

Looking at the flat computer screen, I see a black-brown splotch lying on a lonely Chinese dock. The photograph displays a dead Yangtze River dolphin, accidentally slaughtered by fishermen. Its sleek body has lost its blue gray tint and is now a muddy brown. Covered in deep cuts from fishing hooks, its organs are visible through the tears in its skin, like an overstuffed, bursting pillow. Yet the animal, even as it lies forgotten and rotting on a dock, appears graceful and majestic. It is a tragedy that such a beautiful creature, a cultural treasure of the Chinese people, is almost extinct.

Known as the Baiji, the Yangtze River dolphin only inhabits the Yangtze River system (Chinese). The Baiji, which some experts believe to already be extinct, has long been considered the most endangered dolphin species in the world (Turvey *et al*). Its loss would represent a catastrophic failure as the Baiji will be the first dolphin or whale species driven to extinction by human activity, and the fourth disappearance of an entire mammal taxonomic family since 1500AD (Turvey *et al*). This situation has occurred because the Yangtze River basin is home to an estimated 10-15% of the world's human population (Turvey *et al*). Unsurprisingly, these people have had a massive effect on the river's ecosystem and are fully responsible for the slaughter of these dolphins.

The species has faced rapid and severe declines in population. Historical estimates place the dolphin population at about 6000 animals during the Han Dynasty. Although there were Baiji in the neighboring Qiantang river, they disappeared from the Qiantang in the 1950's ("Lipotes"). The first reliable survey data was gathered by Zhou in 1979, who guessed that 400 Baiji dolphins inhabited the Yangtze River ("Lipotes"). A survey in 1989 by Zhou estimated that only 120 dolphins remained, while another in the same period estimated that 200 dolphins existed (Turvey *et al*). The decline, which occurred at a rate of 10% per year, continued, and the Baiji

disappeared from several sections of the river. By 1999, surveys indicated that no more than a dozen dolphins remained (“Chinese River Dolphin”). The most recent survey, conducted in 2006, searched 1669 km of the Yangtze River twice and sighted no Baiji (Turvey). If the dolphins still exist, they likely no longer live in the main channel of the river and only exist in the Yangtze’s tributaries. These results followed the death of the last captive Baiji dolphin, Qi Qi and the final confirmed sighting of a Baiji in 2002 (Brahic). Although the survey may have missed some dolphins, these findings have led the IUCN, one of the world’s foremost conservation organizations, to declare the Baiji “functionally extinct” in 2006 (Jenkins).

Many experts believe that the main factor in the decline of the Baiji population is the local fishing industry (“Baiji”). Surprisingly, it is believed that almost all recent killings of the Baiji by fishermen are accidental. This occurs because local fishermen use harmful fishing techniques that slaughter indiscriminately. One technique, electro-fishing, involves running a strong electric current through the water, and is considered the most immediate threat to the Baiji’s existence (“Lipotes”). These currents instantly kill the dolphins, by interfering with the dolphin’s electrical signals in its nervous system (“Lipotes”). Ironically, electro-fishing is used by scientists to study fish, as it merely causes immobilization at lower powers. Electro-fishing caused an astounding forty percent of recorded dolphin deaths in the 1990s and is considered the most dangerous threat to the Baiji dolphin’s survival (“Baiji”).

The local fishermen also kill through accidental entanglement in fishing nets (“Baiji”). In the 1970s and 1980s, over fifty percent of observed Baiji deaths occurred because of entanglement (“Baiji”). The most common fishing tool involved in Baiji deaths is the “rolling hook” (“Lipotes”). This technique involves attaching thousands of unbaited hooks to a long fishing line, which is then dragged along the river (“Lipotes”). These hooks then skewer animals,

