

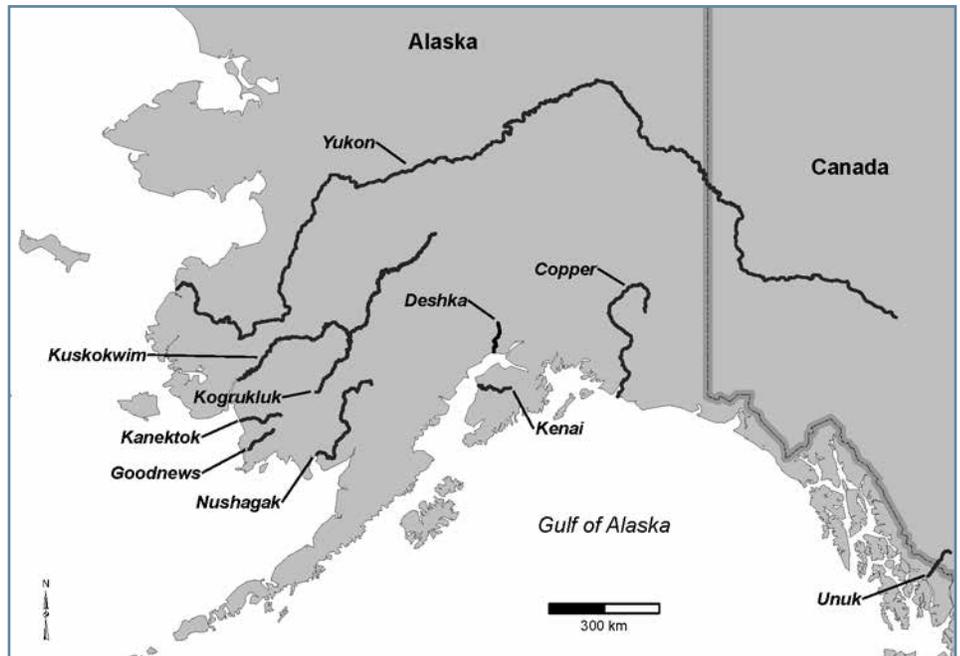


# ONCORHYNCHUS

Newsletter of the Alaska Chapter, American Fisheries Society  
Vol. XXXV Fall 2015 No. 4

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Distribution of Alaska Chinook Salmon stocks analyzed in this study. Figure from Bert Lewis

## Declines in Size and Age of Chinook Salmon in Alaska

Bert Lewis, W.S. (Stew) Grant, Hamachan Hamazaki, and Richard Brenner

In the spring 2013 *Oncorhynchus* newsletter, Joe Orsi examined production in Alaska Chinook Salmon (*Oncorhynchus tshawytscha*) and posed the question, "What's going on?" This is a common question for anyone working with Chinook Salmon in Alaska, or around the North Pacific. Joe's article highlighted a decline in the production and mean size-at-age of these iconic fish. The concern over these declines led to the creation of the Chinook Salmon Research Initiative (<http://www.adfg.alaska.gov/index.cfm?adfg=chinookinitiative.main>), an effort to better understand these trends and their causes. Joe also noted that retrospective studies on age and size were needed to further that effort. We had been looking at reductions in the size and age of Copper River Chinook Salmon, a study presented at the AFS Alaska Chapter meeting in 2008. Joe's article made us wonder whether similar patterns were occurring in other populations, so we contacted fish biologists across Alaska to obtain comparative data. We essentially undertook the state-wide review of some items that Joe had suggested. Our

findings, a portion of which are presented below, were recently published (Lewis et al. 2015).

Below are highlights of our work that followed up on some of the issues that Joe had raised. We selected 10 datasets, representing Chinook Salmon stocks widely scattered across Alaska, to assess trends in length and age of maturation. While shifts in size- and age-at-maturity have been noted in some Alaskan Chinook populations, it was unknown whether similar changes have occurred on a broader scale. Size and age of returning fish have been routinely collected for several decades in Alaska as part of harvest and escapement (spawner abundance) monitoring. We selected datasets based on the duration and consistency of the time series, sample sizes, and data collection methods. Some of these datasets were collected from commercial gillnet harvests in waters near river mouths, but others came from weirs and spawner abundance surveys. These samples often included a mix of fish from different populations

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## The President's Corner

*Jennifer Stahl*

Off our coast, the “blob” lurks and has brought along temperate and tropical invaders to take advantage of the warm waters. El Niño has also arrived and is expected to be strong and persist through the winter. Other terrors loom: ocean acidification, drought in the West, Fukushima radiation, and diseases that can turn sea stars to mush. This sounds like the trailer for a horror flick, but it is reality. How do we manage fisheries sustainably with such an array of stressors in the environment? We can look at the past in some cases, but a lot of the challenges that face us are relatively new and still evolving. A large army of warriors is needed to perform the research to answer questions and to find solutions to these problems.

Where do we find these warriors? The labor force already exists. In Portland at the National AFS meeting, close to 4,000 people came together to present research, learn, and network. In spite of all the horrors that lurk in the ocean, fisheries professionals and students are not a group of depressed individuals, but instead are super fun and enthusiastic people that just love science. These people are working hard to perform research, preserve and restore habitat, and manage fish populations. This meeting was a great opportunity to hear the research and work performed by these fisheries professionals. There was an array of symposia on marine and freshwater topics which allowed everyone to learn more both about issues near to them and about new topics. In addition to the normal Power Point presentation format, a film festival was held concurrently with symposia. These short films told stories of the scientists,



*Jennifer Stahl, AFS Alaska Chapter President.*

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## Chinook Salmon, continued

within the river drainage and, in some cases, outside the drainage (e.g., samples adjacent to the Kenai River). Samples from spawner abundance monitoring projects (weirs and carcass surveys) potentially had different size-selective biases than samples from commercial gillnet harvests. For example, samples collected at weirs may include a broader range of size classes than samples from gillnets because gillnet selectivity might limit retention of the smallest or largest sizes of Chinook Salmon. Nonetheless, these datasets provided us a systematic means of detecting size- and-age-at-maturity changes on decadal time scales and on large geographic scales.

