



ONCORHYNCHUS

Newsletter of the Alaska Chapter, American Fisheries Society
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In this issue:

President's Corner
Rejecting Truth or Accepting Falsehood
Western Division Meeting
Fisheries Training Goes International
Marine Debris Funding
Diversity and Inclusion Symposium
Student Subunit Happenings
New AFS Western Division
Student Representative
Meetings and Events 
and more ...



Commercial Geoduck harvester with hookah gear and a "stinger." Photo from Southeast Alaska Regional Dive Fisheries Association.

Dive Fisheries of Southeast Alaska — Research and Management Challenges

Kyle Hebert

On a typical morning aboard the Alaska state research vessel *Kestrel*, research divers begin the day bustling about, checking gear, and wondering what they may see along the ocean floor that day. Recent trends show troubling declines in populations of some benthic marine species that share habitats with sea otters. The impacts are uncertain until divers collect the data used to determine allowable harvest levels, levels intended to protect the long-term viability of the commercial dive fisheries.

The Alaska Department of Fish and Game (ADF&G) Southeast Alaska dive team, comprised of six scientific divers, sets out on the *Kestrel* from

its homeport of Petersburg every other week during spring and summer to perform surveys required by law before commercial dive fisheries may occur. The surveys focus on an unusual group of benthic marine species that includes California Sea Cucumbers, Red Sea Urchins, and Pacific Geoducks (pronounced "gooey ducks"). The *Kestrel* serves as workspace, transportation, and home during week-long outings from April to September. The target species are destined for Japanese and other Asian markets for sale as delicacies or for medicinal uses. Pacific Geoducks are prized for their meat, Red Sea Urchins for their roe, and California Sea Cucumbers for their meat and skin.

Continued on next page

The President's Corner



Aaron Martin,
AFS Alaska Chapter President.

I hope the fall season is treating you all well with full freezers and pantries, sun-bathed faces, and excitement as the snow line starts to move slowly down the mountainsides. To add to that, kids are back to school and the summer field season is wrapping up. The field season and the coming winter months can be ripe with meetings as management decisions and research priorities are made, revisited, and realigned to ensure the viability and sustainability of the amazing fisheries resources in Alaska. No matter when or where these meetings happen, the success of even the best-designed and informed plan relies on effective communication throughout the design and execution. The playwright and political activist George Bernard Shaw once said, "The single biggest problem in communication is the illusion that it has taken place." I would agree that this is unfortunately true and more common than some would like to admit in our professional and personal lives.

Countless workshops (some hosted by the American Fisheries Society [AFS] Alaska Chapter) and book series have been assembled to prevent and resolve these challenges, yet I continue to hear about, experience, and see problems caused by poor communication on a regular basis. It is partly due to basic human

Continued on next page

Dive Fisheries, continued

When one thinks of fisheries, the usual image is the lowering of nets, lines, or pots into the water, to be later hauled back with fish or crab. In contrast, dive fisheries require an underwater search and hand-picking—one animal at a time—as these species live either deep in sediment (Geoducks), or on rocky habitat, and cannot be effectively lured by bait.

An example of a "typical" dive survey is provided on the west coast of Dall Island, an uninhabited fifty-mile expanse of rocky shoreline located in the southwestern part of the Southeast Alaska panhandle. Research here concentrates on California Sea Cucumbers and Red Sea Urchins to determine if population levels are high enough, with sufficient interannual stability, to sustain fall commercial dive fisheries. After motoring to the general area aboard the *Kestrel*, divers load gear and scuba tanks onto two 19-foot aluminum skiffs and head toward shore. Three divers per skiff don dry suits, each rotating as dive tender after completing two consecutive dives. During the day, the teams leapfrog down the coastline and each diver may complete as many as 10 dives, each representing a sampling point, to estimate animal density and size. Each species requires a slightly customized survey technique and approach for the most effective sampling. Systematically placed transects, one- or two-meter swaths over the seafloor, are swam from the shore to a depth of approximately 60 feet. Transects are oriented perpendicular to the shoreline with divers following a preset compass bearing.

For California Sea Cucumber surveys, divers hold a two-meter sampling rod and swim along each transect counting animals that fall within the rod's width. The sampling rod contains a clip board with data sheet, compass, and depth gauge to record information. Within a transect, divers may count from a few to over a hundred California Sea Cucumbers, and a dive may last five minutes to over an hour. Surveys can be challenging when swimming inverted down a 45-degree slope in poor visibility—more so when sorting through several layers of macroalgae where Sea Cucumbers are frequently found. Divers move along transects fairly slowly while descending through the dense

Continued on page 4

President's Corner, continued

nature in the 21st century – got to go, got to go. However, to have a lasting, positive impact in our field we need to SLOW DOWN enough to listen and be inclusive. I will not claim to be an expert in communication. Nor would I bet that a so-called expert gets it right every time. Nevertheless, the following are my crib notes, developed from training courses and personal experiences (often when I got it wrong), on what makes effective communication.

