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12

Tuna



Credit: Richard Levine/Alamy.

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Keywords

- Animal rights
- Bycatch
- Conditions of production
- Consumer boycott
- Dolphin safe tuna
- Exclusive economic zones (EEZs)
- Fordism
- Green consumption
- Longliners
- Maximum sustainable yield
- Moral extensionism
- Post-Fordism
- Purse-seine fishing
- Second contradiction of capitalism
- Social construction
- Sustainability
- Transnational corporations
- Utopian

Answer questions 3, 4 and 5 on p 223.

Blood Tuna

In the 2006 film *Blood Diamond*, starring Leonardo DiCaprio and Djimon Hounsou, unsuspecting viewers received a jolt. This was not your standard international action film, with a fantastical plot, far removed from the comfortable lives of viewers in the West. Rather, for many viewers, the diamond jewelry they wore implicated them directly in the violence they witnessed on screen. *Blood Diamond* brought to light (albeit in rather over-the-top, Hollywood fashion) the violence and human bloodshed that are part and parcel of the international trade in West African diamonds. Shocked viewers realized that, through their diamond purchases, they may have unwittingly funded a pointless and ruthless war, with all of its attendant killing, rape, smuggling, torture, and illegal incarcerations. Exposure of this violence resulted in some real changes in global diamond markets. Many consumers were now demanding – and were soon able to purchase – certified “cruelty free” or “conflict free” diamonds. The anti “blood diamond” movement even spawned a fashion trend that might have been unthinkable a couple of decades earlier, *haute* synthetic diamonds. Diamonds, of course, are not the only natural resource whose troubling history gets hidden within commodities.

Eighteen years earlier, another film had produced similar reactions and results. The 1988 film, however, was no Hollywood production. It was compiled footage from low-budget handheld movies filmed by Sam LaBudde aboard the Panamanian tuna boat *Maria Luisa*.

The beaks of Sam LaBudde's first dolphins strained against the net that had formed a canopy above them. Their flukes churned the ocean white. They thronged at the surface, desperate to force slack in the net sufficient to free their blowholes for breath. Their shrieks and squeals began high in the hearing range of humans and climbed inaudible scales above. LaBudde wanted to scream himself. (Brower 1989: 37)

LaBudde was a spy of sorts. A biologist by training, he had gotten a job as a galley cook aboard the *Maria Luisa*, but with the hidden intent of filming the slaughter of dolphins. Dolphins, for reasons still unknown to biologists, school above tuna in some parts of the world's oceans. In one part of the Pacific Ocean, for about 30 years, fleets of tuna boats had been targeting the easily spotted dolphins to locate the tuna that schooled beneath them. The tuna were destined for the lucrative US canned tuna market. In three decades over six million dolphins were tangled in the massive tuna nets and killed, most drowning before they could be released (Gosliner 1999). LaBudde got what he came for. The film – which included graphic images of dead and dying dolphins – was shown across the United States and then around the world. Shocked filmgoers cringed to think that this seemingly innocuous commodity – canned tuna, staple of school lunches everywhere – could have left such a trail of blood in its wake. As they later would for diamonds, consumers responded in force to this saga of “blood tuna,” a commodity far more humble and far more common.

Indeed, few wild-caught food products are as ubiquitous as tuna. *Annual* catches for some species of tuna are in the *billions* of pounds! Yet, like most animal products, tuna

arrives in our kitchens with little visible evidence of its natural history and ecology, or the human labor that got it from sea to table. What does a tuna even look like? (Not a whole lot like “Charlie Tuna,” the mascot of the StarKist brand). How are they caught? Where are they caught? By whom? What about the effects of tuna fishing on tuna populations, and on ocean ecosystems more generally? In this chapter, we will examine these questions through the lenses of markets, political economy, and ethics. By closely examining the puzzle of tuna, we learn a great deal about the problem facing the world’s oceans, about the massive impact of food consumption on ecosystems, and about the awkward relationship between ethics and economics.

A Short History of Tuna

“Tuna” is an informal designation referring to a suite of similar fish species, all belonging to the family Scombridae, which also includes bonitos and mackerels. Most tuna are members of the genus *Thunnus*, but a few, including the commercially important skipjack tuna (*Katsuwonus pelamis*), are not. All tuna share a similar morphology. They are largest in the middle and smoothly tapered toward both front and back. They have a powerful and distinctive “crescent-shaped ... *heterocercal* (equal-lobed) tail” (Ellis 2008: 22). Their powerful tails, streamlined bodies, substantial musculature, and unique physiology combine to make tuna some of the fastest swimmers in the ocean (tuna have been clocked swimming at nearly 70 miles per hour). Shared with only a handful of species of sharks and predatory fish, the unusual physiological adaptation that gives them much of their power is endothermy, a type of warm-bloodedness. To simplify a complex and multifaceted biological adaptation, “one advantage [to tuna] of being warm-blooded is that warmth increases the delivery of oxygen to ... the muscles ...; more oxygen, more power” (Whynott 1995: 33). They are not just fast. They have stamina, too. Tuna travel on some of the longest migrations of any animal, many with seasonal migrations of four thousand or more miles. Not only is this undeniably impressive, but it has socioeconomic implications as well. No one, nor any country, anywhere, has sole control over any stock of tuna. Because of their far-ranging nature, only truly global efforts will prove successful for the long-term conservation of these fish (Figure 12.1).

Tuna are also, of course, incredibly valuable fish that are prepared in many different ways. Tuna is eaten raw (as “sashimi,” which means thinly sliced raw seafood). Tuna filets have become recently popular cooked as “steaks” on outdoor grills. Tuna is popular in soups and chowders in many different cuisines worldwide. And, of course, as many American schoolchildren come to know it, as “tuna fish,” tuna comes in a can. The most commercially important species of tuna are bluefin, yellowfin, bigeye, albacore, and skipjack. Each has different markets, with bigeye tuna eaten mostly fresh in Japan and Korea, for example, and albacore consumed as canned “white” tuna in the United States (Ellis 2008).

In the sections that follow, we will discuss the bluefin and yellowfin. These varieties are emblematic, first because they are both objects of familiar consumption to us, but also because they represent a crisis of overfishing in the world’s oceans (especially bluefin),

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Bluefin tuna: From horse mackerel to ranched sushi

The bluefin tuna is divided into three species, the northern bluefin (*Thunnus thynnus*), the southern bluefin (*Thunnus maccoyii*), and the Pacific bluefin (*Thunnus orientalis*). The northern bluefin is the largest tuna, with individuals commonly weighing over 1,000 pounds.

The oldest known bluefin fisheries (a "fishery" is simply a harvested fish stock) are in the Mediterranean Sea. The earliest may have been that of the Phoenicians, living on the eastern Mediterranean coast around modern-day Lebanon, who for thousands of years used ingenious methods of trapping, herding, and eventually harpooning the corralled bluefin. These fish represented some of the most important catches to coastal cultures (including the Ancient Greeks) and as such are no small players in the development of Western civilization (Ellis 2008). For most of the modern era, however, bluefin were not a commercially valuable catch. When the fish was known commonly in North America as the "horse mackerel," its flesh was considered unfit for human consumption and was sold as an ingredient in commercial dog and cat food. It has since become a popular sport fish (Ellis 2008: 84).