Results of our analyses of these 10 datasets clearly showed that adults have become progressively smaller in these spawning areas over the past 30 years. This pattern is due to two separate trends, a downward shift in the predominant age-at-maturity and a decrease in age-specific size. In the early 1980s, larger, older 4-ocean fish were the predominant age class in spawning areas, but by 2012 the proportion of 4-ocean fish had progressively declined so that 2- and 3-ocean fish were more abundant than 4-ocean fish. Commensurate with these shifts in age-class abundances were pervasive declines in age-specific size among the stocks. Observation of these trends is not new. Previous studies had documented reductions in size over time for several stocks, and in some cases significant changes in size and age structure. For example, Ricker (1980) documented a significant decrease in Chinook Salmon size in Alaskan troll harvests between 1960 and 1974. These trends continued during the 1983–2012 time frame of our analysis.

The concordant trends among these 10 Chinook Salmon stocks in Alaska suggest that a common suite of large-scale mechanisms may be responsible for these shared trends. Both genetic and environmental factors influence age-at-maturity. While the downward trends in age and size may have a genetic component, the drivers of these changes are more likely due to biotic and environmental factors. Several mechanisms have been suggested, including size-selective fisheries, altered growth patterns from climate and marine

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### The President's Corner, continued

communities, and the fish behind the data. This film festival was an expansion of the film festival held at the 2014 Alaska chapter AFS meeting and organized by the Southeast Alaska Fish Habitat Partnership.

Conferences are a fantastic opportunity to network with other aquatic professionals. At the Portland AFS meeting, discussions occurred after talks and during breaks at symposia, standing in line at food trucks, and at socials over beers. I used this meeting as an opportunity to brainstorm with other biologists that have experience conducting similar surveys and working with the same species as me. This fall, the Alaska chapter meeting in Homer will provide a great opportunity for Alaskans to engage in discussions with colleges during symposia and over beers or even during curling (you can learn to curl at this meeting!).

In addition to conferences, fisheries scientists can connect with colleges over social media. With the large variety of social media, opportunities exist to not only network but to stay connected, share ideas, have discussions, keep up with fisheries news, and even lobby for a cause. *Facebook* has the most users and allows for group discussions. In addition, *Facebook* has been used

for lobbying, such as with the "Stop the Susitna Dam" campaign. LinkedIn may provide a more professional platform for networking and discussions. The idea sharing website *Pinterest* provides a fun way to obtain information collected from websites and pinned to boards on topics of interest; the AFS Parent Society currently has 14 boards with topics from international fisheries to education. *Twitter* provides opportunities to broadcast and read updates from people that users are interested in following. The AFS Parent Society is currently putting considerable effort into improving their social media content, so stay tuned. At the 2015 Alaska Chapter meeting in Homer, communicating science will be the theme of a symposium (**Using Education and Communication to Improve Fisheries Management and Conservation**) and continued education courses (**Using Video to Communicate Science and Building a Website to Showcase Your Research**).

Through social media, networking at conferences, and via old fashion email, fisheries biologists are able to join forces to share ideas and find solutions to solve the challenges our profession is faced with today and into the future. 🐟

### Chinook Salmon, continued

environmental changes, nutritional restrictions in a North Pacific ecosystem increasingly saturated by large numbers of salmon, and density-dependent interactions with hatchery-reared salmon.

The results of our study are somewhat puzzling. Under the current paradigm of growth and maturation, faster-growing salmon are expected to mature at younger ages than slower-growing fish. If the



Alaska Chapter member Bert Lewis with a large Chinook Salmon. Photo from Bert Lewis.

maturation-size threshold remains constant, size-selective fishing favors more rapidly growing and earlier maturing fish (*Hard et al. 2008*). In contrast to our results, this model predicts an increase in the proportion of older 4-ocean fish, based on the trend of slower growing 3- and 4-ocean fish found here. Instead, our results show smaller fish maturing at younger ages. The mean length-at-age in maturity for 3- and 4-ocean fish declined over our time series, providing evidence of either a multi-decadal reduction in growth, or a decrease in the size threshold at which maturation occurs.

