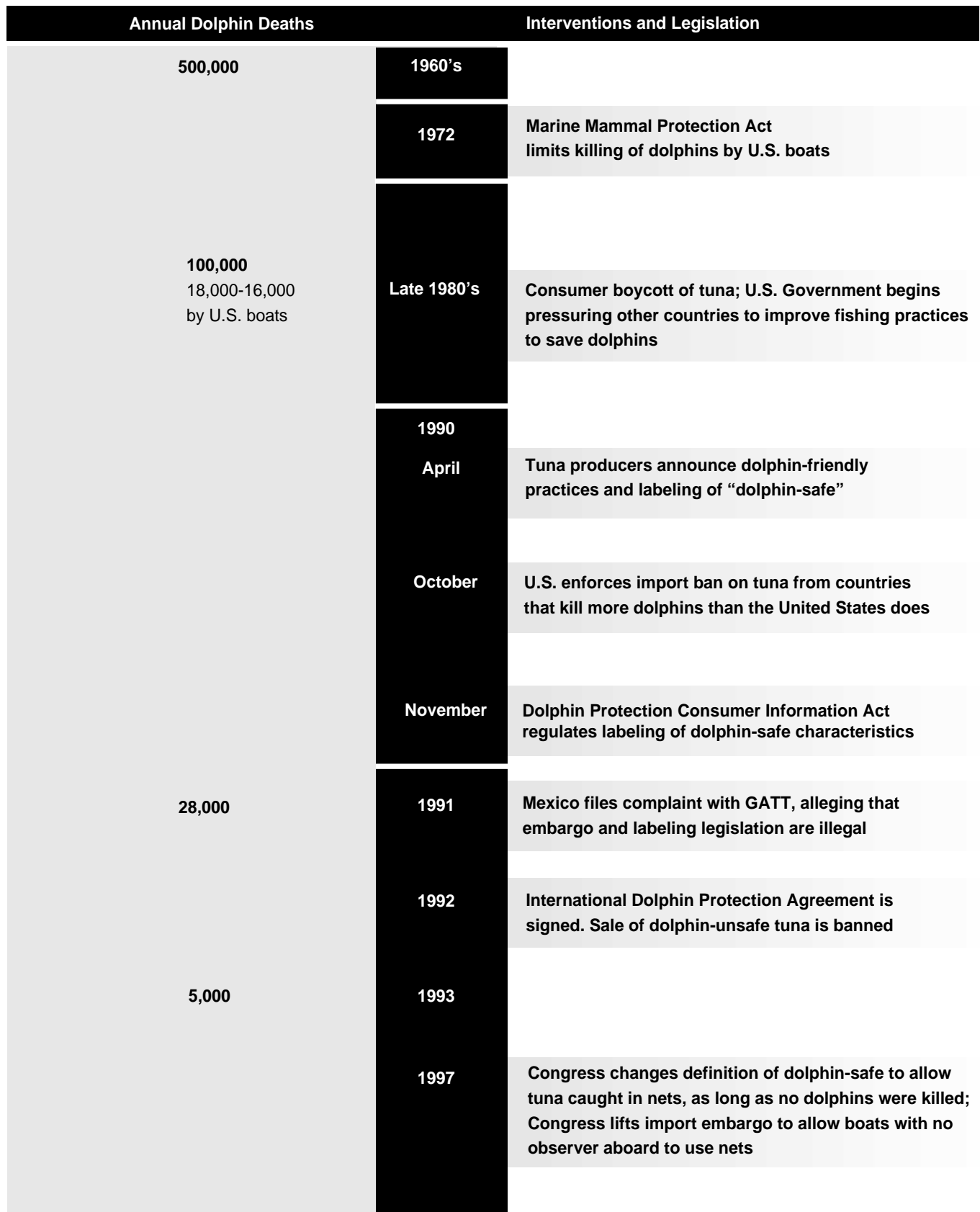
The three major name-brand U.S. tuna-canning companies publicly pledged to sell only tuna caught without the use of purse seine nets. This indicated that the producers of canned tuna felt that they could supply the dolphin-safe tuna at a price that compensated them for their change in fishing locations and technologies (Lones, 1989; Vogel, 1995). Additionally, the three largest canned tuna producers had an 84-percent share of the market (U.S. House of Representatives, Committee on Merchant Marine and Fisheries, 1990). Action on their part dictated the outcome for the whole market.