The fate of the bluefin changed dramatically in the 1960s, when "maguro" (sushi from large bluefin) started to be highly prized as the highest of high-end sashimi. Seafood has been central to the Japanese diet for millennia; sashimi in various forms since at least the seventeenth century. However, the taste for maguro (especially "toro," the marbled red belly meat of the bluefin) has arisen only very recently. It was not until the 1960s, when Japan built a fleet of refrigerated tuna freighters that could remain at sea for weeks, that the boats could catch, freeze, and deliver to domestic Japanese markets from the mostly more distant giant bluefin fisheries. The popularity of maguro, as soon as it was widely available, increased faster than the fish could be caught. Quickly, non-Japanese fishers – from the United States and Canada to the Mediterranean – jumped into the market. It is not surprising that so many fishers would want to get into this seemingly insatiable market, as a single giant bluefin can sell for over a hundred dollars a pound, and the fish can weigh several hundred (even over a thousand) pounds. The demand for giant bluefin has increased

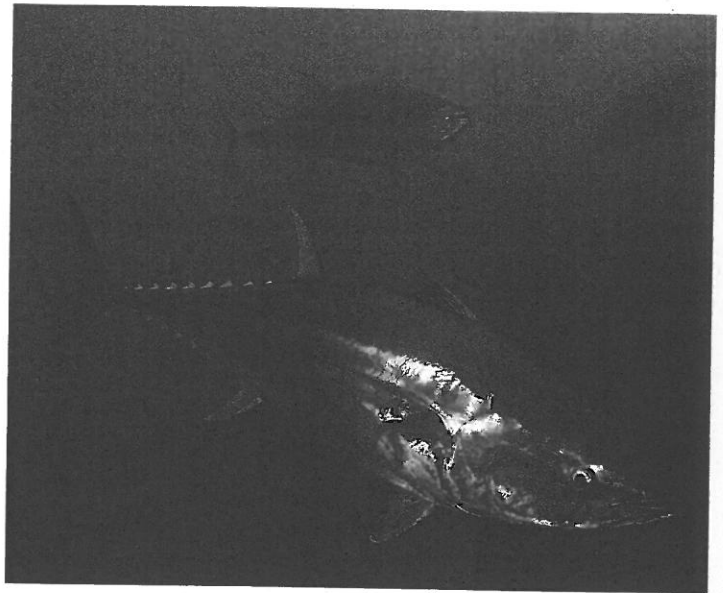


Figure 12.1 The sleek, powerful bluefin tuna (*Thunnus thynnus*). The bluefin are the largest of the tuna (the largest one ever caught weighed 1,496 pounds). Prior to the 1960s, bluefin were considered "trash fish" and fished primarily for sport and sometimes sold for pet food. Giant bluefin are now, pound for pound, the most valuable fish in the ocean. A single 444 pound bluefin fetched a record \$173,600 (\$391/pound) at auction in Tokyo. Credit: Brian J. Skerry/National Geographic/Getty Images.

Purse-Seine Fishing An effective fishing method for species that school near the surface, a large net is encircled around the targeted catch, after which the bottom of the net is drawn tight like the strings of a purse, thus confining the catch in the net

Longliners An industrial fishing method deploying lines baited with hundreds or thousands of hooks; longlines are usually several miles long and often result in significant bycatch

Sustainable/Sustainability The conservation of land and resources so as to secure their availability to future generations

even further as maguro and toro have become internationally haute cuisine. Indeed, in 2008, the most expensive restaurant in New York City was a sushi bar where a meal can run to more than \$1,000 (Gosliner 1999: 152). The money to be made has unsurprisingly resulted in increasingly heavy harvest. These fisheries are some of the most overfished in the world and have driven the bluefin to biological endangerment.

One of the latest ways that fishers have tried to maximize their bluefin production is by "ranching" them. In the South Pacific and the Mediterranean, entire schools of young bluefin are caught in "purse seine" nets; so-called because after the net encircles the school, the bottom of the net is drawn together like the strings of a purse. The enormous nets are then towed to a facility where the tuna are raised (*fattened*, really, in a manner not dissimilar to feedlot-

fattened cattle) for a few months in pens before being harvested and exported, mostly to Japan.

Distressingly, tuna ranching has substantially decreased wild bluefin tuna stocks, thus furthering their endangerment. The added pressure bluefin tuna ranching puts on wild stocks is due primarily to two factors. One, it is almost completely unregulated. Tuna caught for ranching do not count against legal catch quotas, even though they are being permanently removed from wild populations. But ranched tuna do not fall under aquaculture regulations either, because they are not reared in captivity. The second key factor is the way ranching is affecting the age structure of wild populations. Prior to ranching, the heaviest fishing pressure was on the largest tuna. Now that younger tuna are valuable, more younger bluefin are being removed from wild stocks. Bluefin populations are losing the very fish that will be needed to replenish their numbers in the future. Considering the development of technologies like increasingly huge purse-seine freighters, **longliners**, and tuna ranching, coupled with the seemingly insatiable growth in demand for sashimi, bluefin fisheries worldwide are being harvested well past **sustainable** levels.

Bluefin tuna, like dozens of other wild-caught ocean fish species, are overfished; meaning simply that commercial fishing operations target these species and catch more than are able to naturally regenerate. Overfishing is socially and ecologically undesirable. Socially, overfishing results in considerable hardship in fishing-dependent communities. In many cases, "artisanal" (small-scale) fishers suffer first and most. Commonly, fish stocks only become severely depleted after international fleets concentrate activity in a particular fishery for a number of years. As these boats are owned and operated by corporations (or individuals) with considerable capital investment, these large-scale operations are able to relocate to another fishery if their current target fishery is overfished and falls into decline. This is not, however, an option for small-scale artisanal fishers, who are tied to their local fisheries by economic constraints (and other factors). Many well-known fish species that are readily available at supermarkets are actually severely overfished species (Table 12.1). Overfishing, however, is only one of a host of problems besetting marine ecosystems. Another problem directly related to modern large-scale fishing operations – and directly

Box 12.1 Longliners

Along with bottom trawling, drift nets, and purse seine nets, longlines are one of the intensive, modern fishing methods causing widespread overfishing of the oceans and tremendous bycatch. As their name suggests, longlines are long fishing lines, consisting of a main line, usually over several miles and sometimes up to 60 miles long, and hundreds of hooked secondary lines branching off the main line. A single longline will have several hundred to over a thousand hooks. Most longliners (boats deploying longlines) target large, high-trophic-level pelagic (free swimming) fish like sharks, tunas, and swordfish. A smaller number of longlines are set on demersal (bottom-dwelling) species like the endangered Patagonian toothfish and halibut. (Most longliners targeting the Patagonian toothfish, it should be noted, are doing so illegally.)

Longlining, as you might guess, is a rather indiscriminate fishing method. Swordfish, for example, have suffered significant population declines since most commercial swordfishers replaced pole and line and harpoon with longlines beginning in the 1960s. Not only do longliners simply catch many more adult swordfish than were caught prior, but significantly larger numbers of non-targeted juvenile swordfish die from longlining as well. Harpooning is, of course, the most selective way to fish for swordfish. As a commercial fisherman, there would simply be no reason to set a harpoon on a small swordfish that you would not be allowed to sell. And even with pole and line, the survival rate of hooked and released juvenile fish is relatively high. Not so with longlines. The hooked juveniles stay on the line for so much longer (often a day or more)

that even those that may be still alive when brought to the boat die soon after release. The effect on the fishery has been devastating. At the turn of the twentieth century, the average swordfish landed was between 300 and 400 pounds. Today, the average is around 88 pounds. Juvenile swordfish, however, are just one example of the problematic bycatch associated with longliners.