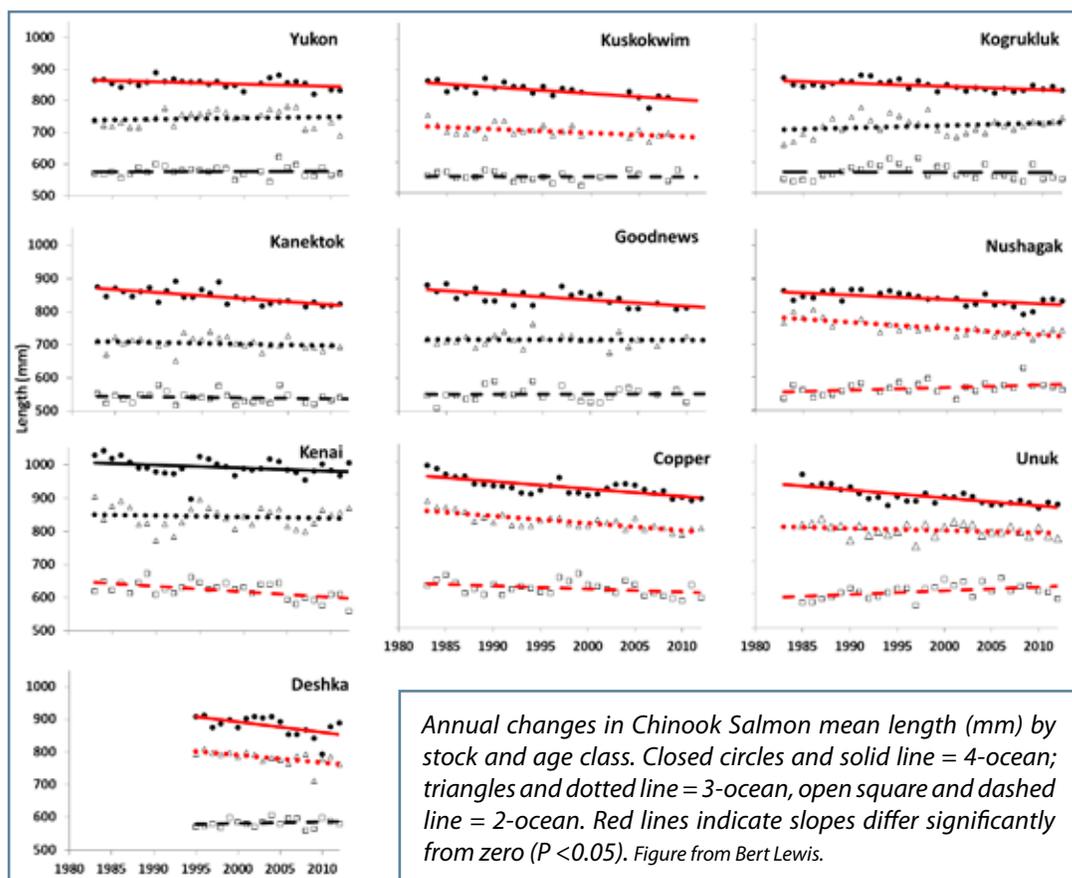
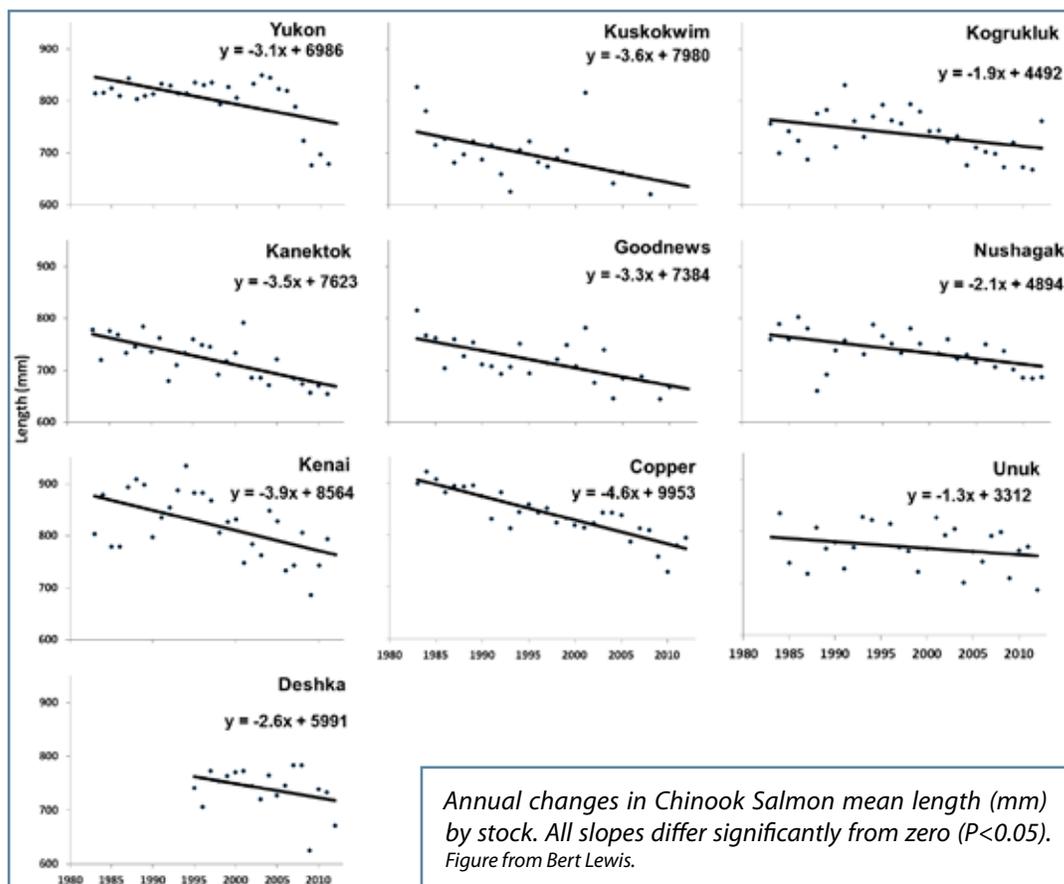
The increase in the proportion of 3-ocean fish is also counter to the prediction that rapidly growing salmon of a given cohort mature earlier. If this were the case, the sizes of younger

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## Chinook Salmon, continued

