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JAPANESE SCIENTIFIC WHALING: IRRESPONSIBLE SCIENCE, IRRESPONSIBLE WHALING

Although it is critical that the management of whale populations is based upon sound scientific research, this has frequently not been the case. During the peak of 20th century commercial whaling, most if not all the whaling nations often ignored credible scientific information - or used questionable research - when deciding on the number of whales that could be killed. This irresponsible approach led to excessive catches and the collapse of many whale stocks.

For the government of Japan today, not much has changed. Japan avoids the moratorium on whaling by hunting whales in both the Antarctic and the North Pacific, claiming that these whales must be killed to answer critical management questions. Yet the science being practised by Japan's Institute of Cetacean Research -- established in 1987 when the IWC moratorium on commercial whaling threatened to end Japan's Antarctic whaling programme -- is increasingly being recognised as poor quality, misleading or simply spurious. In many cases, Japan routinely ignores credible scientific data that do not support its whaling policies, or conducts the whaling in the absence of critical management information. In short, Japan is still using the scientific practices of 1946, when the Convention on Whaling was drafted, while the rest of the scientific world has moved into the 21st Century.

SEI WHALES: HUNTING AN ENDANGERED SPECIES

Despite widespread international criticism of its scientific whaling for minke whales in the North Pacific (known as the JARPN programme), in 2002 Japan announced a major expansion of this program to include sei whales (*Balaenoptera borealis.*) The sei whale is listed as an endangered species on the globally recognised Red List prepared by IUCN (IUCN 2003). IUCN describes the species as "facing a very high risk of extinction in the wild in the near future", basing its classification on evidence from direct observations, estimates of abundance, and actual or potential levels of exploitation. Despite this Japan has taken 290 sei whales from the North Pacific since 2002, with 100 being taken in the last 2005/06 season.

The species was heavily exploited in the North Pacific during previous whaling conducted by Japan and the former Soviet Union. Today, the Japanese Institute of Cetacean Research would have us believe that their recent surveys have shown that there are now enough sei whales in the North Pacific to raise concerns about sei whales competing with humans for fish. However, the last accepted population estimate stated that a huge decrease had occurred (Tillman 1977) and resulted in the Scientific Committee of the IWC recommending that this species be protected, effective in 1976. Unless the results of Japan's surveys are reviewed and accepted internationally by the IWC's Scientific Committee, the 1977 IWC population estimate and the IUCN endangered status for sei whales, and not the views of a single nation, should remain the standard. Despite this, Japan claims they will continue to kill sei whales to determine what they eat. Yet we already know that this species rarely eats fish, feeding instead largely on copepods, a tiny zooplankton. Indeed, in 1977 the Japanese themselves published a paper on the stomach contents of 21,713 North Pacific sei whales from their earlier whaling catches, and reported that only 3% of the animals with food in their stomachs had been eating fish (Nemoto and Kawamura. 1977). While Japan is correct in saying that we should continue to monitor the status of all whale populations, killing more sei whales will tell us nothing useful. All it will do is supply Japan's whale meat market with another species.

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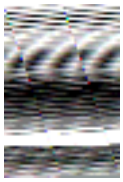


JAPAN'S WHALE CULL

In addition to hunting sei whales, Japan says its North Pacific scientific whaling program needs to continue killing northern minke, sperm, and Bryde's whales to better understand the role of these species in the ecosystem. This investigation - which has no relevance to the IWC management of whale stocks - is an attempt to support the claims of Japan and other whaling nations that whales are eating too many of the fish utilised by humans.

The quality of science involved in the JARPN study is astonishingly poor. At the 2001 meeting of the IWC Scientific Committee, 32 scientists representing many different countries submitted a document expressing their belief that the Japanese program lacked scientific rigour and would not meet minimum standards of academic review that are widely in use in science world-wide (Clapham et al. 2002, 2003).

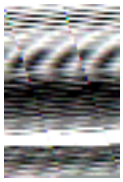
A good example involves the sperm whale aspect of the JARPN program. The Government of Japan claims it needs to kill ten sperm whales each year to learn what they eat. Yet the diet of this species is well known - not surprisingly, since more than a half a million sperm whales were killed and examined in the 20th century alone. Furthermore, the ecological significance of the sperm whale's predation on squid cannot be meaningfully assessed without estimating the abundance of squid in the ocean - a question to which marine biologists world-wide would like to know the answer.

Examined in the light of open scientific critique, it is clear that Japan's research is an excuse for a whale cull, i.e. an expansion of whaling with the deliberate intention of reducing the number of whales. The claims ignore the fact that most whales feed on prey that is not exploited by humans (such as krill, copepods, and deepwater squid), and that it is widely recognised by scientists around the world that overfishing by humans is responsible for the demise of major commercial fish stocks. The Food and Agriculture Organisation of the United Nations reports that 52% percent of fish stocks are fully exploited; another 17% percent are overexploited by humans; and 8% percent of stocks have been depleted or are recovering from depletion (FAO 2006). The world's fishing fleets continue to expand in size and capacity, even as scientists and fisheries ecologists world-wide call for reductions in capacity. Furthermore, most ecologists would agree that removal of high-level predators such as whales is actually likely to have a detrimental effect on commercial fish abundance in the long term, through disturbance of the complex relationships involved in the marine food web (Yodzis 2001).