Longline bycatch of sea turtles and seabirds such as albatrosses is just as controversial. Sea turtles worldwide represent some of the most critically endangered animals on the planet. In 2001, the US National Marine Fisheries Service pegged longlines as the primary threat to two endangered turtle species, the Atlantic loggerhead and the leatherback, and subsequently ordered 2.6 million square nautical miles of the North Atlantic closed to commercial longlines to protect these species from extinction. Albatrosses, large seabirds, will often follow longliners and go after baits nearly as soon as they reach the water, after which hooked birds are dragged underwater and die. Legal and illegal longliners are responsible for the death of over 100,000 albatrosses each year, many of which belong to endangered species.

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relevant to discussions of tuna – is **bycatch**, non-targeted organisms incidentally caught by commercial fishing operations.

The Eastern Tropical Pacific yellowfin tuna fishery

Yellowfin tuna are smaller than bluefin but are still quite large, some exceeding 400 pounds. Throughout most of the twentieth century, most yellowfin tuna caught for US markets

Bycatch Non-targeted organisms incidentally caught by commercial fishing operations, including many fish species, but also a large number of birds, marine mammals, and sea turtles

Table 12.1 Overfished species "red-listed" by the Blue Ocean Institute. Red-listed species are the most ecologically problematic commercially available fish species

Fish species	Fishing method	Interesting facts
Chilean sea bass (real name: Patagonian toothfish)	Primarily bottom longlines	Longline bycatch includes large numbers of endangered albatrosses
Atlantic halibut	Bottom longlines; pole and line	Overfished for centuries; may become extinct in the wild
Orange roughy	Bottom trawling	Can live to be over a hundred years old; common bycatch includes several threatened shark species
Grouper	Various (e.g., longlines, traps, pole and line, spearfishing)	98.5% of grouper sold in the US come from Mexico, which has no management plan for conserving grouper stocks
Atlantic cod	Bottom trawling; pole and line	Officially closed as a commercial fishery since 1992, the North Atlantic cod population shows no signs of rebounding

Source: Blue Ocean Institute: www.blueocean.org/

was canned as "light" tuna, but in other parts of the world it is also eaten raw and cooked in various ways. Yellowfin also has become a popular less-expensive alternate to bluefin for sashimi, and is popular sold fresh as tuna "steaks" for grilling.

One of the most commercially valuable and historically most heavily fished tuna fisheries in the world is the yellowfin tuna fishery in the Eastern Tropical Pacific (ETP) Ocean. The ETP stretches south from southern California along the coast of South America, covering some 18 million square kilometers. The valuable yellowfin fishery sits at the southern end of the ETP, reaching as far as Chile. This fishery was first commercially exploited when improvements in refrigeration technologies in the 1930s allowed new boats in the US tuna fleet to stay out at sea longer and venture farther offshore to more distant tropical waters. Since typically used cotton nets degraded quickly in the warmer southern waters, the boats targeting southern yellowfin switched to pole and line fishing (Gosliner 1999).

Pole and line fishing was considerably more labor-intensive than purse-seine fishing, but remained profitable for a few years. In the 1950s, however, as the US market was flooded with cheap, imported tuna, the pole and line yellowfin fishery became unprofitable, and was saved only by two key technological innovations, which together portended serious ecological consequences. One was nylon nets that did not break down in the warmer waters. The other was a more powerful power block that could haul in once-unimaginably large nets. The reconversion of the fleet to purse-seine fishing (as described

above) was rapid. Indeed, within a few years nearly all boats in the southern ETP were using large, nylon purse-seine nets to catch schools of yellowfin, making the fishery more productive and profitable than ever (Joseph 1994).

Unlike skipjack, which (as their name suggests) “skip” along the surface and are therefore easily spotted from boats or spotter planes, yellowfin swim at depth, which makes them difficult to spot. For reasons still unknown to ecologists, however, ETP yellowfin (and, strangely, not yellowfin elsewhere) often swim below schools of dolphins, allowing fishermen to target schools of tuna by searching first for easily spotted dolphins, which swim at the surface and breach often. By 1960, this had become the primary method for finding yellowfin. Once a dolphin school was spotted, a fleet of speedboats would “corral” the dolphins to concentrate them. After this was accomplished, a boat would haul a huge (sometimes a mile long or longer) purse-seine net around the school of dolphins, simultaneously trapping yellowfin beneath.

In the early years of the purse-seine dolphin method, little effort was made to reduce dolphin bycatch mortality. A few dolphins would breach over the net and escape, but most would be hauled aboard in the nets. A few would be thrown back alive, but most were thrown back dead, having drowned after entanglement. The numbers of dolphin deaths associated with this fishery during the 1960s are staggering (Figure 12.2), and it is no surprise that, when these figures were made available to the public in 1968 through the media, there was an immediate and substantial public outcry and political response (Joseph 1994). This was rather unfortunate timing for the tuna fishing industry. The environmental movement was just at this time gaining prominence and confidence and – along with anti-nuclear activism (“No Nukes!”) – marine mammal conservation was one of the highest-profile issues of the day (“Save the Whales!”). The popular television show *Flipper*, about a helpful bottlenose dolphin living with the family of a Chief Warden of an imaginary marine reserve (effectively recreating the popular dog program *Lassie*, but under the sea!), also aired between 1964 and 1967, and provided a popular representation of dolphins in the United States. Even long before LaBudde’s exposé, therefore, concern for dolphins was on the rise. The “tuna–dolphin problem” (like the problem of overfishing of bluefin today) became the order of the day, creating a human/environment puzzle with global implications.

The puzzle of tuna

This overview of the fish we call “tuna” sheds light on some of the seemingly intractable problems bound within the rapidly changing relationship between people and the world’s oceans. The review shows us how changes over time in society – including evolving tastes,

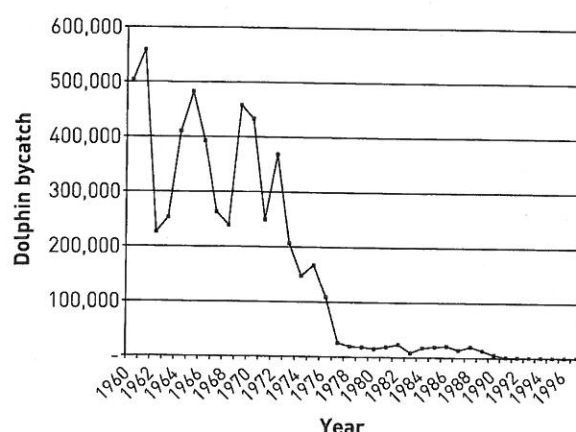


Figure 12.2 Dolphin mortality at the hands of United States fishing vessels using purse-seine tuna technology in the Eastern Tropical Pacific, 1960–97. *Source:* Adapted from data from Gosliner [1999], p. 124.

technological developments, emerging ideas of right and wrong, and a globalizing economy – have all radically changed the way we harvest and eat tuna. And, of course, these changes have also, by orders of magnitude, increased the sheer tonnage of fish taken from our oceans. Specifically, our review suggests that tuna are a kind of puzzle when we acknowledge that:

- Unlike humans (but like the rest of non-human nature), tuna respect no political boundaries. Yet their fate is inexorably tied to geopolitical decisions.
- Tuna are valuable; strangely, almost unexplainably valuable. The demand for tuna seems to have no ceiling, yet wild stocks of tuna are an undeniably finite resource.
- Their seeming ubiquity (for example, on store shelves) masks the declines of populations in the wild.
- Their puzzling relationships with other sea creatures (like dolphins) make it very difficult to heavily harvest tuna without impacting other species as well.

