Sharks in Japan

The conservation situation

Shark populations in Japan

Of the world's 400 species of shark, 124 species, almost a third, have been identified in Japanese waters. A long narrow country stretching over a considerable range of latitudes, Japan is home to a wide variety of species, mainly coastal sharks of the temperate zone but also oceanic and bottom-living sharks.

The Japanese written character for shark is, like most characters, a combination of simpler ones, in this case those for "fish" and "mixing" i.e. mating. The significance of this is that, unlike most fish, there are numerous species of shark that copulate. In the Kansai area of Japan, sharks are called "fuka", the character for which is "fish" combined with that for "bring up" or "raise", reflecting the fact that some shark species carry their young for a period before birth.

According to the IUCN red-list, only 22 species have been evaluated in Japan. Two of them, *Sphyrna lewini* and *S. mokarran* (the scalloped, and the great hammerhead sharks) are listed as endangered (EN). Others listed as vulnerable (VU), include, *Alopias pelagicus* (pelagic thresher), *A. superciliosus* (bigeye thresher), *Carcharhinus longimanus* (oceanic whitetip), *C. plumbeus* (sandbar), *Carcharodon carcharias* (great white), *Cetorhinus maximus* (basking shark), *Rhincodon typus* (whale shark) and *Squalus acanthias* (spiny dogfish).

Use of Sharks in Japan

The use of sharks in Japan has never been of great significance but has a long history. The flesh is ground and reconstituted into a variety of traditional shapes, colours and textures known as *kamaboko*, *hampen* etc.. The fins are rich in collagen and valued by women as a cosmetic, but recently questions have been raised over the presence of mercury and other heavy metals, and the consequent risks for unborn children.

The skin is remarkably rough, making it ideal as a grater for the traditional Japanese

horseradish known as *wasabi*. (The fine hooked scales rip open the cells of the *wasabi* root releasing its characteristic flavour.) Shark liver oil contains vitamins A and D as well as squalene, all of which are used as medical and nutritional supplements. The chondroitin found in shark cartilage (chondroitin-6-sulfate) does not require a prescriptionin Japan and has become a widely used dietary supplement for the relief of joint pain. It is also valued as a cosmetic and to prevent rough skin, and consequently is in high demand.

Shark Fishing and Bycatch in Japan

The total catch for 2007 was 34,628 tons. Records for the last two decades show that during the late 80s the catch fell below 40,000 tons, while during the 90s it fell further, to below 30,000 tons. Since 2005 the annual catch has risen again to over 30,000 tons. The value of production in 2009 was 57.7 billion yen.

The prefecture with the highest landings was Miyagi at over 55% of the total. In particular, the fishing port of Kesen-numa is famous for landing the most sharks in Japan. In 2007 catches totalled 13,000 tons. Most of the rest of the catch was landed at ports in the northern part of the Pacific Coast, viz. Iwate, Aomori and Hokkaido

The figures for the average annual catch over the years 1992 ~2000, by type of fishery, reveal that 87.4% (14,800 tons) of sharks are taken by the longline tuna fishing industry, as bycatch. Until 1967 official statistics divided shark catches into 4 kinds; blue shark, salmon shark, dogfish and "other sharks", but since then they have all been lumped together as "sharks", with the result that there is no data available on separate species.

Estimated figures from 1992 to 2000 show an average of 12,400 tons of blue shark per year, constituting 76% of the shark catch. The next most common species was *Lamna ditropis* (salmon shark), 13%, 2,200 tons, followed by *Isurus oxyrinchus* (shortfin mako), 6.4%, 1,100 tons, and *Alopias* spp. (thresher sharks) 3.1%, 530 tons[1].

[1] "Estimation of the amount of shark landing by species in the main fishing ports of Japan" {in Japanese}, H. Matsunaga (National Research Institute of Far Seas

Regarding catch by location, it is of note that while landings in Miyagi and Chiba prefectures consisted primarily of blue shark followed by salmon shark, those in Kanagawa and Shizuoka prefectures (mainly oceanic longline tuna fisheries) consisted mostly of shortfin mako followed by threshers, and those of Aomori and Iwate prefectures (mainly trawlers) consisted primarily of "other sharks" followed by salmon shark.