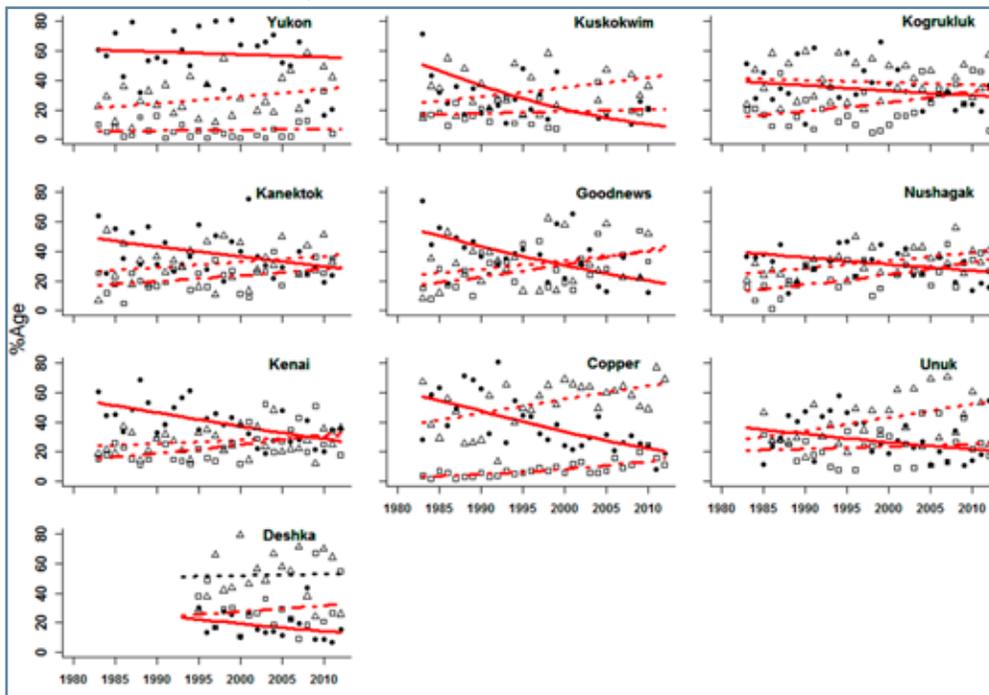
3-ocean fish would be expected to remain unchanged or to increase, but not to decrease. We found a less-consistent pattern of declining length-at-age of 3-ocean fish among areas, which may be explained by the length of time these fish are in the marine environment. These fish spend 25% less time in the marine environment than do 4-ocean fish. Assuming that changes in the marine environment are driving the length-at-age trend, we conclude that the longer the fish are exposed to these conditions, the more the decline becomes apparent. One explanation for the patterns seen in this study is that the maturation length threshold and survival to older ages have both declined so that slow-growing fish mature at a younger age.

Competition and dietary restriction, associated with density-dependent interactions in marine environments, can also influence salmon population abundance, size-at-age, and age-at-maturation. The number of salmon in the Pacific Ocean is at an all-time high, in part, because of large-scale hatchery production across the North Pacific. Inter- and



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## Chinook Salmon, continued



Annual changes in Chinook Salmon return proportion by stock and age class. Closed circles and solid line = 4-ocean; open triangle and dotted line = 3-ocean, open square and dashed line = 2-ocean. Red lines indicate slopes differ significantly from zero ( $P < 0.01$ ). Figure from Bert Lewis.

intra-specific salmon competition can lead to slower growth rates and to reductions in the mean sizes of returning fish. Beyond correlations, it has proven difficult to directly link specific biotic and environmental mechanisms to the changes observed here because of the ocean-wide scale of these interactions and the many confounding mechanisms.

The declines in size and age of Alaska Chinook Salmon reported here have implications for the long-term viability of Alaska's fisheries. Downward shifts in size-at-age and age-at-maturity affect fitness by reducing fecundity and reproductive rates. Larger females generally have larger and more numerous eggs, both of which provide reproductive advantages. Larger eggs produce larger juveniles, which tend to have higher survival rates. Since size- and age-at-maturity are heritable, selection for smaller sizes leads to a feedback loop in which younger and smaller adults produce offspring that mature earlier at smaller sizes. Change in body size may also influence spawning habitat use. Small fish may not be able to use the coarser substrates that large fish once used. Ricker (1980) postulated that a limit to the decrease in size would be reached when almost all females matured as 3-ocean fish and males as 2-ocean fish. These ages at maturity represent equilibria between minimal sizes required to sustain spawning migrations and larger sizes needed to maximize fecundity.

It is unclear if the mechanisms responsible for selecting smaller, younger fish are likely to change in the near future. We may not see large Chinook Salmon in commercial and sport catches in Alaska for some time. Chinook Salmon returns have declined throughout Alaska, with consistent declines beginning about 2007. Because of the lag in age, these declines may be linked to a decrease in productivity from as early as the 2001 brood year. However, compensatory population growth at low abundances and a corresponding shift in the Pacific Decadal Oscillation (PDO) to colder conditions in Alaska may reverse these trends, not only in size- and age-at-return, but also in abundance. Brood-year returns following the recent appearance of cold PDO conditions have only recently begun to return to spawn, but, since individual growth and age-at-maturity have strong genetic components, it might take several generations for a change to become apparent.

The authors work for the Commercial Fisheries Division of the Alaska Department of Fish and Game and spend much of their time thinking about salmon. Bert Lewis is a management coordinator in Anchorage; W.S. (Stew) Grant is a geneticist in Anchorage; Hamachan Hamazaki is a biometrician in Anchorage; and Richard Brennan is a research biologist in Juneau.

## Student Subunit Happenings

### Morgan Sparks

The end of August brought the start of the fall semester for most students in Alaska. As a new-year fundraiser, the UAF-Fairbanks student subunit will be selling buffs (neck gaiters) for \$10. The design features the silhouettes of many common Alaskan fishes (both with and without shells) and the state of Alaska, and the UAF and AFS logos. The student subunit hopes to have the buffs available for purchase at the AFS Alaska Chapter meeting in Homer.

In lieu of the normal updates on student happenings around the state, and because school just started, this student issue features a

submission by Georgina Hunt. Georgina, a student from the United Kingdom (UK), spent a few months in Alaska this summer working with UAF researchers and AK AFS members.