Tuna therefore provide a window through which we can see the effects on nature of our tastes, trends, technologies, and cultures. As such, tuna present us with an important puzzle: Can the global community make agreements that will preserve wild stocks of these freewheeling but incredibly valuable creatures? Considering that marine flesh is the largest single source of protein for human beings worldwide, it would not seem an overstatement to say that the fate of people and the fate of tuna may indeed be inseparable. By specifically viewing the ETP tuna–dolphin controversy through the lenses of markets and commodities, political economy, and ethics and ecocentrism, we see that different perspectives paint very different pictures of the history of this debate. Furthermore, they point us toward different types of solutions, in this fishery and beyond.

Markets and Commodities: Eco-Labels to the Rescue?

We began the discussion of markets and commodities in Chapter 4 by asking the strange question: “*Can using more stuff lead to the availability of more stuff?*” Can this same logic apply to overexploited marine resources? Stated more baldly: Can the free market save the very resources it has depleted? Intuitively, it would seem like it would not, yet a slight tweaking of the question cuts to the heart of one of the most ambitious and widespread recent conservation efforts. So, in this case, perhaps we might ask: *Can consuming the right fish save our oceans?*

This is the bet on which many scientists, government officials, environmentalists, and seafood corporations have recently put their money. Despite centuries of overexploitation of ocean resources; despite decades of governmental regulation at local, national, and supranational scales; despite the best efforts of environmental organizations at highlighting the plight of the seas; despite all this, the oceans continue to be increasingly overharvested to this day. Our best chance at reversing this trend, some say, is by harnessing the forces

of the market through informed and enlightened **green consumption**. If society wants sustainable ocean resources, the mandate is simple: we must buy the right things.

In this section, we review the campaign for “**dolphin safe**” labeling of canned tuna. For decades, thousands of dolphins were killed as “bycatch” in tuna fishing operations. Initially, the “dolphin safe” labeling program gave consumers a choice to use their power in the market to try to force producers to adopt more environmentally desirable fishing methods. The label was so popular that Congress passed a law that standardized the use of the “dolphin safe” label and, even more significantly, banned the importation of non-dolphin safe tuna.

Green Consumption Purchasing of products that are purportedly environmentally friendlier or less harmful than their alternatives, a model of environmental protection that relies on consumer choices to change the behavior of firms or industries rather than regulation

Dolphin Safe Tuna Tuna caught without killing dolphins as bycatch

Attempts at solutions through legislation

Largely in response to the public outcry over dolphin deaths at the hands of Eastern Tropical Pacific yellowfin purse seiners, in 1972 the US Congress passed the Marine Mammal Protection Act (MMPA). The MMPA, most broadly, prohibited the killing, selling, importing, and exporting of marine mammals or marine mammal parts within the United States. The bill included a handful of exceptions to the moratorium, however, including confusing and even conflicting exceptions for ETP tuna. In one section dolphins in the tuna fishery are to be managed for “optimum sustained population,” allowing for dolphin kills as long as they do not reduce their population numbers below biologically acceptable thresholds (Gosliner 1999: 1). The tuna fishers are also, however, ordered within the Act to reduce dolphin mortality over time to a target of zero mortality. From a fisheries management standpoint, these are conflicting directives. The legislation proved vague and confusing enough, and contained enough loopholes, that dolphin mortality continued in high numbers for years after passage of the MMPA (Figure 12.2).

Amendments to the MMPA in 1976 led to a substantial decline in dolphin mortality. One was the implementation of the “backdown procedure.” The backdown procedure is simply the backing up of the boat when the net is about half pulled in. This causes the end of the net loop to dip below the water’s surface. Inflatable boats inside the net can “herd” the dolphins toward the submerged part of the net, where they can swim over and escape. The other was the addition of a “Medina panel” to the net (named after its inventor, Joseph Medina). The “panel” was simply a much finer section of mesh at the back end of the net, where the majority of dolphins were ensnared. With the panel in place, the dolphins are nudged away from the net until they either clear the net via breaching or wait and swim over during the backdown procedure (Figure 12.3). Even with these changes, and a subsequent requirement to place government observers on purse seiners to document dolphin mortality, the original goal of movement toward zero mortality remained elusive. Indeed, 1984 amendments to the MMPA allowed the US fleet (which was by this time no longer the only country catching ETP tuna with purse-seine fishing) to kill 20,500 dolphins annually, a testament to the persistence of the problem (Joseph 1994).

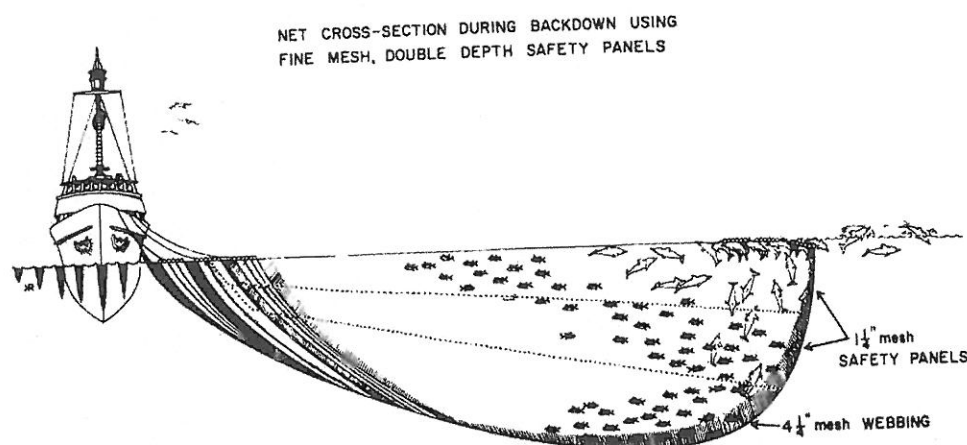


Figure 12.3 The “Medina panel,” one of a few technological and operational changes made by purse-seine tuna fishers in attempts to reduce dolphin mortality. The Medina panel greatly reduced, but did not eliminate, dolphin bycatch in this fishery. *Source:* United Nations Food and Agriculture Organization Fisheries and Aquaculture Department www.fao.org.

Consumer Boycott A method of protest that aims to pressure corporations into changing their practices by urging people to forgo purchasing products associated with the targeted corporations

Consumer activists to the rescue

Many environmentalists remained outraged that a dozen years after the MMPA, dolphin mortality was still considered acceptable. The regulatory route was proving unsatisfactory. Some other sort of action was needed. In the late 1980s, the environmental non-governmental organization Earth Island Institute (EII) organized a **consumer boycott** of canned tuna, urging consumers to forgo purchasing canned tuna until producers could show that their product did not result in the deaths of dolphins. The boycott was substantial, yet it was not until 1988 when the Sam LaBudde film – as told in the opening story of this chapter – gave the campaign the shot in the arm it needed. After the nationwide showing of the film, the boycott grew in strength, tuna sales declined, and environmentalists launched a massive letter-writing campaign to tuna producers and politicians. A coalition of environmental organizations (led by EII) started promoting the idea of labeling tuna caught without targeting dolphins as “dolphin safe.”

In 1990, the campaign celebrated its breakthrough success. The three largest US tuna brands (StarKist, Chicken of the Sea, and Bumblebee) agreed to purchase only “dolphin safe” tuna (Newsweek 1990). These canners make up about 90 percent of the US market, so this was clearly a major coup for the environmentalists. The federal government passed a law that required canners who used the “dolphin safe” label to adhere to the standards as defined by the EII consortium. Informed US consumers understood, then, that any tuna purchased with the “dolphin safe” label did not involve the pursuit or capture of dolphins. Congress also passed a trade embargo against the importation of tuna from any countries that could not prove their tuna fishing practices were “comparable” to US regulations

(Bonanno and Constance 1996: 6). This effectively shut out Mexico, Venezuela, and Panama (the countries with the largest ETP tuna fleets still targeting dolphins) from their largest export market.