First off, take time to figure out what you really want and structure those thoughts. What is the main thing you need to get across or express? Most of the time it seems that it is more HOW you say something, rather than what you say, that will make a conversation go smoothly. Secondly, make sure the right people are in the room – those that are most effected by the outcome of the conversation or someone that can represent others' accurately. Then, be aware when you are talking. Watch for content and conditions. We get so caught up in what we are saying or want to say, we often forget to listen to the other person or to pull ourselves out of the discussion to see how others may be reacting to what is being said. Do not expect that people are hearing the same thing that you are saying, or that they are feeling what you hoped they would feel. Adjust the course as needed to ensure the discussion ends in the best place possible. Lastly, remember that perspectives come in countless shades of gray – very little is black and white. Your perspectives are based on your personal and professional experiences and the world that regularly surrounds you. These perspectives WILL differ from those of others, because our lives are shaped by a unique set of life lessons and mentors.

However, we need to find the common threads and build on them. As a Chapter, we represent a diverse suite of fisheries professionals. Let us strive to take time to appreciate and respect the diversity of professionals we represent, and the cultures and resources that we work to help maintain. In closing, consider the following words from Dean Rusk, "One of the best ways to persuade others is with your ears – by listening to them."

Okay. Shifting gears to the news. The Alaska Chapter Executive Committee (ExCom) will be holding a two and a half day ExCom retreat this November in Anchorage to finalize updating the Procedures Manual and to talk about the direction of the Chapter. It has been a while since the ExCom did any major planning beyond our annual events and the month-to-month maintenance of the Chapter. We want to discuss what our priorities are and how we can ensure we are communicating effectively with our Chapter members and on behalf of our members. We are drafting the agenda right now and will report to the membership this winter on what was discussed and if anything needs to be voted on by our membership. If you have anything you'd like the ExCom to consider, please send me an email describing the topic by October 20, 2017. You can reach me at afs.alaska.president@gmail.com.

I also want to give one more shout out to Cheryl Barnes for her amazing commitment to the Chapter over the past year as our Student Subunit Representative. Her time and energy were greatly appreciated. Cheryl passed the reins over to Tessa Minicucci this summer. Tessa is a graduate student at the Juneau campus of the Department of Fisheries with the University of Alaska Fairbanks. Ms. Minicucci has jumped right in with the ExCom and is in the process of working with the AFS Western Division Student Representative to coordinate the 2017 Western Division Student Colloquium in McCall, Idaho. If you have any questions about that, please contact Tessa at afs.alaska.studentsubunit@gmail.com.

Lastly, our Chapter President-Elect, Jeff Falke, and Western Division staff are getting into high gear for pulling together the 2018 Western Division meeting in Anchorage. Thanks to all of you who have been helping with this effort already and to those that will be jumping into the party soon. You can contact Jeff, afs.alaska.presidentelect@gmail.com, or myself if you have any questions about the meeting or want to volunteer.

All the best. 🐻

Dive Fisheries, continued

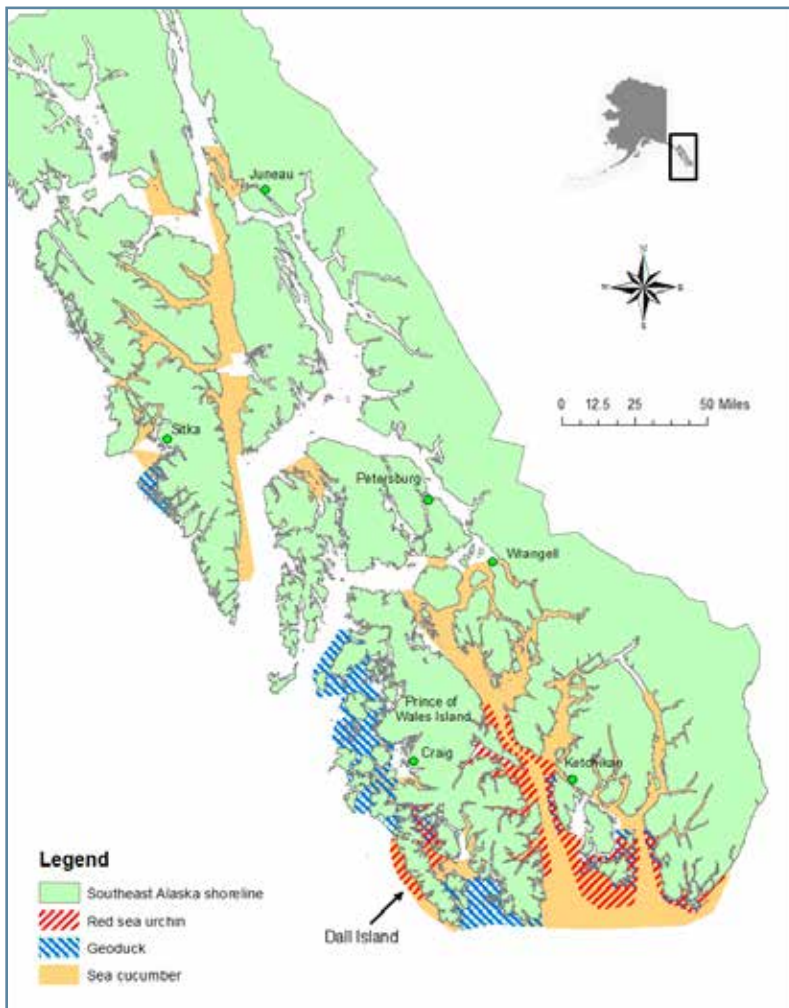
macroalgae zone, found between the surface and a depth of about 40 feet. The pace quickens below 40 feet as algae dissipate and visibility improves.

