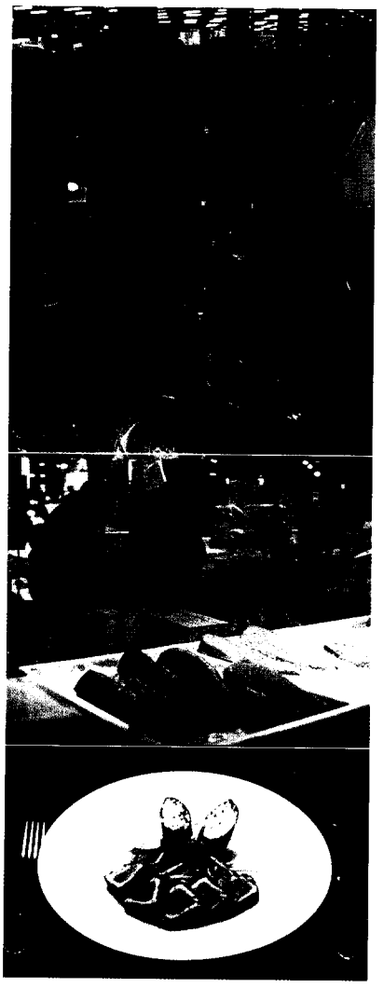
moves of a master sushi chef as he fillets a block of bluefin, or the way he arranges a tray of sea-urchin roe.'

When consumers believe they have found the ideal form of tuna, they are willing to pay prices to match. In 2001 a 444-pound bluefin sold for a record $173,600 at Tokyo's main fish market.

With such a high price on their head, bluefins are being fished to extinction. Their north Atlantic breeding populations are estimated to have declined by about 90 per cent in the last 20 years. As with all fish populations, exact counts are impossible. But the rarer the bluefin becomes, the higher its price rises. And as the price rises further, so the fishermen strive ever harder to find more fish. The bluefin tuna has found itself a cruel victim of market economics. ■



TUNA FISHERIES AROUND THE WORLD

Carl Safina describes the devil-may-care approach to regulation of the world's major tuna fisheries

The western Atlantic bluefin

The western Atlantic bluefin is the most depleted species in the Atlantic tuna commission's portfolio. West Atlantic bluefins were fished intensively in the 1960s by purse seiners targeting small fish for canneries. In the 1970s commercial targeting switched to large fish for export to Japan.

In 1981 Iccat (the International Convention for the Conservation of Atlantic Tuna) concluded that the western Atlantic's bluefin tuna population was seriously depleted and that catches 'should be reduced to as near zero as feasible'. The commission's managers set a 1,160 metric ton annual quota for 1982, ostensibly for 'scientific monitoring' purposes. But the next year, responding to political pressure from commercial interests, the commission more than doubled this 'scientific' quota to 2,660 metric tons.

By 1990 the bluefin breeding population stood at an all-time low. Conservation groups got involved in 1991, pursuing an international ban on bluefin trade through the Convention on International Trade in Endangered Species. In 1992 the tuna commission agreed to halve its West Atlantic bluefin quota, but gave itself two years to phase the cut in.

Exploiting this interval, the US fishing industry hired lobbyists with access to top members of Congress. They influenced the US's National Research Council (NRC) to convene a review, which confirmed the history of depletion. But the NRC highlighted the fact that in the previous five years the bluefin population appeared to have stabilised (albeit at or near all-time lows). Industry lobbyists seized upon this finding of 'stabilisation'. And Iccat – led by a US commissioner who is a fishing-industry-paid lobbyist – used the 'stabilisation' finding to justify rescinding the 50 per cent quota cut. After that, the commission increased the quota again to approximately where it had been from 1983-1992, when the breeding population had been roughly twice as large (but in continual decline). The spawning population now is about 10 per cent of what it was just prior to the Atlantic tuna commission's formation in the mid-1960s.

The eastern Atlantic bluefin

Catches in the eastern Atlantic and Mediterranean are far less controlled than in the west, exceeding 48,000 metric tons in recent years. In 1994 Iccat agreed to prohibit large longliners from operating in the Mediterranean in June and July. The longliners simply ignored the rule. Small fish are also under heavy pressure. Fish weighing less than 6.4 kilogrammes constitute 40 to 60 per cent of overall catches in the east Atlantic and Mediterranean.

In 1994 the commission recommended a 25 per cent reduction in bluefin catches in the East Atlantic and Mediterranean. But recent catches are higher than in 1994, and the eastern Atlantic bluefin population is considered severely over-fished.

Southern bluefin

Southern bluefin have been heavily exploited for nearly five decades, mainly by Japan and Australia. The catch peaked back in 1961 at 81,605 metric tons, with Japanese longlines taking almost all of it. By 1980 the catch nearly halved to 45,000 metric tons.

Australia, New Zealand, and Japan have had a quota system since 1986. The first annual quota of 38,650 metric tons was too high to avert continued decline.

In 1994 these three countries formed the Commission for the Conservation of Southern Bluefin Tuna (CCSBT). This was in part due to increasing scrutiny by environmental groups that were discussing action to ban the international trade in the bluefin.

Countries not party to the CCSBT (like Taiwan, Indonesia and Korea) also catch southern bluefin. As with most other bluefin fishing, this sector of the market is driven by Japan. So Japan could limit imports as a way of forcing other nations to abide by CCSBT conservation measures.

Unfortunately, Japan does not itself appear to support CCSBT conservation measures. In 1998 it intentionally broke its bluefin quota by more than 25 per cent, using 65 vessels fishing off Australia's west coast.

So in 1999 Australia and New Zealand used the UN Convention on the Law of the Sea to take Japan to court in Germany. Japan claimed that its 'experimental' bluefin tuna fishing programme was 'scientific' and not bound by the quota system. The two plaintiff countries claimed that increased fishing by Japan threatened 'serious or irreversible damage to the southern bluefin tuna population'. They succeeded in gaining a temporary injunction to halt the Japanese over-fishing.

Carl Safina is director of the Living Oceans programme at the New York-based conservation organisation the Audubon Society. His books include Songs for the Blue Ocean: along the world's coasts and beneath the seas *(Henry Holt & Co, 1996)*