#### From Georgina Hunt:

I recently completed my Master's in Marine Environmental Management at the University of York in the UK and, as part of my degree program, I spent two wonderful months working in Anne Beaudreau's lab at the Juneau Fisheries Division (University of Alaska Fairbanks). While in Juneau, I assisted Ph.D. student Cheryl Barnes in a study investigating the diet compositions of two ecologically important groundfish species, Pacific Halibut (*Hippoglossus stenolepis*) and Arrowtooth Flounder (*Atheresthes stomias*). Samples were obtained from recreational anglers and fishery-independent efforts conducted aboard UAF's research vessel, RV Ishkeen. In the lab, stomachs were dissected, gut contents preserved, and prey items identified for further analyses.

In addition to participating in field- and lab-based research, I analyzed stomach content data collected by the Alaska Fisheries Science Center (AFSC) groundfish assessment program to evaluate the diets of three co-occurring groundfish predators in the Gulf of Alaska — Arrowtooth Flounder, Pacific Cod (*Gadus microcephalus*), and Walleye Pollock (*Gadus chalcogrammus*). This study was the focus of my thesis research and aimed to provide baseline food habit information for these economically important species.

My experience in Alaska was everything (and more than) I expected, and this placement really enhanced the value of my Master's degree. I met a whole bunch of great people, learned so much, and obtained lots of valuable skills and experiences: from the lab, field, and areas surrounding Juneau. Alaska is one of the most beautiful and vibrant places I have been to and an absolute paradise for any biologist!

I will soon be returning to Juneau as a research technician under the direction of Ph.D. student, Maggie Chan, at UAF. Over the next few months, I will be working to transcribe fishermen interviews and map fishing locations of Pacific Halibut in Southeast Alaska. With this position, I look forward to continuing my professional development within the fisheries sector and enjoying more time in this wilderness paradise. 🐟



*Georgina Hunt, a student from the United Kingdom, works with other students aboard the UAF R/V Ishkeen this past summer to collect stomach samples. Photo by Maggie Chan.*

## ONCORHYNCHUS

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Deadline for materials for the next issue of *Oncorhynchus* is December 10.

## 2015 Annual Meeting of the AFS Alaska Chapter in Homer

Mary Beth Loewen, *President-Elect and Program Chair*

The fall equinox has come and gone, and the 42nd annual AK Chapter AFS meeting in Homer during November 2–6 is fast approaching. The Homer conference will be a chance to network with other fisheries and aquatic science professionals, gain insight to new means of fisheries conservation and management, and share work with colleagues. Especially in times of budget shortages, daily email inundation, and new challenges presented by changes in both the natural and man-made landscape, professional meetings offer the best opportunity to establish collaborative, scientific interactions with other professionals. More and more, we appreciate that fisheries and aquatic science is no longer a one-man show, but requires teamwork to make the progress necessary to advance the field in novel ways. This is going to be a great meeting, with a wide variety of session topics, educational opportunities, and social events!

A link to the draft session descriptions can be found at <http://www.afs-alaska.org/annual-meetings/fall-2015>. We welcome your submission for oral and poster presentations. As a reminder, abstract submission was scheduled to close October 2 but contact Mary Beth Loewen if you have a late submission. A wide variety of continuing education courses are being offered in conjunction with this meeting. See Continuing Education Workshops in this newsletter for addition information.

Registration for the 2015 AFS meeting in Homer, November 2–6, is available at <http://www.afs-alaska.org/online-order-form>. Note that early-bird registration closes October 9. If you are unable to register online, hard copy registration forms are available from the Chapter Treasurer, Lee Ann Gardner ([rwjconsulting@ak.net](mailto:rwjconsulting@ak.net)). For more meeting information, and a look at the new Fishes of Alaska t-shirt, please see the AK Chapter website at <http://www.afs-alaska.org/>. If all of this isn't enough, think about the winter king fishing potential! We look forward to seeing you in Homer! 🐟

## Continuing Education Workshops

Sara E. Miller and Katie J. Palof

The Continuing Education Committee has lined up six great workshops to be provided in association with the 42nd annual meeting of the Alaska Chapter of the American Fisheries Society in Homer during November 2–6, 2015. The 3-day workshop **Fisheries Management Techniques Lab**, will be offered during Sunday-Tuesday, November 1–3. This course is intended to build experience in a variety of different fisheries techniques in both freshwater and marine habitats and is field based. **Water Egress** will be offered on Monday, November 2. The 2-day **Fisheries Pathology Lab**, offered during Monday–Tuesday, November 2–3, is geared toward fisheries professionals working in or associated with Alaska salmon enhancement facilities but is applicable to anyone interested in an introductory fish pathology course. Through sponsorship by the University of Alaska-Southeast, **Fisheries Management Techniques Lab** and **Fisheries Pathology Lab** may be taken as credit or non-credit. Two classes will be offered on Tuesday, November 3: the half-day class **Power-Based Standardization in Electrofishing**, and the full-day class **Communicating Science Through Video**. Finally, the two-hour class **Introduction to Website Development** will be offered on the afternoon of Thursday, November 5.

All Continuing Education classes have a minimum enrollment that must be met by October 9, so be sure to sign up early. Fees are also reduced for early registration. Additional information and registration forms can be found at <http://www.afs-alaska.org/annual-meetings/fall-2015>.

