

## American Fishermen's Research Foundation News ©

As the 2014 nears American Fishermen's Research Foundation (AFRF) is committed to continued tagging of albacore with archival tags to supplement the 800 plus we have deployed since 2001. Boats can request an application from AFRF to do this. Boats need to be set up for bait fishing methods and have to accommodate two technicians for up to eight days at sea. Normally tagging on each trip results in 40 - 80 tags deployed over 3-7 days historically. Boats are paid \$3,600/day and \$400/day for fuel. There could be some adjustments if fuel prices continue to spiral upwards. Please contact AFRF at [wfoa@charter.net](mailto:wfoa@charter.net), 530.229.1097, or fax 530.232.0107 for an application.

Because of logistical and funding issues AFRF probably will not be doing the conventional tagging this season although the option remains if things fall into place. We will still be doing sampling where fish can be dropped off at outlets such as Ilwaco Fish Co. and fishermen are paid for the fish. Fish need to be measured and location recorded and marked before freezing. Sampling kits are available from Southwest Fisheries Science Center (SWFSC).

**North Pacific Albacore Archival Tagging Project:** From SWFSC - The SWFSC and AFRF initiated an archival tagging program in 2001 to study the migration patterns and stock structure of juvenile albacore in the North Pacific. Since 2001, a total of 878 archival tags have been deployed. One archival tagging trip was conducted during 2013 aboard the chartered F/V Royal Dawn during which 74 tags were deployed. The trip started in Westport, WA on October 23 and made its way south, ending in San Francisco, CA on November 1. In addition, collaborators from the Pflieger Institute of Environmental Research (PIER) opportunistically released three archival tagged albacore off central CA. Plans are being made to deploy more than 100 tags during the 2014 season. During 2013, three recaptures were reported, each of which had been deployed over two days during a single trip in August 2011. Interestingly, a fourth fish from the same trip was recaptured in 2012. The three fish recaptured in 2013 were at liberty for 684, 693 and 753 days representing some of the longest tracks yet recorded during the study. Of the three fish, two were recaptured by Japanese pole-and-line fishermen very close to the coast of Japan. The third was recaptured very close to where it was released off the coast of Oregon after two years. Although the sensors of one tag malfunctioned partway through its deployment, these recoveries provide remarkable new information on juvenile albacore behavior over multiple years and in the western and central Pacific.

Because of the broad range of movement patterns and behaviors recorded by juvenile albacore so far, a greater number of tag returns from fish that have been at liberty for several years will be needed in order to fully understand the dynamics and structure of the North Pacific albacore stock. In addition, information on the distribution and migrations of adults is needed. During 2013, in collaboration with scientists of the Secretariat of the Pacific Community (SPC) and a cooperating artisanal handline fisherman in Hawaii, the SWFSC continued a pilot study of deploying mini pop-off satellite archival (mini-PSAT) tags to help test the use of the new attachment anchors on albacore and begin to collect information on the movements and behaviors of adult albacore. One fish of 106.5 cm FL was tagged using a novel monofilament loop attachment off Kona, HI in October and the tag remained on the fish and collected good data for 13 days before releasing prematurely 41 miles from the tagging location. The behavior of the albacore was consistent throughout the track, descending to greater than 400 m and below the

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thermocline during the day while remaining in the upper 150 m in warmer water at night. The swimming behavior of this fish differed from that of most of the tagged juveniles, but juveniles display a very broad range of behaviors depending upon the region and season. More data will be needed to fully compare their behavior patterns.

### **Albacore outlook for 2015 and beyond - By Dr. Vidar Weststad**

The Albacore Working Group (AlbaWG) of the International Science Committee (ISC) that advises the North Pacific Regional Fishery Management Organizations (RFMOs) – the Western and Central Pacific Fisheries Commission (WCPFC) and Inter-American Tropical Tuna Commission (IATTC) -- met at the Southwest Fisheries Science Center in La Jolla from April 14 to 28. Dr. Vidar Weststad, AFRF and AAFA science consultant, participated as a member of the Working Group.

The objective of the meeting was to review recent data and to construct a new assessment model to assess the current state of albacore stock status, to forecast future abundance, and to determine if management action is needed to maintain the stock at sustainable levels. The meeting began with a week of model and data preparation to construct a base model. The following week was spent testing the model and examining the data and output to ensure the model was operating properly and was appropriately sensitive to the input data. In addition to improving the primary assessment model, the Working Group also examined output from a catch-effort model as a check on primary model output.

A Working Group Report was prepared and approved for forwarding to the ISC. The ISC will review the report in July and, if approved, will be made available to the RFMOs and general public. Results of the assessment must await public release before details can be released but model results are in line with previous forecasts and the outlook is for a stable albacore resource in the near term. Estimates of spawning stock biomass at several harvest levels (biological reference points (BRPs) were projected and results were that no overfishing is occurring. In the absence of overfishing, the AlbaWG did not recommend the need for any additional management measures in this cycle.

The preliminary catch data indicate that catch is relatively stable around 80,000 tons, but the working group does not have final estimates of recent years for several countries and recent year estimates are projections of prior years' catch. The AlbaWG will have a short meeting in Taiwan in Mid-July prior to the ISC meeting to finalize the report and to make last-minute changes, such as finalizing preliminary catch data.

The good news for the U.S. albacore fishery is that we have met the terms of Marine Stewardship Council (MSC) certification in that the BRPs have been prepared that should meet the requirements of sustainable management and form the basis for harvest control rules for a time when they may be needed to control albacore catch. The albacore assessment continues to indicate that environmental variation is the primary control on albacore abundance rather than fishing. There is time to continue to develop appropriate control rules to implement if and when fishing becomes a factor in abundance regulation.