Red Sea Urchin surveys are conducted with a one-meter sampling rod because Red Sea Urchins usually occur at higher densities than Sea Cucumbers. Although Red Sea Urchins are found to depths exceeding 70 feet, the portion of the survey transect from the surface to about 15 feet deep can be particularly difficult and dangerous to navigate underwater due to ocean surge. Several hundred Urchins may be spotted within an Urchin transect, so the narrower transect reduces time spent exposed to often-hazardous conditions when counting, but with little reduction in precision and variability. The main challenge divers face is to keep the spiny creatures from puncturing dry suits or fingers while obtaining samples.

Pacific Geoducks are found in calmer coastal waters, such as protected bays of the islands west of the city of Craig on Prince of Wales Island. Geoduck surveys are more subdued since the clams live in flat expanses of sandy or muddy substrate and are usually difficult to spot. Divers move at a snail's pace to get accurate counts when searching for slight depressions in the sand made by the tips of the elongated siphons that extend up to a meter from the clam shell below the sediment; using a 1-meter-wide rod helps hasten the pace. To ensure that a depression is actually a clam siphon, and counts are not erroneously inflated, divers will pound the ground with their fist or a rock, or poke and prod to see if a pronounced hole is left by a retracting siphon.

Although survey diving can become routine and repetitive, there is always the unexpected—crossing paths with a playful Giant Pacific Octopus or a beautifully-colored juvenile Wolf Eel, or swimming through a massive school of Market Squid. On one dive, a focused diver missed the passing of a Humpback Whale 20 feet away, despite the dive partner's efforts to alert him. At days end, the divers always enjoy convening on the Kestrel to share stories of their remarkable sightings.

These surveys are designed to produce estimates



Locations of commercial dive fisheries in Southeast Alaska. Figure from Kyle Hebert.

of population biomass and identify changes over time. Commercial fishery harvest limits are determined by applying a harvest rate to the estimated biomass. Harvest rates vary by species due to differences in life-history characteristics. For example, Pacific Geoducks may live over 100 years with episodic recruitment; to ensure sustainable fisheries, a harvest rate of 2% is allowed, whereas Sea Cucumbers have a shorter life span with more regular recruitment, allowing a higher annual harvest rate of about 6%.

All Southeast Alaska dive fishery permit holders are members of the Southeast Alaska Regional Dive Fisheries Association (SARDEFA), a non-profit organization which advocates for dive fisheries and works closely with ADF&G to fund research and set management priorities. The Alaska Legislature passed statutes to allow mandatory collection of