One additional education opportunity will be available prior to the meeting for those presenting or those who may need an extra boost of confidence when dealing with presentations at work or at public or scientific meetings, Cathy Angell will be hosting a special webinar on Wednesday, October 21, from 11-12 (AKST). Cathy Angell coordinates a professional training program through the Padilla Bay National Estuarine Research Reserve in Washington State. She has a long history of designing and delivering presentations, as well as coaching others. A former member of the National Speaker's Association, she has presented at conferences, colleges, business organizations, and retreats. She specializes in presentation skills for educators, scientists, and public officials. If you would like attend the webinar, please fill out this survey at <https://www.surveymonkey.com/r/AFSwebinar>. Your contact information provided in the survey will be used to distribute the web link and call-in information closer to the event. 🐟

## Timing of the AFS Alaska Chapter Meeting

At the business meeting during the AFS Alaska Chapter meeting in Homer in November 2015, the membership will entertain a motion and discussion regarding rescheduling of the annual Chapter meeting. Moving the annual meeting from the fall to the spring (February or March) will bring the Alaska Chapter meetings more in line with timing of other Western Division meetings, allow fisheries professionals to more easily present data collected in the previous field season, and potentially allow for greater meeting participation. Many of our fisheries professionals have projects in the field until freeze-up, or are in the midst of stock assessments, forecasting, interagency meetings, and other work obligations in the fall, and are unable to attend annual meetings during September–November. In contrast, many Chapter members may be preparing for summer field seasons or forecasts for the upcoming year, participating in winter fisheries, or taking February and March for winter vacations, such as school spring breaks. Under Chapter Bylaws, annual meeting timing and location is set at the discretion of the Chapter’s Executive Committee; the Executive Committee is seeking your input on this decision. If you have input on this motion before the business meeting, please contact President-Elect Mary Beth Loewen at [marybeth.loewen@alaska.gov](mailto:marybeth.loewen@alaska.gov).

## Alaska Chapter Committees

The Alaska Chapter is currently seeking nominations for, or interest from, people willing to serve as members or chairs for several Chapter committees. Many of our excellent Committee Chairs have served for several years, and are interested in passing their knowledge to other Chapter Members. Committees are organized to help carry out the mission of the Chapter. Each committee is made up of Chapter members with a chair or co-chairs. The Chapter currently has 14 committees. More information about each committee, including missions, goals, annual work plans, and recent accomplishments, can be found on the Chapter website: <http://www.afs-alaska.org/about-us/committees>. Currently, the Chapter is seeking a chair for the committees shown below. If you might be interested in participation in these or other committees, please contact Phil Loring, [phil.loring@usask.ca](mailto:phil.loring@usask.ca), Ph. 306-966-1617.

### Financial Assets Oversight Committee:

The Financial Assets Oversight Committee (FAOC) is a standing committee of the Alaska Chapter, established by a Chapter unanimous vote approval during the 2005 Chapter Business Meeting. Guidance to the FAOC is provided in the Chapter’s Procedure Manual under the Chapter Financial Plan within the Chapter Investments section. The mission of the FAOC is to oversee, advise, and make recommendations for directing the financial assets of the Chapter by way of tracking the Chapter’s monetary holdings that are invested through financial or banking institutions. Committee duties include:

- Actively track Chapter investments by understanding investment strategy, structure, and detail via consultation with financial or banking institution representative(s).
- Hold FAOC advisory meetings with financial or banking institution representative(s) on a quarterly basis at a minimum.
- Report to the ExCom and membership on a quarterly basis or other desired time interval about investment status and activity.
- Be prepared to hold the Chair, Vice Chair, and member positions for up to a minimum of four years for the sake of consistency between the financial or banking institution(s) and the Chapter.

### Awards Committee:

The committee was established to recognize excellence in professional performance and outstanding contributions to Alaska fisheries. The Awards Committee is responsible for the Meritorious Service Award, Alaska Chapter Service Award, the Best Student Presentation Awards for papers and posters presented at the annual Alaska Chapter meeting, and Almost Darwin Award.

### Environmental Concerns Committee:

The Environmental Concerns Committee (ECC) is an ad hoc on-going committee established by the Executive Committee to provide coordinated technical and policy analysis and Chapter input on environmental issues that affect Alaska’s fishery resources. Committee duties include:

- Provide technical review and advice on environmental issues affecting fishery resources in Alaska when the Chapter’s opinion or position is solicited by members or by external organizations or agencies.
- Formulate through consensus a Chapter position on such issues for review by the Chapter Executive Committee. Such positions should reflect the concerns of the membership as a whole.
- The ECC formulates resolutions for review by the Resolution and Bylaws Committee on issues that require major policy statements.

## Shew Selected for Fellowship

Erin Shew, a graduate student in Arctic and Northern Studies at the University of Alaska Fairbanks, has been awarded the Jahn A. Knauss Marine Policy Fellowship. Shew is one of 60 fellows selected from coastal and Great Lakes states and territories for the one-year paid fellowship. Shew will join other fellows in Washington, D.C. in November 2015, with her fellowship to begin in February 2016. Her M.S. research has focused on environmental research in rural Alaska. 🗨️



*Erin Shew, UAF graduate student received Knauss Marine Policy Fellowship. Photo from Alaska Sea Grant.*

## ShoreZone Imagery



*King Island is part of the aerial video imagery collected during July 9-14, 2015 in Norton Sound, Alaska. Photo from ShoreZone Alaska.*

ShoreZone coastal imagery is now available for 87% of the coastline for the State of Alaska. Better yet, this imagery is available free on-line. The percentage of coastal coverage rose to 87% with the addition of the aerial video imaging survey of Norton Sound that was conducted from July 9-14, 2015. The survey was conducted by Coastal & Ocean Resources for NOAA, NMFS, Alaska Region. A total of 28 HD video files were collected during the survey and recorded to MP4 format. Maps for each video file are annotated with relevant geographic names, trackline timecodes, and still photo numbers. A total of 25,149 photos were collected by the team. All video and imagery data are geo-referenced. The imagery is now available at <http://www.shorezone.org/> and at <http://alaskafisheries.noaa.gov/mapping/szflex/>. 🗨️

## Marine Debris Removal Funding

As part of the national grant program supported through the NOAA Marine Debris Program, applications are now being accepted for project funding related to removal of marine debris in FY2016. The grant focuses on supporting community-based, locally-driven marine debris removal activities with a priority on projects targeting medium to large-scale debris, including derelict fishing gear. Removal operations can be paired with outreach and education to prevent further introduction of marine debris, though the overall focus is on removal. Projects should also provide benefits to coastal communities, and create long-term ecological habitat improvements for NOAA trust resources. Successful proposals will be funded through cooperative agreements. Awards in previous years have typically ranged from \$50,000 to \$150,000. Applications are due November 2, 2015. For more information, contact Peter Murphy ([peter.murphy@noaa.gov](mailto:peter.murphy@noaa.gov)) or go to <http://marinedebris.noaa.gov/funding/funding-opportunities>. 🗨️