### Role of Standardization and Verification

In 1990, almost all firms began labeling their tuna as dolphin-safe. However, without a standard definition of "dolphin-unsafe," consumer groups worried that firms that used technology that was harmful to dolphins might be labeling erroneously (Vogel, 1995). The government responded by limiting the dolphin-safe label to tuna from fishing fleets that had not used drift nets or, in the Eastern Tropical Pacific, purse seine nets to encircle dolphins (U.S. House of Representatives, Committee on Merchant Marine and Fisheries, 1990).

The U.S. Congress recently expanded the definition of dolphin-safe to include tuna caught by fleets that encircle dolphins in nets, as long as no dolphins are killed. Many environmentalists argue that encircling dolphins can injure them, and disrupt feeding and mating. Others argue that a standard that prohibits any dolphin deaths is actually more stringent than one that prohibits encir-

**Figure 2. Timeline of dolphin deaths and interventions**



cling nets. Currently, two types of dolphin-safe tuna exist. The U.S. Department of Commerce certifies the new standard. The major canning companies and several grocery and restaurant chains have pledged to use only tuna that meets the older definition. Two different logos are in use, identifying different types of dolphin-safe tuna. Some nonprofit groups, like the Humane Society, maintain lists of processors and retailers who are adhering to the old standard.

This new development illustrates the fact that standards may have to change as circumstances change. It also illustrates the potential pitfalls of government attempts to establish a standard in the presence of competing interests in the private sector. If consumers have one standard in mind, and tuna fleets and other countries have another, there is the potential for consumers to reject the government standard that effects a compromise between the two.

Verification of labeled claims was another important third-party service provided by the government. Dolphin safety is a credence attribute; it is difficult, if not impossible for consumers to detect fraudulent claims. Enforcement of the Marine Mammal Protection Act effectively verified label claims. Passage of the Act required observers on each U.S. boat to verify that dolphins and other marine mammals were not dying in large numbers. By counting dolphin deaths per boat each season, observers' reports offered canners a reliable means of selecting tuna that meets a claim of no dolphin deaths.

### **The Government's Role – Considering Externality Costs and Trade Relations**

The active role the Federal Government played in establishing standards and verification for dolphin-safe tuna labeling came in recognition of the fact that tuna fishing practices imposed an externality cost. This cost, enumerated in dolphin deaths, was borne by those who value the preservation of the species. This cost was not reflected in tuna production costs or tuna prices.

In devising an appropriate response to the externality (and to environmental groups who lobbied for legal solutions to dolphin mortality), policymakers had to consider the trade ramifications of any policy response. The GATT ruled that the trade embargo was illegal. The effect of production on a resource (dolphins) outside U.S. borders did not give the United States the right to exclude imports. Also, the United States had not exhausted all other possibilities for saving dolphins.

The Dolphin-Tuna Case is regarded by some as a GATT ruling overturning an environmental law that served as an effective trade barrier. However, the GATT ruled that the labeling law was legal.

The trade dispute with Mexico under the GATT illustrates three points. First, when a country proposes a labeling regulation, costs and benefits may depend on interaction with similar laws (or lack thereof) enacted by trading partners. The labeling provision was challenged under the GATT, along with the import ban, because Mexico regarded the label as a barrier to trade. This suggests that each time a country's firms label their goods in a way that its trading partners do not, there is the potential for a trade dispute, if the labels cause consumers to choose domestic over imported products. Second, mediating between domestic and international perspectives in establishing standards is a difficult process. Recent changes in the definition of dolphin-safe were enacted to appease partners in the International Dolphin Conservation Program, who wanted to be able to export tuna to the United States. These changes have not been accepted by all consumers. Third, if labeling is unlikely to violate international trade agreements, it may be the best policy response to social concerns. The GATT, the forerunner of the WTO, upheld the labeling provision because it did not prohibit the movement of goods, and was applied equally to foreign and domestic products (Vogel, 1995). We have seen that labeling is not a method that will guarantee achievement of social goals. However, some may regard it as a second-best solution if more stringent regulation of imports induces trading partners to file a WTO complaint.