The label stays intact

Coalitions of Latin American states have since filed lawsuits against the United States on charges of discriminatory protective measures in violation of free trade agreements, but have repeatedly failed to gain access to US markets for their purse-seine tuna fishers. Internal pressure has sometimes also been brought to bear. Twice, in fact – once under the Clinton administration and again a decade later under the Bush administration (and each time *with the backing of the presidential administration*) – attempts were made to water down the “dolphin safe” standards, in support of free trade. Both times the existing standards were upheld by courts. Despite domestic and international political pressure, therefore, the original “dolphin safe” standards as defined by EII have so far remained intact.

From many angles, the campaign for dolphin conservation in the ETP appears to represent an unqualified success of market forces put to work in the cause of conservation. Dolphin mortality has declined steadily since the activist campaign was launched, down close to 99 percent from its peak in the 1960s. Moreover, it was pressure from activists to sell only “dolphin safe” tuna that undeniably forced the hand of major tuna processors. US consumers will see some or another dolphin label on any can of tuna they purchase (US law allows canners to put whatever label logo they choose to market their tuna as “dolphin safe,” as long as the product abides by federal regulations). Most, no doubt, go away feeling good about their purchase, safe in the expectation that their sandwich is not soaked in the blood of dolphins. Similar labeling campaigns have since sprung up in many European countries, Australia, and New Zealand, though not all “dolphin safe” labels worldwide, it should be noted, adhere to the same standards.

But the success also could lead one to question the overall impact of the practice. We might wonder, for example: How many consumers see “dolphin safe” and understand its definition? How many, perhaps, equate “dolphin safe” with “eco-friendly” or “ecologically sustainable”? This would be a problematic assumption (as will be discussed in the environmental ethics section that follows), insofar as tuna harvesting overall remains a serious pressure on ocean ecosystems in terms of over-extraction, pollution, and a host of other effects.

More generally, can we assume that green certified products in general are ecologically preferable to uncertified products? Probably not. As green labels proliferate, is it really possible for the average consumer to track the legitimacy and regulations associated with every “green” certification? Undoubtedly not. One thing, however, is certain. The rise of green certification marks a change in power over who controls consumer products, and how it is done. With the aid of a political economy perspective, we can assess this transformation of power. In the following section, we will do just that for “dolphin safe” tuna and “green” seafood more broadly.

Political Economy: Re-regulating Fishery Economies

In Chapter 7, we stated that it is impossible to understand our relationship with nature without bringing the economy into the picture. Moreover, we showed how and why the economy is never separate from politics (hence: "political economy"). The previous section, which focused on a "markets and commodities" perspective, shared a similar focus on the economy, but with a different set of assumptions. Political economy does not, for example, operate under the assumption that a "free market" is the one system of social arrangements to which all future alternatives would best conform. Unlike a perspective that seeks out solely market-based solutions when problems arise, political economy takes a converse approach, analyzing the ways in which capitalist production often *causes* these very problems; how capitalist production, no matter how many patches are applied, can never escape its own crises and contradictions.

So let's not be so quick to assume ...

Second Contradiction of Capitalism

In Marxist thought, this describes the tendency for capitalism to eventually undermine the environmental conditions for its own perpetuation, through degradation of natural resources or damage to the health of workers, etc., predicted to eventually lead to environmentalist and workers' movements to resist capitalism, leading to a new form of economy. Compare to the first contradiction of capitalism

Conditions of Production In political economic (and Marxist) thought, the material or environmental conditions required for a specific economy to function, which may include things as varied as water for use in an industrial process to the health of workers to do the labor

In the case of the ETP yellowfin tuna fishery, we can, for example, see the **second contradiction of capitalism** at work. As soon as tuna fishers started targeting schools of dolphins, they were degrading the ecosystem on which they relied for their livelihood. Whether continued setting on dolphins for several more decades would have ultimately sent ETP dolphins – and possibly their schooling mates, the large yellowfin tuna – toward ecological endangerment we will (thankfully) likely never find out. The fishers did not abandon the ETP due to overfishing, as has happened in many other fisheries.

The North Atlantic cod provides a notorious example: Once perhaps the most valuable fishery in the world, the North Atlantic cod was overfished to the point where the government of Canada permanently closed the commercial fishery in 1992. Bluefin tuna fisheries, as noted above, are on the verge of collapse.

Even though yellowfin tuna have not been overfished *per se*, the means of production (boats and nylon purse-seine nets) that expanded over the decades through cutthroat competition caused ecological degradation that disrupted (and ultimately derailed) the production process. The contradiction, therefore, is still clear: the tuna industry was unable to continually increase production without befouling its **conditions of production**.

It could be argued that, in the absence of the rise of global capitalism, the changes in fishing methods (from pole and line to purse-seine mega-nets) would never have taken place. The transition was, after all, made to increase harvests at a cheaper cost of production. Hundreds of fishers were laid off as the yellowfin fishery transitioned from a labor intensive to a capital-intensive means of production, to the tune of hundreds of thousands of jobs, at the global scale. During the pole and line ETP tuna fishing era (pre-1959), the boat owners, who were sometimes, but not always, the captains of their vessels, may have

been the owners of "firms," but the vast majority of those employed in the fishery were *mere* workers, paid for their labor, onto which a premium was added as profit for the owners of the operations.

To refer to the fishers as "mere" workers is not to denigrate their livelihoods or their labor, but to highlight their expendability. Had the workers owned and controlled the boats, refrigeration, and processing equipment – and been able to maintain their domestic market by, for example, keeping cheaper imported tuna from coming into the country – there would have been no incentive for them to have moved to larger nets, and eventually to a wholesale reliance upon dolphins to land their catch. Put another way, they would have had no reason to put themselves out of work. They would have, ideally, worked to maintain both their livelihoods and the ecological conditions necessary to sustain them. Granted, we cannot go back in time and hand the boats over to the fishermen. Neither can we go back and force the state to enact the protective measures that would have been necessary to protect even a worker-owned, labor-intensive fishing sector from foreign competition. Nor, to be sure, can we know that even a government-protected worker-owned fishing cooperative would have necessarily had the knowledge and foresight to work in such an ecologically harmonious manner within the fishery.

Speculative analyses like this are somewhat **utopian** and as such are not perfectly reliable gauges against which to measure real-world outcomes. Nevertheless, a political economy perspective does shed light on the simultaneous pressures that capitalist accumulation exerts on both society and nature. Moreover, utopian or otherwise, such a perspective provides glimpses of how alternative social relations might have concrete ecological advantages.

Another strength of a political economy approach to nature–society puzzles is the insight it provides in explaining the way resources are exploited and regulated. Why are tuna managed the way they are? How have global changes in tuna production and consumption influenced regulation of the seas? Below we use a political economy perspective to show that, in the case of Pacific yellowfin tuna, regulation of the oceans often reflects international struggles over control of fisheries resources, that global upheavals in the food economy have led to a de-centered multinational system of tuna production, and that this new system has led to new and highly questionable forms of "green" self-regulation.

