



NOAA Fisheries
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NEWS RELEASE

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NOAA Scientists Use New Device to Improve Salmon Research

NOAA Fisheries scientists are using a gentler and more efficient way to capture salmon at sea for tagging and release — a live box. Scientists from NOAA Fisheries' Alaska Fisheries Science Center's Auke Bay Laboratory tried the new gear on the NOAA ship Miller Freeman in July while tagging fish for the Bering-Aleutian Salmon International Survey (BASIS).



NOAA Ship Miller Freeman deploying the trawl and live-box.

Before using a live-box, BASIS researchers caught salmon with sport fish or other surface gear, slowly, one fish at a time. “We designed the live-box large enough to easily capture a hundred salmon at a time,” said NOAA Fisheries research biologist Jim

Murphy. The live-box is Murphy's modification of smaller live boxes used with trawls in juvenile Atlantic salmon research in the eastern United States and Norway.

A live-box is an aluminum box that is attached to the back of a trawl net — the cod end. “When fish tire inside the trawl, they are herded into the cod-end where turbulence and abrasion can cause significant post-capture mortality due to stress and loss of scales. The live-box retains salmon in a calm environment, reducing capture stress and scale loss. The live-box also protects the salmon when the trawl is brought on-board by keeping them in water until they can be tagged and released,” explains Murphy.

“Scales and the outer mucus layer provide an important protective barrier in salmon, much the same way our skin provides protection against infection. Salmon with significant net abrasion and scale loss are not expected to survive,” said Murphy.

Using the live-box, Murphy and Jamal Moss, another NOAA Fisheries research biologist, tagged 50 salmon offshore of Cape Cheerful on the north side of Unalaska Island. The researchers depend on commercial and sport fisherman to return the tags to NOAA's Auke Bay Lab when they catch the tagged salmon. Two of the data tags, which track temperatures and depths, were tags returned by fishermen from another BASIS trawl survey conducted earlier this summer.

Plans are already in place to use the live-box design for other non-lethal sampling applications including bioenergetics, growth, and behavioral research on other fish stocks in southeast Alaska.

The design and construction of the live-box is part of the North Pacific Anadromous Fish Commission's (NPAFC) salmon tagging project funded by the North Pacific Research Board (NPRB). Salmon have been tagged during Japanese BASIS surveys in the Bering Sea as part of the NPRB salmon tagging project. BASIS is an international survey coordinated by NPAFC to research Pacific salmon and other marine species in the pelagic ecosystem of the Bering Sea. U.S. BASIS surveys are funded by NOAA Fisheries.

NOAA's National Marine Fisheries Service (NOAA Fisheries) is dedicated to protecting and preserving our nation's living marine resources through scientific research, management, enforcement, and the conservation of marine mammals and other protected marine species and their habitat. To learn more about NOAA Fisheries in Alaska, please visit our websites at www.fakr.noaa.gov and www.afsc.noaa.gov. For more information about the North Pacific Anadromous Fish Commission's salmon tagging project funded by the North Pacific Research Board, please see: www.npafc.org and www.nprb.org.

<http://www.fakr.noaa.gov/newsreleases/livebox082806.htm>