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**64th Annual Tuna Conference** will be held May 19-22, 2014 at the UCLA Lake Arrowhead Conference Center?. Sponsored annually by the Southwest Fisheries Science Center, NOAA/NMFS, and the Inter-American Tropical Tuna Commission, the Tuna Conference is a meeting of persons with scientific

or commercial interest in tunas and tuna fisheries. It provides a forum for discussing all aspects of tunas and tuna-like species, their environment and species encountered with them, and interactions among and with them. The informal setting provided by the Lake Arrowhead Conference Center fosters this unique opportunity to present results of ongoing investigations and budding theories, providing thereby a forum for stimulating interchange of viewpoints and information. For more information see: <http://www.tunaconference.org/>

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**Spring Board Meeting:** The Board of Directors of the American Fishermen's Research Foundation (AFRF) elected John LaGrange - President, Larz Malony - VP, and Bill Carvalho - Sec/Treasurer at its spring meeting on April 2, 2014 in Newport, OR.

The board received an up date on tagging, sampling activities from Suzy Kohin from Southwest Fisheries Science Center, and the results of the latest tag that was at seas two years and had the tag recovered in a Spanish cold storage. The pattern that fish followed was similar to most past recoveries showing a migration from the coast to as far as the dateline in the winter and back to the coast in may and June. We are still awaiting more details on the two tags recovered last season off the coast of Japan having been tagged off Oregon.

The AFRF board also discussed revising the makeup of the board to reflect processors which are one-half to require some sort of participation in buying local albacore. A motion was passed to have processor participation be selected every two years from a list of those buying albacore that want to participate in research and education.

**Recent studies on albacore distribution and ecology in the Northeast Pacific-** Dr. Rick Brodeur - NOAA Fisheries - Newport, OR

Rick Brodeur gave a presentation on radiation studies he has been following especially on albacore since the Fukushima issue occurred. AFRF has the presentation, and if anyone wants a copy I can send it by email, however it is not meant for a broader distribution at this time. Some of the background is as follows:

- March 2011 earthquake (9.0) and tsunami caused extensive damage to Japanese coast
- Led to a meltdown of reactor at the Fukushima nuclear plant over the next few weeks– largest reactor accident since Chernobyl
- Created a 'dead zone' several hundred square km around the plant
- An estimated 81% of the radioactive material released ended up in the ocean

- An estimated 15 PBq of radioactivity (I-131 and Cs-137) had been released into the sea from late March through April, including substantial airborne fallout

Conclusions:

1) Clear 'fingerprint' of Fukushima radioactivity in fish caught off the US West Coast Although there was detectable Cs-137 present before Fukushima, due mainly to atmospheric nuclear weapons tests, there was no Cs-134 remaining: all that release has decayed away due to the shorter (2 yr) half-life of Cs-134. Fukushima is the only event in recent years to release significant quantities of Cs-134.

2) Levels too low to consider dangerous Highest cesium levels would require eating over 4,000 lbs to get just 1% (3 mrem) of the normal annual dose (300 mrem) for a person living in the US. 1 mrem is an increase in risk of less than 0.0001%.

**El Niño Could Grow Into a Monster, New Data Show** - By Eric Holthaus <http://tinyurl.com/oo25ulz>

*The odds are increasing that an El Niño is in the works for 2014—and recent forecasts show it might be a big one.*

*As we learned from Chris Farley, El Niños can boost the odds of extreme weather (droughts, typhoons, heat waves) across much of the planet. But the most important thing about El Niño is that it is predictable, sometimes six months to a year in advance.*

*That's an incredibly powerful tool, especially if you are one of the billions who live where El Niño tends to hit hardest—Asia and the Americas. If current forecasts stay on track, El Niño might end up being the biggest global weather story of 2014.*

*The most commonly accepted definition of an El Niño is a persistent warming of the so-called "Niño3.4" region of the tropical Pacific Ocean south of Hawaii, lasting for at least five consecutive three-month "seasons." A recent reversal in the direction of the Pacific trade winds appears to have kicked off a warming trend during the last month or two. That was enough to prompt U.S. government forecasters to issue an El Niño watch last month.*

*Forecasters are increasingly confident in a particularly big El Niño this time around because, deep below the Pacific Ocean's surface, off-the-charts warm water is lurking.*

**Partial List of Science and Management Meetings:** AFRF and WFOA will be represented at these.

- Inter-American Tropical Tuna Commission (IATTC) Annual Meeting - July 7-18 - Lima, Peru
- ISC - Albacore Working Group - (Stock Assessment) - July 13, 2014 - Chinese Taipei
- Northern Committee of the Western Central Pacific Fisheries Commission - September 1, 2014 to September 4, 2014 - Japan
- Annual Meeting of the WCPFC - December 2014 - Apia, Western Samoa

**AFRF Contracted Buyers:** Bornstein Seafoods Inc., Bumble Bee Seafoods, Chicken of the Sea International, Driscoll's Wharf, High Seas Tuna Inc., Interocean Fisheries, Island Trollers Inc., Jessie's Ilwaco Fish Company, JK Fisheries, Ilwaco Landing LLC, New Day Fisheries, Pacific Seafood Group, Papa George Gourmet Albacore, Pelican Packers Inc., Seafood Producers Co-op, Star Kist Seafoods, Starvin Marvin Seafoods, Trident Seafoods, Tri-Marine International, Whole Foods Select Fish, Wild Planet Foods Inc

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