Yet Japan's Institute of Cetacean Research continues to claim that whales must be "managed" in an ecosystem context, and that in order to save our fisheries whales must be culled.

ANTARCTIC MINKE WHALE NUMBERS

For many years, the Government of Japan has been widely publicising an estimate that says that there are 760,000 southern minke whales in the Antarctic. However, in 2000 and 2001, the IWC Scientific Committee was unable to agree on the number, agreeing only that the old figure of 760,000 was no longer valid and that the new population estimate could be as low as 300,000 because newer survey data indicated smaller numbers. The Committee recognised that the discrepancy could be due to changes in the way the data were collected, or that whales had migrated out of the survey areas, or that there was a real decrease in the number of whales. While the Japanese scientists asserted very strongly that the entire difference was due to changes in counting methods, non -Japanese scientists with Antarctic experience said that a change in methods was unlikely to be the explanation - they thought that there was a real change in whale abundance, perhaps linked to decreases in sea ice due to global warming. The results of the Japanese research surveys could not be examined in detail, as the Japanese did not make their data available to the Scientific Committee.



In 2005, Japan announced that it would drastically expand its Antarctic whaling programme, almost doubling its take of minke whales adding two new species. In the 2005/6 Southern Hemishere whaling season, Japan took 856 minke whales (in the previous two decades, the highest annual take of minke whales by Japan in the Antarctic was 443) as well as ten fin whales from the waters surrounding Antarctica. Beginning in 2007, Japan have stated that they will increase that number to 50 fin whales and add 50 humpbacks to the kill.

Although significantly increasing the numbers of whales killed in this programme, Japan has added nothing significant in terms of serious research, other than to claim that there are now so many humpbacks in the Southern Ocean that they may need to be killed in order to allow endangered blue whales to recover.

ALTERNATIVES TO LETHAL RESEARCH

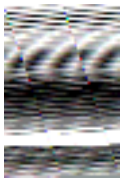
Although the International Convention for the Regulation of Whaling does contain a provision that allows governments to issue their own lethal research permits, it was written more than 50 years ago, at a time when no practicable alternatives existed. At that time, killing whales was unfortunately the only way to learn some of the most basic biological information, which was then used in setting catch quotas. In the last 50 years, non-lethal techniques have been developed that provide the data required for management much more efficiently and accurately than can lethal sampling

For example, genetic analysis of small skin samples is now widely used to understand population structure in many mammals, including whales. Recent technical advances in this field have revolutionized genetics and meant that scientists can undertake detailed analyses that were previously impossible, or very cumbersome and expensive. Genetic analyses allow the examination of different whales in different geographic areas, assisting in determining where the boundaries of different whale stocks might be - a critical question in quota management, since in the past whaling nations frequently set high quotas for large areas based on the mistaken belief that the total number of whales in an area were all part of the same population. Genetic samples are generally taken from a live whale using a biopsy dart, and do not require killing or injuring the animal. Biopsy darting is also far more efficient, allowing scientists to acquire large amounts of data from a broader section of the whale population.

Japan also claims it must kill whales to determine what they eat, which they accomplish by studying stomach contents of the dead whales. However, this generally provides nothing more than a snapshot view of the most recently consumed prey, and may not be indicative of the real diet, particularly with whales such as minkes, which consume a broad range of prey items. In contrast, stable isotope analysis from skin samples, again obtained using a biopsy dart on a live whale, provides a long-term view of the whale's diet over a longer time period. Whatever food is consumed has a unique isotopic "signature" reflected in the tissues of the animal consuming the food. This technique has been applied all over the world in studies of whales.

Japan also claims that lethal research is needed to determine the sex and reproductive condition of whales. Yet sex is easily determined with a biopsy sample, and a recently developed technique also enables scientists to determine pregnancy from such material.

Given these modern techniques in common use in whale science elsewhere in the world, it is very clear that Japan's scientific methods are an anachronism, and nothing more than an excuse to kill whales for the meat market.



POLITICS, NOT SCIENCE

Anyone doubting that the science in scientific whaling is fatally flawed need only look at the poor publication record of the Institute of Cetacean Research. Results from the "whales are eating our fish" portion of the JARPN study have not been accepted for publication in any international scientific journal - nor are they likely to be, because the science is so poor that it would not survive peer review by scientists associated with any reputable journal. The Japanese government presumably knows this - which is why it consistently refuses to make its whale data available to outside experts for independent review

Overall, the scientific research conducted by Japan is nothing more than a plan designed to keep the whaling fleet in business, and the need to use whales as the scapegoat for over-fishing by humans. Until the Government of Japan starts conducting objective science, and stops ignoring the findings of other researchers, it will have no credibility in its campaign to resume commercial whaling.

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