### **What Impact Did the Labels Have?**

The dolphin-safe label allowed consumers to signal their preferences for saving dolphins. But purchasing dolphin-safe tuna might still yield an environment in which many dolphins are killed despite consumers' willingness to pay to prevent those deaths. Some consumers might be willing to pay more than the dolphin-safe tuna price premium to protect dolphins. Others might be unwilling to pay any premium. As the latter group has no reason to take other consumers' preferences over dolphin deaths into account, their purchases of low-cost tuna would support the production of tuna that incidentally yields dolphin deaths. Thus, the impact of the label on dolphin deaths depended on the number of consumers who were and were not willing to pay a premium. So, was labeling enough to reduce dolphin deaths to a level at which the willingness to

pay by U.S. society, composed of all of different types of consumers, was equal to the additional cost?

Answering the question is difficult because several different actions influenced dolphin deaths. The Marine Mammal Protection Act required fishing fleets to reduce their levels of incidental marine mammal mortality, to have an inspector on board, and to use only specific types of fishing technology. As a result, dolphin deaths dropped substantially long before labeling began.

Since canneries were free to purchase tuna from either U.S. or foreign sources, the U.S. regulations were insufficient to assure consumers that they were purchasing dolphin-safe tuna. Vogel (1995) reports that between 1989 and 1991, dolphin deaths dropped further. In 1990, the boycott prompted canneries to switch to dolphin-safe tuna, allowing consumers to reveal their preferences for dolphin-safe tuna by buying more of it. However, when canneries began using the dolphin-safe label, the United States also pressured Mexico and other countries to change their fishing regulations and imposed a trade embargo against countries whose fishing fleets had high numbers of dolphin deaths. Since U.S. consumers were 50 percent of the canned tuna market, labeling could have had some independent effect, but it is difficult to state unequivocally whether the reduction in dolphin deaths was due to the labeling effort and resulting consumer pressure on tuna canneries and fishermen or to one of the government initiatives (see Buck, 1997). It is also impossible to know whether labeling alone, without all of the marine mammal legislation, would have resulted in an adequate reduction in dolphin mortality.

In addition to the social benefits, there were also social costs to the government's actions. It has already been noted that many fishing fleets moved their operations to the western Pacific. Indeed, foreign fishing fleets, which could not always afford to fish so far away from home ports, argued that they bore very high costs as a result of the embargo and the pressure to change fishing techniques (Vogel, 1995). Additionally, the government bears the substantial costs of having an observer on each boat, which reduces the verification costs for

producers. Again, however, because the labeling, consumer activism, the Marine Mammal Protection Act, and the embargo all took place around the same time, it is unclear whether or not the labeling legislation by the government was primarily responsible for these social costs. The Congressional Budget Office estimated that labeling legislation, negotiating with foreign governments, and making the sale of dolphin-unsafe tuna illegal would cost about \$6 million per year (U.S. House of Representatives, Committee on Merchant Marine and Fisheries, 1990).

Another possible cost of the dolphin-safe label is any impact of labeling and the change in production practices on tuna prices. The fact that "dolphin-unsafe" tuna was essentially driven out of the market after these changes means that all tuna consumers were forced to purchase dolphin-safe tuna. Tuna is a relatively inexpensive source of protein (and is included in the U.S. Department of Agriculture's food and education program for Women, Infants, and Children (WIC)). An increase in tuna prices as a result of new production methods and labeling could impose costs on low-income households that may be unwilling (and/or unable) to pay for dolphin safety. As a result, a redistribution of welfare from low-income consumers to high-income consumers could occur. In the dolphin-safe tuna example, however, prices did not obviously increase after the change in production practices and labeling. The longrun trend in the price of tuna has actually been slightly downward, with prices decreasing from \$2.35 per pound in 1980 to \$2.12 in 1999 (nominal dollars). It is, however, difficult to decipher whether or not the change in tuna production practices contributed to or damped this trend.

In spite of the general fall in price, U.S. per-capita tuna consumption peaked in 1989 and has fallen since. Some ascribe this drop in sales to poor advertising, others to the lower quality tuna available in the western Pacific (Ferraiuolo, 1998). If labeling and the shift in production practices had an effect on tuna prices, quality, or consumption, analysts would need to include these effects in a complete cost-benefit analysis of the dolphin-safe label.