Geopolitics of tuna

Beginning in 1949, US and Latin American tuna fishing nations, in an effort to maintain the ETP yellowfin fishery, agreed on annual tuna harvest quotas based on projections of **maximum sustainable yield**. This catch limit for the fishery set a total number of fish that could be taken overall, but was reached on a first-come, first-served basis; whoever could catch the most fish the fastest was the winner in the fishery. Once the quota was reached, no more tuna could be removed. This encouraged a reckless "race to harvest" with bigger boats and bigger nets (Bonanno and Constance 1996: 131).

Utopia/Utopian Imaginary, idealized social conditions arising from socio-political systems that facilitate cooperation over competition

Maximum Sustainable Yield The largest seasonal or annual amount of any particular natural resource (e.g., timber, fish) that can be harvested indefinitely

Exclusive Economic Zones (EEZs) Usually extending 200 nautical miles off the coasts of sovereign states, EEZs are sea-zones within which states claim ownership over fishery and mineral resources

Fordism Relations of production dominant in many industrialized countries in the first several decades of the twentieth century, marked by large, vertically integrated corporations, high wages and rates of consumption, and considerable state power

As a result, by the 1970s the ETP fishery had become more complex despite, and perhaps because of, regulation, with many countries vying for a bigger share of the ETP tuna fishery. In that decade, Mexico and four other Latin American countries with Pacific coasts extended their "**Exclusive economic zones**" (EEZs) – their sea-zone ownership jurisdictions – out 200 miles from their coasts, following the lead of the United States, which had been the first nation to do this in 1973. The Mexican government began seizing US boats for fishing without permission in its EEZs. As a result of a range of other factors, moreover, including El Niño years causing tuna number declines, boats switching from US to Mexican flagging, and US boats leaving the ETP for the Western Pacific, the US ETP

fleet shrank dramatically during this period.

The Mexican tuna fleet failed to capitalize on its new dominance in the fishery, however. Instead, global oversupply depressed tuna prices. US markets, most problematically for Mexico, became off-limits due to the dolphin embargo. Since 1949, the United States had exploited the quotas system with its superior technological and investment base (every year, they won the "race to harvest"). Now, they held developing nations at bay by forcing them to conform to US regulations. These crises and struggles over the ETP fishery do not simply reflect the impacts of markets, therefore, but also of the waxing and waning of US regional power (Bonanno and Constance 1996; Constance and Bonanno 1999). In other words, environmental regulations are often the product of geopolitical struggles to control natural resource production and profits as much as they are institutions aimed at sustainability. At the same time, changes in systems of production may also lead to new forms of regulation.

From a Fordist to a Post-Fordist fishery

The early era of US dominance in fisheries from the 1950s to the 1980s typified what political economists call "**Fordism**." Named after Henry Ford and the early Ford Motor Company production model, Fordism refers to relations of production that combine high wages, mass production, and mass consumption. Fordism is typified by vertically integrated domestic corporations (where firms own or control the production chain from bottom to top) and forms of state power that favor tariffs against low-cost foreign competition, sustaining continued profitability for large firms.

The tuna industry from the 1950s to the early 1980s fits the Fordist model quite well. The large tuna consuming countries (namely, the United States and Japan) were also the largest tuna catching and processing countries. US tuna boats sold their tuna to US canners, who sold to US customers. Some tuna boats were even owned by tuna processing firms, typifying the vertically integrated Fordist corporation. The state maintained the profitability of the industry by securing and maintaining US dominance in the ETP (as described above). Even through the 1970s, the US government foiled environmentalist opposition and foreign competition through MMPA exemptions and trade embargoes.

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The state could only forestall broader trends from affecting the US fleet for so long, however. As Fordism morphed into new relations of production referred to as “**Post-Fordism**,” the locus of power shifted away from the state and to **transnational corporations (TNCs)**. The 1980s saw a restructuring of the global tuna industry, typified by the dismantling of the vertically integrated US tuna firms. The trend was kick-started by a combination of factors, including the rise of increasingly cheap, factory farmed (Chapter 4) beef and poultry, which led to a decrease in consumer demand for tuna. The decrease in demand contributed to a growing crisis of overproduction (see Chapter 7), and continued price declines. As a result, the old system broke apart, with formerly vertically integrated corporations divesting significant portions of their operations, selling their purse-seine boats, and purchasing tuna on contract, seeking out the lowest-priced suitable fish. Processing for the “big three” US brands moved from California to Puerto Rico, taking advantage of lower-cost labor. Finally, the large US tuna brands were all absorbed by Asian TNCs. Much of even the canning and processing is now secured through subcontracting. Thus, the tuna “company” is now merely a “brand” owned by a large TNC that searches the globe for the least expensive materials and labor to assemble its products. This transition to a Post-Fordist global tuna industry is now complete (Klein 2007), with implications for regulation of the world’s fisheries.

Post-Fordist regulation: The Marine Stewardship Council

With a fully decentralized, global tuna production system, traditional modes of regulation (based within nation states) become less tenable, leaving space for new ones to emerge. In 1997, the World Wildlife Fund and the agro-food mega-transnational company Unilever established the Marine Stewardship Council (MSC). The MSC became a wholly independent, self-funded and governed organization two years later. The mission of the MSC is to provide market-based incentives to corporations for the production of “sustainably” harvested seafood, to ameliorate overfishing of the world’s oceans. If a fishery meets the MSC guidelines, its associated seafood products can gain the MSC seal of approval (Figure 12.4). In a similar spirit

Post-Fordism Arising in the last decades of the twentieth century, the current relations of production in most industrialized countries, marked by decentralized, specialized, and often subcontracted production, the prominence of transnational corporations, and diminished state power

Transnational Corporations (TNC)

Corporations operating facilities in more than one country; also commonly called multinational corporations (MNCs)

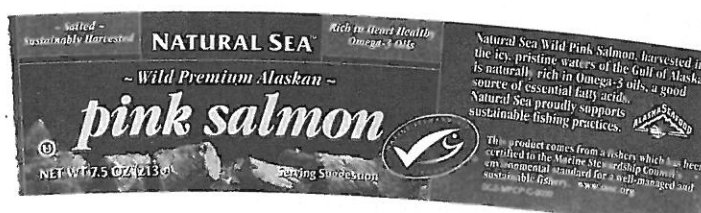


Figure 12.4 A label from a can of Alaska salmon bearing the Marine Stewardship Council stamp of approval. (MSC label blown up to show detail.) This was one of only three MSC-certified products we could find at our local chain supermarket; all were canned Alaska salmon. None of the fresh seafood bore any standardized green stamps, but there was a sign at the fish counter telling us the supermarket was committed to selling sustainably harvested seafood products.

to the "dolphin safe" label, consumers can be part of the solution by sending their seafood dollars to firms that are "doing the right thing." Though an attractive model for green consumption, there are reasons that consumers might want to be wary of granting this trend a full embrace.

From a social justice perspective, the MSC is already receiving troubling reviews from small fishers throughout the Global South (as defined previously to include vulnerable and typically postcolonial nations dependent on primary production and exports), who are shut out from MSC certification due to not having the proper connections and capital investment to even begin the certification process. So while large companies are moving into the waters previously fished by poorer nations, fishers from those areas are locked out of markets in wealthy countries by apparently "green" labels, pushing towards further consolidation and loss of jobs, markets, and opportunities in the poorest parts of the world. In this way, producers from poorer nations are, nearly undeniably, bearing a disproportionate share of the "shock" that accompanies the "opening up" of the world to free markets (Klein 2007). More disturbingly, green labels appear to (somewhat ironically) favor large-scale, corporate, and conglomerated firms over small craft producers.