The kind of gear used for fishing greatly affects the kind of sharks caught as bycatch.

Dumping at sea

From the data available for the two years from 1997, it is estimated that at least 300,000 tons of sharks were caught each year. Combined with the figures for the same period of around 20,000 tons landed in Japan each year, this indicates that over 90% of the catch was dumped at sea.

Shark Conservation – Japan's NPOA

Amid international concern over the depletion of shark populations, the FAO Committee on Fisheries adopted a voluntary International Plan of Action (IPOA-SHARKS) in 1999. In response, Japan produced its own NPOA for the conservation and management of sharks. The main objectives included the collection of data, gains in scientific knowledge and ensuring sustainable use. In accordance with this plan, the Japanese government has prohibited "finning" and promoted efficient use. One means of preventing finning is to require the longline tuna fishery, which produces the most sharks, to land whole carcases.

Fisheries) et al, 2002.

CITES and Japan

At the CITES COP15 conference of 2009, it was proposed that three species of hammerhead sharks, *Sphyrna lewini, S. mokarran & S. zygaena* (smooth hammerhead), as well as the oceanic whitetip *Carcharhinus longimanus,* porbeagle *Lamna nasus*, and the spiny dogfish *Squalus acanthias*, should be added to Appendix II. Japan opposed all these proposals. The porbeagle proposal received more than the necessary two thirds of the votes and was accepted in committee, but was rejected by the main conference.

CMS and Japan

The Convention on Migratory Species (or Bonn Convention) aims to protect migratory land, sea and bird species in all their habitats. By December 2005, 95 countries in Africa, Central America, South America, Asia, Europe and Oceania had joined the convention. Japan, however, has neither ratified nor even signed the convention, and takes no part in meetings.

An Agenda for Japan

It has been pointed out that the current official statistics system prevents the collection of data for separate species of shark, while there is also a conspicuous absence of international monitoring for the purpose of conservation of sharks in regional fishery management agencies. It may be that, considering the large number of species native to Japan, the authorities would rather not incur the risk of misidentification.

There is great and pressing need for Japan to gather species-specific statistics on shark catches. In addition, the installation of a domestic agency to strictly monitor its NPOA-Sharks, and the strengthening of international co-operation measures to conserve highly mobile species, are urgently required.

Appendices

IUCN Red-listed sharks found in Japanese waters.

Appendix IB (Endangered) [Japanese name]

Sphyrna lewini (scalloped hammerhead) [Akashumokuzame]

Sphyrna mokarran (great hammerhead) [Hirashumokuzame]

Appendix II (Vulnerable)

Alopias pelagicus (pelagic thresher) [Nitari]

Alopias superciliosus (bigeye thresher)[Hachiware]

Alopias vulpinus (common thresher) [Maonaga]

Carcharhinus longimanus (oceanic whitetip) [Yogore]

Carcharhinus obscurus (dusky shark) [Dotabuka]

Carcharhinus plumbeus (sandbar shark) [Mejirozame]

Carcharias taurus (sand tiger) [Shirowani]

Carcharodon carcharias (great white shark) [Hohojirozame]

Centrophorus granulosus (gulper shark [Urokoaizame]

Centrophorus squamosus (Nilson's deepsea dogfish) [Momijizame]

Cetorhinus maximus (basking shark) [Ubazame]

Nebrius ferrugineus (tawny nurse shark) [Ootenjikuzame]

Odontaspis ferox (small-tooth sand tiger shark) [Oowanizame]

Rhina ancylostoma (bowmouth guitarfish) [Shinonomesakatazame]

Rhincodon typus (whale shark) [Jimbeizame]

Sphyrna zygaena (smooth hammerhead)[Shiro shumokuzame]

Squalus acanthias (spiny dogfish) [Aburatunozame]

Squatina japonica (Japanese angelshark)[Kasuzame]

Squatina nebulosa (clouded angelshark) [Korozame]

Stegostoma fasciatum (leopard shark) [Torafuzame]

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