including the Baiji, causing massive injury and death (Biello). When a dolphin hits a hook, it struggles in a useless attempt to free itself. However, this only causes the dolphins to be pierced by nearby hooks, and the dolphin begins to die a slow death as dozens or even hundreds of hooks tear open its body. The dolphin then drowns or bleeds to death, both slow and painful processes that may take hours. From 1973-1985, Rolling hook lines accounted for twenty three of the forty one recorded deaths (“Lipotes”). Other nets, such as gill and fyke nets, have also caused deaths, which, although not as many as rolling hook lines, are just as painful (“Lipotes”). In addition, the use of explosives to deepen or widen the river for fishing has caused fatalities as well (“Lipotes”). Sometimes these explosives are actually detonated to catch fish (“Baiji”). About twenty percent of all Baiji deaths were attributed to the use of explosives between 1969 and 1981 (“Baiji”).

Another problem is the increased boat traffic along the river. The huge volume of noise produced by these boats is incredible, and this noise prevents the Baiji from hearing. This prevents it from using echolocation, rendering the dolphins essentially blind. Essentially blind, many dolphins swam aimlessly, unable to hear the sound of nearby propellers when they surfaced for air, until they met the ignoble end of having their brains smashed open like crushed eggs into the river. During the 1980’s, up to a third of all dead dolphins in the lower parts of the river met this gruesome end. (Turvey, Witness)

Saving the Baiji will be a difficult and expensive process. Despite the dolphin’s potential for huge popularity, few people know of the dolphin’s plight, and it has been overwhelmed by the popularity of the panda (Turvey). In fact, most people do not even realize that dolphins can live in rivers (Turvey). The Baiji conservation efforts are disastrously short of funds, precisely because so few people know, and therefore provide funding for, the Baiji. A massive media effort to help popularize the dolphin is necessary, similar to the program initiated for the panda.

The dolphin's immense untapped marketability, in items like dolls, t-shirts, and statuettes, will allow it to be a huge fundraising success with enough effort, and will bring in the much needed funds for conservation programs.

As there are so few dolphins left, it is important that the remaining dolphins are not killed in some fisherman's net. Ironically, all of these inhumane methods mentioned above have been banned by the Chinese government ("Lipotes"). Unfortunately, these laws, like many other environmental regulations in China, are not enforced, and no evidence suggests that the Baiji have actually experienced any increase in protection ("Lipotes"). However, if the laws are strictly enforced, the Baiji dolphin may be able to survive in the Yangtze, especially as almost 100% of recorded deaths were due to these fishing techniques. Video cameras and officials could be placed at points in the river to stop fishing. Fines could be increased, as well as actually prosecuted. This should sufficiently deter use of these illegitimate practices, drastically reducing dolphin mortality. In addition to enforcing the laws, the Chinese government could introduce more sustainable systems to reduce accidental deaths and still provide fishermen with jobs. For example, aquaculture, the farming of fish, is an excellent alternative to direct fishing, especially since fishing yields in the river have decreased. The fishermen could be introduced to more humane tools and procedures, such as those developed to save dolphins such as the bottlenose in the "Western" fish industry.

Finally, it is necessary to capture several dolphins and stabilize the population with a captive breeding program, preferably in a semi-natural reserve away from the dangers of the main river. Breeding programs have been the focus of most conservation efforts, but so far all have failed and five priceless dolphins have died due to incompetence and inadequate preparation (Turvey). There is already a proposed site at the Tian'e-Zhou Lake with the

necessary equipment and facilities to begin a breeding program (Turvey). The first priority, however, is actually finding a Baiji and relocating one, as the last official Baiji sighting occurred eight years ago. Thus the first step would be a large-scale search for the elusive remaining dolphins. Then, highly skilled teams would transport these dolphins by helicopter to minimize the chance of serious injury. Only then can a proper breeding program be established, and this measure could be used as an eventual stepping stone for reintroduction into the wild.

The extinction of this beautiful and significant animal would be a terrible tragedy. If conservation programs are enacted, perhaps the Baiji may still be saved. The slaughter of the Baiji is mankind's fault, and society should work to preserve this remarkable and beautiful animal. We may still be able to prevent the Baiji from existing like so many other animals: only as pictures on computer screens and displays in museum cases.

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