Moreover, it is difficult to imagine that groups like the MSC, structurally wedded as they are to free market solutions and TNCs, will do much to support any competing, non-market-based, alternative forms of regulation. For grassroots environmentalists, parallel concerns arise. Will groups like the MSC, allied as they are with powerhouses like the World Wildlife Fund, be able to successfully resist proposals for environmental management, especially those that restrict corporate activities? Proponents of democracy, informed by this political economy perspective, might evaluate new environmental regulations and regulatory bodies in terms of the degree to which they add more voices or more balance to governance and accountability. New forms of post-Fordist regulation like the MSC increasingly corporatized and supranational in scale, are even more inaccessible to citizen (except as consumers!) than the Fordist state regulations they replace. Where green certification systems work to enhance democratic structures and ecological sustainability, they might be supported. They should not, however, be accepted uncritically. From this point of view, we would be well served to check what lies behind the labels. This is especially true if we begin to consider the complex ethical tradeoffs that differing forms of regulation entail, for individual species, and the ecosystem more generally.

Ethics and Ecocentrism: The Social Construction of Charismatic Species

"Tuna is a fun food. If it's associated with the harassment and killing of a noble creature like the dolphin, that's not right. Hopefully, in a few years, the safest place for tuna will be swimming underneath a dolphin." (Ted Smyth, Vice President of Heinz Foods, which at the time owned the StarKist tuna brand (United States Fish and Wildlife Service 2008))

Why were so many people so moved to action by the images in the LaBudde film? Why has the picture of tuna boat deckhands slinging a dead dolphin overboard

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(Figure 12.5) become such an icon of environmental wrongdoing? Thousands of people were moved to act on what became one of the most effective consumer boycotts in history. Yet, during the same period of time, countless other ocean fisheries were increasingly ecologically jeopardized due to overfishing. Is there some irony in the fact that tuna – some of the most unsustainably harvested ocean fish – have become nearly conflated with dolphin conservation? One way to view the success of the dolphin safe tuna campaign and the simultaneous failure of ocean fisheries conservation (tuna included) is as a victory of **animal rights** over ecological ethics (see Chapter 5).

Rights for “noble creatures”: The case against dolphin-setting

When speaking of “conservation” or “ecology,” most discussions of right and wrong actions deal with the plight of *species*. The United States, for example, passed the Endangered Species Act (ESA) in 1973. The intent of the ESA is to stop plant and animal species from going extinct. The ESA has a complicated and mixed history, with a few spectacular success stories and a number of notable failures. Let us take the American alligator, one of the ESA’s success stories, as an example. The alligator lives in swamplands of the United States, from North Carolina south and west to eastern Texas. By the 1950s, alligator numbers had dropped to all-time lows throughout almost all of its native range due to habitat loss and market hunting (Ellis 2008). The alligator was listed as an endangered species upon enactment of the ESA in 1973. As such, alligator hunting was banned and habitat conservation measures were enacted. In 1987, the US Fish and Wildlife Service (the agency in charge of managing endangered species) declared the alligator fully recovered and it was removed from the endangered species list. Since delisting, every state with alligator populations has enacted a hunting season on alligators. As long as alligator populations are managed so that they are not again threatened with endangerment, the states can allow hunting of the animal, and have more leeway regarding the loss of alligator habitat as well.

Endangered species protection, as such, is an expression of *ecological* ethics: Through federal legislation society has deemed it *wrong* to allow species to go extinct due to human action. However, we (as a society) never said that killing alligators is wrong. Stated another way, society laid down no ethical mandate concerning the past or future treatment of *individual* alligators. Such measures, as such, are expressions of ecological ethics but *not* statements regarding animal rights. However, questions of environmental ethics, Singer argues, need not stop at the level of species.

As reviewed in Chapter 5, Peter Singer (1975) argues that we should extend our moral concern to all creatures that have interests. He is careful to make clear that such a call for **moral extensionism** is not meant to imply that all beings are *equal* and therefore holding *equal rights*. Different animals, rather, have different types and degrees of interests. Consideration of this can inform discussions of right and wrong actions toward individual



Figure 12.5 Still image from the Sam LaBudde video. Caption from the Earth Island Institute website: “Dead dolphin being dragged off the deck of a tuna boat, from an undercover video.” Credit: Samuel La Budde/Earth Island Institute.

Animal Rights An ethical position and social movement that states that non-human animals, particularly intelligent mammals, should be granted rights as ethical subjects on par or at least similar to human beings

Moral Extensionism An ethical principle stating that humans should extend their sphere of moral concern beyond the human realm; most commonly, it is argued that intelligent or sentient animals are worthy ethical subjects

animals. The success of the dolphin safe campaign is a testament to the ubiquity of this sentiment. Dolphins are intelligent, highly evolved animals who can most definitely *suffer*. As such, they fit highly into Singer's (and no doubt any animal rights activist's) hierarchy of interests. It is easy, therefore, to make a case that it is *wrong* to drown hundreds of thousands of dolphins a year in tuna nets. For that matter, the argument can be (and was) made that it is wrong to kill *any* dolphins in tuna nets. It is no wonder that so many people were so appalled by the images from the LaBudde film – images of obviously sentient creatures meeting rather horrible fates.

It is clear that there is, and has been for some time, strong popular support for outright *moratoriums* against the killing of any and all marine mammals. Witness the widespread international opposition to Japan's maintenance of its "scientific whaling" program, even when only minke whales, a biologically abundant species, were being killed. The public outrage against ETP dolphin mortality and Japan's whaling program shows that these are

cases, primarily, for animal rights.

Tuna, on the other hand, do not sit highly in such a hierarchy of interests. Even for most activists, tuna are not perceived as holding interests comparable or even close to dolphins. We simply do not empathize or identify with tuna like we do with dolphin. Imagine the outcry if mutilated tuna (Figure 12.6) were dolphins. Granted, this treatment of tuna is anathema for some vegans and radical animal rights activists. For most people, however, this is simply a picture of fish for sale. Moreover, the dolphin safe campaign did little or nothing to ameliorate any of the other human impacts on the habitat of tuna and dolphins, or the overall condition of the seas. The success of the dolphin safe campaign can be chalked up more as a victory for animal rights than for ecological ethics, therefore. It might also be said that it is the **social construction** (see Chapter 8) of

dolphins as charismatic species with interests, relative to tuna or any other sea creature, that makes this distinction, and its confusing ethics, possible.

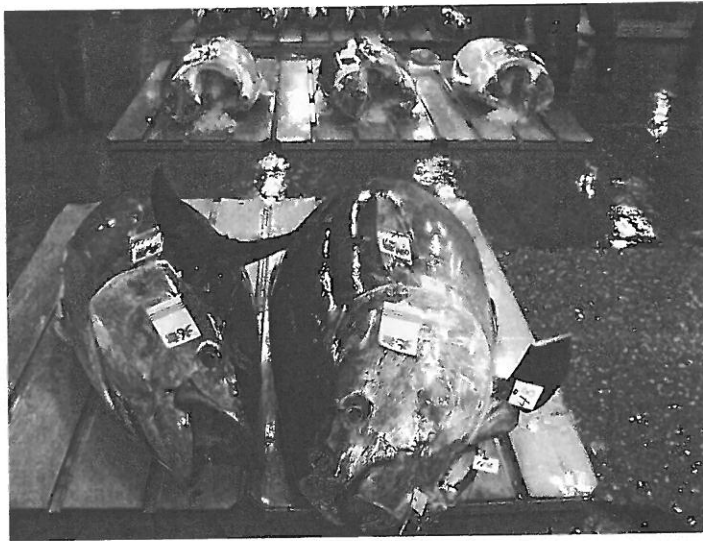


Figure 12.6 Does a tuna have rights? Mutilated tuna rest here on pallets at a seafood wholesaler in Tokyo, Japan. The image accompanied a "tree-hugger.com" article about overfished tuna stocks. No mention was made of the tunas' rights or their dignity being violated, either before or after catch. *Credit:* Copyright (2008) P. Y. Yee, Singapore.

