

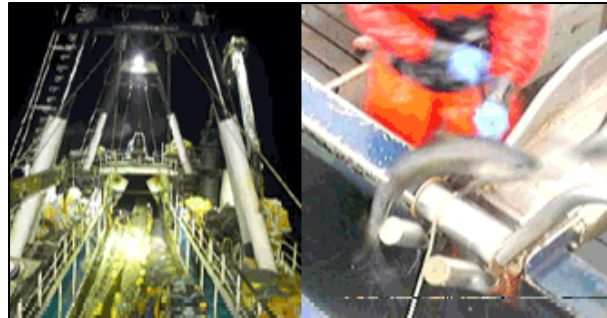
Video Monitoring Aboard Bering Sea Factory Trawlers (R0325)

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What is a Fisheries Observer? Each year, biologists from across the country spend months at a time aboard fishing vessels collecting data on species and quantities of fish caught, fish lengths, weights, sex, general regulatory compliance, and fishing operation interactions with marine mammals and sea birds. Known as “observers” they collect this information for federal and state agencies that manage the fisheries off Alaska. The data collected are crucial in the conservation and regulation of Alaska’s marine resources.

Does an Observer Ever Sleep? Many trawl fisheries carry only one fisheries observer, if any at all. Because the vessels are typically more than 100 feet long, one person cannot see everything twenty-four hours a day. The cost of carrying more observers is a limiting factor in gathering important biological information on bycatch, regulatory compliance and fisheries biology.

The Project: In partnership with industry, this project experimented with video monitoring hardware and software in hopes of developing a cost-effective and reliable method of monitoring bycatch handling and other shipboard practices aboard certain factory trawl vessels. Among other functions, the cameras were capable of documenting the fishermen’s efforts to return prohibited species to the sea.



Digital Observer LLC

This NPRB project marks a new chapter in the development of hardware and software for shipboard monitoring systems: the use of modern digital video cameras to capture the images and Apple Macintosh computers to process the video. Digital Observer Inc. has been developing shipboard monitoring systems since 2000. In 2004 Digital Observer tried using digital network cameras and a Macintosh computer that was loaded with off-the-shelf security camera and GIS software. That system’s output was of high quality and was inexpensive to adapt for the purposes of shipboard monitoring. The system in use for this project lays down high resolution video in Apple’s QuickTime format. This means that the video can be reviewed by almost any computer on earth.

If the system proves feasible, it could be placed on vessels throughout the fleet, supplementing the observers’ tasks. The cameras will passively gather time lapse videos that will be stored for later viewing. Then, when questions arise concerning the effective management of bycatch, the images can be retrieved and analyzed. Placing this layer of accountability on shipboard activities will ensure that bycatch mortality estimates are more accurate than based solely on observer observations.

Preliminary Results: During the summer of 2004, video monitoring systems were placed aboard a large Bering Sea trawler. The system consisted of six cameras, in tamper-proof housings plus a global positioning system, all connected to a digital video recorder locked inside a tamper-proof case. The project’s goal is to determine how accurately the film will allow us to determine the handling of those fish. This capability will give fishermen and fisheries managers a sharp tool in further assessing bycatch mortality rates.

The North Pacific Research Board seeks to build a clear understanding of the North Pacific, Bering Sea, and Arctic Ocean ecosystems to enable effective fisheries management and the sustainable use of marine resources. www.nprb.org

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