## Training Opportunities for Acoustic Tag and Hydroacoustic Assessments

Several short courses in acoustics will be presented through Hydroacoustic Technology, Inc. (HTI) and the School of Aquatic and Fishery Sciences at the University of Washington, Seattle. **Using Acoustic Tags to Track Fish**, offered February 4–5, 2016, will address aspects of tracking fish movement with acoustic tags, including three-dimensional tracking with sub-meter resolution. The course will include hands-on-operation and a variety of applications. **Using Hydroacoustics for Fisheries Assessment**, offered February 11–12, 2016, covers mobile and fixed-location hydroacoustic survey techniques, including basic hydroacoustic theory, deployment logistics, data collection and processing, as well as typical results. Split-beam, single-beam, and multi-beam frequency techniques are discussed in detail. These courses are available on-site or online, with tuition discounts up to 50% for university students and staff, non-profit, and tribal organizations. To reserve a seat or ask a question, email HTI at [support@HTIsonar.com](mailto:support@HTIsonar.com), or go to <http://www.HTIsonar.com>. 🗨️

## PSP Efforts Help Protect Human Health

April marked the last collection of clams near Kodiak to test for paralytic shellfish poisoning (PSP) under the Alaska Department of Environmental Conservation Recreational Shellfish Pilot Program. Occurrences of PSP are not uniformly distributed with some localities having low toxin levels while others pose a threat to human health. Marine Advisory agent Julie Matweyou worked on the study with the Kodiak Island Borough School District and the communities of Ouzinkie and Old Harbor. Alaskan residents harvesting shellfish for subsistence and personal use may face serious health risks from eating shellfish that have accumulated PSP neurotoxins. While Alaska has an effective testing program for commercial shellfish harvesting, there is currently no testing for personal harvesting. Matweyou trained teachers, students and community volunteers to collect, prepare and ship clam samples to ADEC

for testing. Over the three-year period many PSP levels were above the “safe” FDA regulatory level of 80 micrograms per gram of tissue (*results*). The results confirmed that dangerous PSP levels may come and go unpredictably in some locations. One benefit of the project is that community members are more aware of PSP risk and they have access to experts.

In Unalaska, Marine Advisory agent Melissa Good has also worked on developing a safe shellfish harvest program. She regularly collects blue mussels for a PSP testing project led by the Aleutian Pribilof Islands Association. Good also publishes State of Alaska PSP test results on the Unalaska Facebook page for butter clams, blue mussels, littleneck clams, and Dungeness crabs in the Gulf of Alaska and Bering Sea. Recent testing of butter clams at Sand Point showed levels of 241 micrograms per gram. 🐚

## AFS Alaska Chapter Officer Candidate Statements

### Jeff Falke, Vice President

Jeff Falke is an Assistant Unit Leader – Fisheries at the Alaska Cooperative Fish and Wildlife Research Unit (AKCFWRU) and holds a joint appointment as Assistant Professor of Fisheries in the Institute of Arctic Biology and the School of Fisheries and Ocean Science at the University of Alaska Fairbanks (UAF). He received his



B.S. degree in Fisheries and Wildlife from the University of Missouri, his M.S. in Biology from Kansas State University, and his Ph.D. in Fisheries

Ecology from Colorado State University. Prior to joining AKCFWRU, Jeff was a post-doctoral fellow with NOAA Fisheries/National Research Council

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### Karson Coutré, Secretary

Karson Coutré primarily grew up in Wisconsin and caught her first fish at age 6, a bluegill caught off of the dock on a sunny summer day. Having always been fascinated by fish and the ocean, she left the Midwest lakes and rivers for college in Maine. Karson studied marine ecosystems at the University of New England (UNE) in 2008 where she obtained a B.S. with honors in Marine Biology. Her research at UNE in the Sulikowski Fish Lab focused on the life-history of skate species and their occurrence as bycatch in Northwest Atlantic fisheries. Karson also assisted others in the research lab studying Atlantic Sturgeon diet, Spiny Dogfish maturity, and the community composition of the local estuary. Through this work, she became inspired to pursue research that unites the commercial industry and scientists in the common goal of fisheries sustainability. In 2012, Karson moved to Juneau, Alaska to continue research at the



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**Jeff Falke**, continued

and Oregon State University. His research focus is on freshwater fish population and community ecology, often linking environmental stressors to freshwater fish population and assemblage dynamics across a variety of aquatic ecosystems. His research bridges the gap between basic and applied fisheries ecology, integrating quantitative ecological analyses, spatial statistical methods, landscape ecology, and conservation biology to address conservation and management issues.

Jeff currently mentors six M.S. students, and one postdoctoral researcher, and sits on numerous other graduate committees. He teaches graduate-level courses in Stream Fish Community Ecology and Physical Processes in Freshwater Ecosystems at UAF. He has held officer and committee positions at the student unit, state, division, and national levels of AFS.

Jeff currently serves on the Membership Committee of the parent society, and is the incoming Western Division representative to the Education Section. He spends his free time with his wife, daughter, and son, and enjoys fishing and flatpicking acoustic guitar (not often at the same time...).