Social Construction Any category, condition, or thing that exists or is understood to have certain characteristics because people socially agree that it does

Can a rights victory produce an ecological defeat?

Reading the dolphin–tuna controversy as one involving two sometimes conflicting types of environmental ethics, animal rights and ecological ethics, we gain clues as to why ocean

conservation lags so far behind marine mammal conservation. One answer, perhaps, is this: Marine mammal conservation has always been fueled primarily by popular sentiment for animal rights. Fish, on the other hand, are not viewed with such benevolence. (Indeed, bestselling author Zane Grey described yellowfin tuna as "stupid pigs" in his 1925 high-seas adventure book *Tales of Fishing Virgin Seas* (Safina 2001: 185).) Fish conservation law, on the other hand, is guided by a management perspective aiming for maximum sustainable yield. The imperative to always maximize fish harvests invariably overrides considerations of the maintenance of ocean ecology (even as catch projections are informed by scientific studies). This is not to say that society lacks an ecological ethic of the sea. Rather, the dominant ethic is that it is *right* to manage the seas for maximum harvest (or, perhaps, maximum *profit*). This ethic does not result in conservative (or *precautionary*) approaches to fisheries management, and, as such, could be argued to be only a slight improvement over the earlier era of unregulated "tragedy of the commons" overexploitation of the oceans. This would support the common, broader argument made by many ecological ethicists that, until society develops a truly ecological ethic, the increasingly unsustainable exploitation of nature will continue.

What implications does this have for the oceans? Consider this: tuna sales in the United States are at all-time highs. Moreover, *every* can of tuna sold in the United States carries the dolphin safe label. So what happened to all the boats that were setting on dolphin in the ETP when the "dolphin safe" campaign drastically reduced demand for their product? One thing is for sure. They did *not* simply revert to pole and line fishing. While this would have reduced stress on the yellowfin, eliminated stress on the dolphins, and resulted in new jobs for fishers, it was not a cost-effective option for boat owners and thus not even considered a realistic option (see the section on political economy above).

The purse seiners, rather, did one of two things. Some boats remained in the ETP, but switched from setting on dolphins to setting their purse seines around logs and other floating objects, under which (like dolphin schools) yellowfin tend to aggregate. The problem is, yellowfin schools under dolphin tend to be much "cleaner" catches than those under logs; meaning that nets set on logs "can entail hundreds of times the bycatch that netting around dolphins does" (Bloomberg Newswire 2008: 436). Considering that 30–40 percent of all bycatch is dead before it is thrown back, and much of what is thrown back alive dies soon from the associated stress, increasing bycatch by two or three orders of magnitude could be viewed as a substantial ecological tradeoff for the lives of individual dolphins.

Still more ETP purse seiners, however, simply moved to the Western Tropical Pacific (WTP), where dolphin bycatch is not a problem. The resulting, massive increase in WTP yellowfin harvests has resulted in stocks that are now either fully fished or overexploited. Indeed, some Pacific yellowfin stocks are so severely depleted that eight Pacific Island nations, concerned about collapse of the fishery, have called for an international moratorium on tuna fishing in an area the size of Alaska (Back et al. 1995).

Many consumers see the "dolphin safe" label and assume it means they are purchasing an eco-friendly product. Consumers have been given the *green* light to purchase canned tuna and feel good about doing so. And, granted, thousands upon thousands of dolphins were spared thanks to the campaign. However, the main *ecological* problems intensified: bycatch increased and overfishing just moved west. Is there something *wrong* with that?

The Tuna Puzzle

In this chapter, we have learned that:

- Tuna exist in almost unimaginably large numbers in the sea, yet nearly everywhere they exist, they are being unsustainably harvested.
- Wild tuna stocks have suffered from multiple new fishing technologies (purse seiners, longliners, tuna ranching) as each technology has allowed us to pull more fish out of the sea.
- Tuna fetch a high price; as usual, when there is big money to be made, ecological considerations can get put on the backburner.
- In the Eastern Tropical Pacific Ocean, schools of large yellowfin tuna swim below easily spotted schools of dolphins so for many years, dolphins died so that consumers could get cheap canned tuna.
- Green consumer campaigns have successfully re-regulated tuna production through “dolphin safe” labeling, suggesting that through markets, consumer advocacy can move corporations to “do the right thing.”
- Political economy approaches, conversely, urge us to view market-based solutions with a critical eye, closely assessing the altered sites and scales of power that accompany each market-based success story, even “green” ones.
- Ethics approaches show us that, at least in the ocean, our ecological ethics has yet to catch up with our support for animal rights.

Tuna are only one small node in the complex network of relationships that are the world’s oceans. Large-scale overfishing of many other species, massive marine pollution, and numerous other impacts are radically transforming the seas (to say nothing of global warming), well beyond the tangle of dolphins in nets. Nevertheless, tuna is perhaps one of the clearest avenues to help us understand the power our individual consumption choices exert on global ecosystems, while simultaneously underlining the deeply structured way the seas are incorporated into global trade. To the degree that reforms of tuna fisheries have occurred, there may be precedent for new ways of dealing with the global crisis facing the oceans. To the opposite degree, however, that massive efforts to restrain extraction have resulted in only nominal ecological changes, the case of tuna points to the long swim ahead.

Questions for Review

1. How valuable was bluefin tuna meat a century ago? How about today? How has this change affected their harvest?
2. Describe the following three methods of commercial fishing: pole and line, longlining, and purse-seine fishing. Over the past few decades, which methods have declined and which have grown? (And why?)

3. Who launched a consumer boycott to save ETP dolphins? Was it successful? Explain.
4. From a fishery management perspective, what is different about marine fisheries located within 200 miles of coasts compared to open ocean fisheries located farther offshore?
5. Of tuna and dolphin, which are more common recipients of moral extensionism? Why is this so?

Suggested Reading

- Grescoe, T. (2008). *Bottom-Feeder: How to Eat Ethically in a World of Vanishing Seafood*. New York: Bloomsbury USA.
- Mansfield, B. (2004). "Neoliberalism in the oceans: 'Rationalization,' property rights, and the commons question." *Geoforum* 35: 313–26.
- Rogers, R. A. (1995). *The Oceans are Emptying: Fish Wars and Sustainability*. Cheektowaga, NY: Black Rose.

Exercise: Eco-Labeling and Certification

Tuna are only one of countless products labeled for "safe," "green," or "sustainable" consumption. But who are the organizations that oversee the certification of these products? What procedures do they use? Where competing labels exist, how do they differ? Find an eco-labeled product and try your best to answer the following questions: 1) What does the label assure? 2) Have the characteristics of the product assured by the label improved or changed environmental practices of the companies making the product? What do the words on the label mean (for example: "natural"). What does the label not assure? 3) Who oversees that label; are they "third parties" (people or groups apart from the company)? 4) What procedures does the product undergo to claim the label and how is that confirmed? 5) Are there competing labels that assure the same thing, provided by differing groups/companies? How do they differ?

Now consider the following: how much time and labor was it to confirm that the label in question is reliable and does what it says? Can we confirm their claims? What would it take to do so for all such products you consume, assuming you wanted to? How much *trust* must be placed in labels? Is it well placed?