

The Necessity of Observer Programs in the World's Fisheries

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Abstract: The marine environment is experiencing increased human-induced stress, compounded by natural and human-induced (global warming) climatic changes. "Freedom of the sea" is no longer a viable option as marine resources become increasingly scarce. Both fishermen and managers must work cooperatively and diligently to monitor the existing limited resources. In order to effectively monitor a fishery, managers need to quantify how much is removed from the sea. Observer programs are the best way to achieve this objective and without them, managers are operating on guesswork. Observer data is used throughout the globe by conservation groups, international agencies, economists, and a wide array of scientists. Almost all of the catch values from commercial fishing vessels cited in publications by these institutions originate from observer program data. Self-reporting of catch data has proven to be inaccurate and ineffective in monitoring stocks. This is because most fishermen are concentrating on commercially valuable species, boat maintenance and compliance to those regulations that are easily and most often checked by enforcement officials. There is a prevailing naivety throughout societies regarding the true cost of eating fish. This must be addressed by fisheries economists so that vital monitoring systems don't fall by the wayside.

Keywords: fisheries observer, monitoring resources, fisheries management, fisheries data, funding observer programs

What do observers do?

Observers are fisheries biologists who work on board commercial fishing vessels at sea and at land-based processing facilities. They collect the baseline data to monitor the catch of fish and shellfish. They also monitor interactions of the fisheries with marine mammals, seabirds, and sea turtles. Usually one observer is assigned to a vessel or processing plant and the observer carries out their sampling duties separate from the duties of the crew of the vessel or processing plant.

Why is the data so important?

There are three basic functions to effectively preventing fish stocks from becoming over fished: stock assessments to monitor the status of fish populations; knowing the biological limitations of fish populations; and knowing how much is being removed from the sea. The third function is achieved most accurately by on-board monitoring efforts through observer programs. It is truly the only method of accurate multi-species monitoring.

Alternatives to on-board observer programs and why they don't work:

Other methods of monitoring have recently been proposed using video monitoring systems (Gilroy, *et al* 2000).

Managers should exercise caution in considering this method of monitoring catch because some species require close examination of bony structures for identification. Other monitoring systems only track vessel location (Nolan 1999). While these methods may work for simple vessel location and possibly for generic-level monitoring, they are not yet capable of multi-species monitoring. There is increasing recognition for the need to have an ecosystem-based approach to monitor and manage fisheries (Nolan 1999). On-board observers collect vital stock information such as length/age data, food habits, bycatch and specimens. It is short-sighted to think that we can monitor only commercially valuable species and expect the intricate web of the marine ecosystem that supports those species to sustain itself. Fleet-wide data collection on what is being removed from the marine environment is vital to assessing the overall health of the fisheries and the marine ecosystem.

Necessity to fund observer programs:

Even though international agreements have stressed the need for observer programs, observer program issues are chronically postponed on the agenda at regional fisheries council meetings and observer programs are frequently at the end of the list for allocation of limited funds. "Budgetary restraints" prevent managers from proper implementation of observer programs, yet large sums of money are continually transferred from the sea to the marketplace.

Two fisheries in the North and Central Pacific Ocean, the U.S. west coast trawl fishery and the Hawaii longline fishery, were very close to complete closures last year. This was due to the cumulative effect of insufficient monitoring data. These fisheries provided an annual income (before restrictions) for various sectors in the fishing industry amounting to over US\$255 million. How difficult could it have been to utilize some of those profits in the short term to insure future holdings?

No data = No fish:

Preoccupation with short-term benefits is to blame for these near closures, which will have rippling effects on other fish stocks and bycatch species in the future. The U.S. west coast trawl fishery has become increasingly restricted because of depleted stocks. This will result in increased pressure on other fish stocks as vessels transfer to other unregulated fisheries in the region.

The Hawaii longline fishery was threatened with closure last year because of insufficient monitoring data. "Miraculously", US\$5 million was secured for an observer program after a court order mandated a substantial increase in observer coverage for this fishery. Most of the Hawaii longline fleet had previously relocated to Hawaii in the late 1980's from "unproductive" fisheries' on the U.S. east coast and Gulf of Mexico (NMFS 1993). The current restrictions are resulting in some of the fleet once again moving to other waters where monitoring does not yet occur. How long before these unregulated and unmonitored fisheries become "unproductive" and where will they go next?

Most people do not enjoy having their operations monitored. Fishermen are generally reluctant to have observers on board because of high and sensitive bycatch issues. However, some are becoming increasingly supportive of observer programs because they realize the importance of consistent and unbiased data collection by on-board observers. Most, though, are reluctant to bear the entire financial burden of funding them.

Conclusion:

We can no longer ignore depleted stocks and bycatch issues. As the marine ecosystem becomes progressively more stressed, it will no longer afford to be managed on guesswork. The question of whether or not to have an observer program is obsolete. An equitable funding system must be incorporated into fisheries economics models to include the funding for these vital monitoring systems to prevent fisheries collapse. If there is no money to monitor a fishery to ensure its health, the fishery should remain closed to harvest. When observer data

indicates a problem area, fishermen, managers and conservationists must work together to fix the problem before it fixes itself via a complete closure and/or fisheries collapse.

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