**Karson Coutré**, continued

UAF School of Fisheries and Ocean Sciences. She received a M.S. in Fisheries working with Dr. Anne Beaudreau in 2014. Her Master’s thesis focused on the diet composition and habitat use of juvenile Sablefish in Southeast Alaska. Currently, Karson is employed by Earth Resources Technology doing contract work with the Marine Ecology and Stock Assessment (MESA) group at NOAA’s Auke Bay Laboratory in Juneau. Work with MESA involves groundfish tagging and electronic tag data analysis. Since living in Juneau and conducting fieldwork out of Kodiak, Cordova, Sitka, and Homer, Karson has discovered that studying Alaska’s fisheries is just as rewarding as catching and eating Alaskan seafood.

While a UAF graduate student, Karson also served as the president of the Juneau Student Subunit of the AFS Alaska Chapter, presenting research at the annual meetings from 2012 to 2014. As the student subunit president she conducted monthly meetings, kept minutes, and planned social/outreach events such as an annual Earth Day beach cleanup and barbeque. Karson’s involvement in AFS has given her invaluable connections and experiences and she is excited for the potential to contribute her service to the Alaska Chapter.

**AFS Alaska Chapter Officer Elections**

Under the AFS Alaska Chapter Bylaws, Chapter officers consist of a President, President-Elect, Vice-President, Treasurer, and Secretary, with officers elected from ballots presented in the Chapter newsletter, *Oncorhynchus*. The terms of the Treasurer and Secretary shall be two years, with the Treasurer’s election occurring on even numbered years and the Secretary’s election occurring on odd numbered years. The term of the Vice-President shall be one year. At the end of the one-year term, the Vice-President shall succeed the President-Elect, who in turn shall succeed the President. This year, 2015, the Chapter is electing a Vice-President and a Secretary. Candidates’ statements are provided. Ballots must be received by Phil Loring ([phil.loring@usask.ca](mailto:phil.loring@usask.ca)) no later than October 30, 2015.

**Officer Ballot**

**For Chapter Vice President and Secretary**

Please cut and paste ballot into an email with subject “Vote” by October 30, 2015 and send it to: Phil Loring at [phil.loring@usask.ca](mailto:phil.loring@usask.ca) or mail via the U.S. Post Office (international postage required):

Phil Loring  
University of Saskatchewan, School of Environment and Sustainability  
117 Science Place  
Saskatoon, SK CAN S7N5C8

Vice President:

\_\_\_\_Jeff Falke

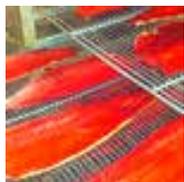
\_\_\_\_Write-in\_\_\_\_\_

Secretary:

\_\_\_\_Karson Coutré

\_\_\_\_Write-in\_\_\_\_\_

## Meetings and Events



### Smoking Seafood Workshop

October 7–9, 2015: This workshop on smoking seafood for either home or commercial production will be held at the Kodiak Seafood and Marine Science Center in Kodiak.

More information is at <http://seagrant.uaf.edu/map/workshops/2015/smoking-seafood/>.

### ShoreZone Annual Partner Meeting

October 13–14, 2015: The annual gathering of ShoreZone partners and interested parties will be held at the Captain Cook Hotel in Anchorage. Live, online access will also be available. See [www.shorezone.org](http://www.shorezone.org) for the agenda and more information.



### 41st Annual Meeting of the American Fisheries Society Alaska Chapter

November 2–6, 2015: This meeting will be held in Homer, AK with the theme “Alaska’s Fisheries at a Crossroads: From the Past, Looking to the Future.” The meeting chair and program contact is Mary Beth Loewen ([Marybeth.loewen@alaska.gov](mailto:Marybeth.loewen@alaska.gov)).



### Alaska Young Fishermen’s Summit VI



January 27–29, 2016: This meeting is designed to provide information and opportunities to harvesters under age 40 or in the business less than five

years. For more information contact Torie Baker ([torie.baker@alaska.edu](mailto:torie.baker@alaska.edu)).

### World Fisheries Congress 2016

May 23–27, 2016: This, the 7th World Fisheries Congress, will be held in Busan, South Korea. For more information, go to [http://www.wfc2016.or.kr/english/main/index\\_en.asp](http://www.wfc2016.or.kr/english/main/index_en.asp).



## 2015 Alaska Chapter Officers

### President Jennifer Stahl

Alaska Department of Fish and Game, PO Box 110024, Juneau, AK 99811; Ph: 465-4071; [jennifer.stahl@alaska.gov](mailto:jennifer.stahl@alaska.gov)

### President-Elect Mary Beth Loewen

Alaska Department of Fish and Game, 351 Research Court, Kodiak, AK 99615; Ph: 942-5273, [marybeth.loewen@alaska.gov](mailto:marybeth.loewen@alaska.gov)

### Vice President Aaron Martin

U.S. Fish and Wildlife Service, 101 12th Avenue, Rm 110, Fairbanks, AK 99701; Ph: 456-0418, [aaron\\_e\\_martin@fws.gov](mailto:aaron_e_martin@fws.gov)

### Treasurer Lee Ann Gardner

RWJ Consulting, PO Box 670346, Chugiak, AK 99567-0346; Wk: 688-1400, Fax: 688-1405, [rwjconsulting@ak.net](mailto:rwjconsulting@ak.net)

### Secretary Nicky Szarzi,

4750 Greentree Way, Homer, AK 99603; Ph: 235-9713, [njszarzi@alaska.net](mailto:njszarzi@alaska.net)

### Past President Philip Loring

University of Saskatchewan School of Environment and Sustainability, 117 Science Place, Saskatoon, SK CAN S7N5C8; Ph: 306-966-1617, Fax: 306-966-2298, [phil.loring@usask.ca](mailto:phil.loring@usask.ca)

**Student Subunit Representative** Morgan Sparks, PO Box 757020, 902 Koyukuk Ave., University of Alaska Fairbanks, Fairbanks, AK 9977, [mspark8@alaska.edu](mailto:mspark8@alaska.edu)

**Feel free to contact the Executive Committee members.**