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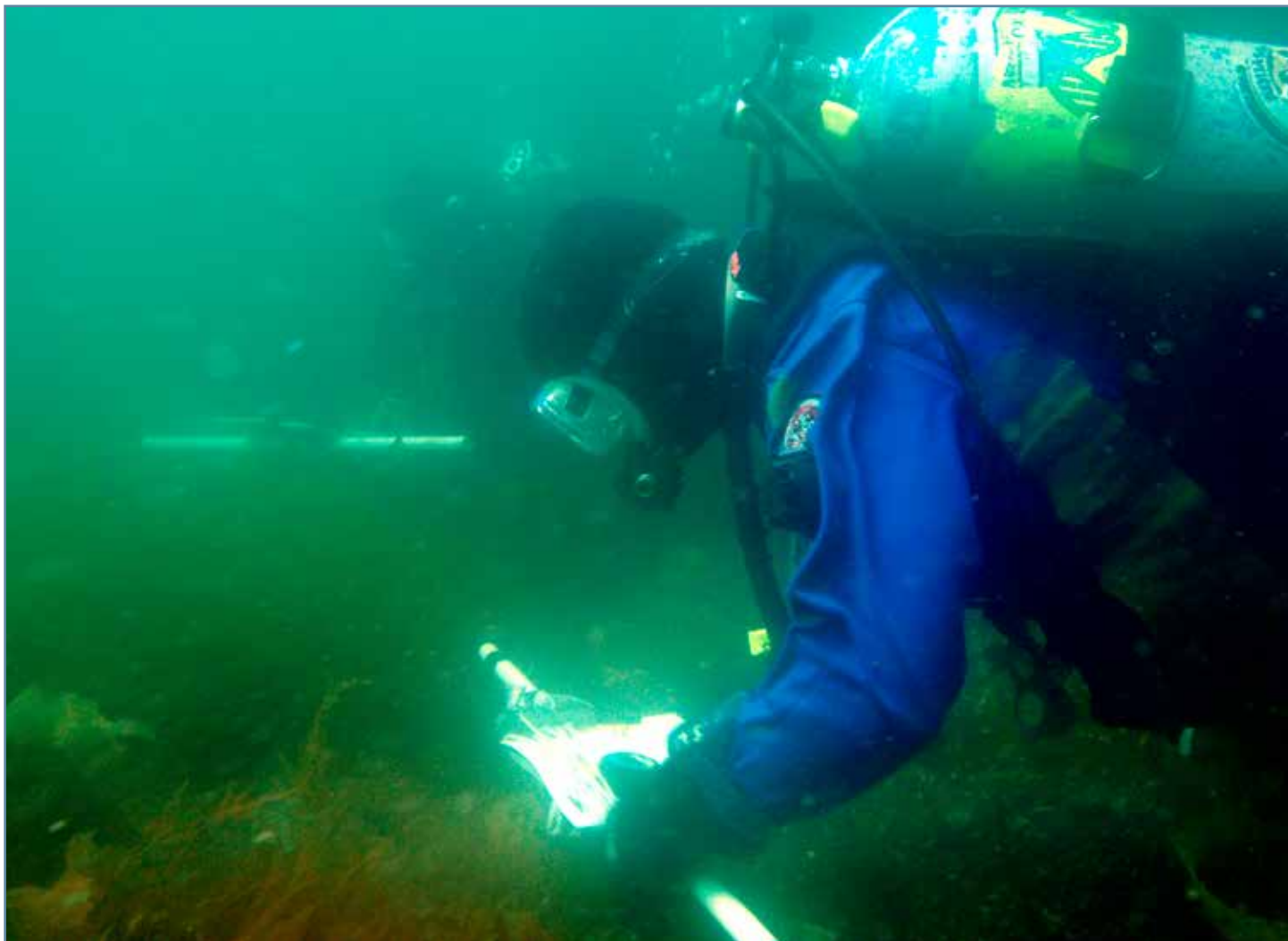
Dive Fisheries, continued assessments (i.e., self-imposed taxes) from the SARDFa membership to specifically fund dive fisheries management. This model provides a means for commercial dive harvesters to have some control over their fisheries through financial support and input on fisheries management direction.

Many local harvesters depend on dive fisheries to supplement income from traditional spring and summer fisheries like salmon, groundfish, herring, or crab. During any given season, there are approximately 170 participants in the Sea Cucumber fishery, 70 in the Pacific Geoduck fishery, and 12 in the Red Sea Urchin fishery. The combined commercial value has totaled approximately \$10 million in recent years. Each of these fisheries are limited entry



Harvested, live Pacific Geoducks ready for shipment; rubber bands reduce stress by mimicking sediment pressure. Photo by Scott Walker.

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Research divers during an ADF&G survey of Pacific Geoducks. Photo by Dave Harris.

Dive Fisheries, continued

and requires separate permits, although many commercial harvesters hold multiple permits and participate in multiple fisheries.

Commercial harvest divers approach their work differently than research divers. Commercial divers use gear designed to most effectively accomplish their main goal, which is to maximize yield. They also focus on locations that are easy to work in and have a high density of animals of good quality (e.g., proper size or appearance). An air delivery system called a “hookah” allows the divers to be submerged for longer, continuous periods than regular scuba gear, making the most of the predetermined harvest times set by ADF&G; open periods can last as little as one day or even just a few hours per week. These fisheries are competitive, and the incentive is high to make the most of the time allowed. Guideline harvest limits are set by ADF&G for each area and once those limits have been reached, the area is closed to further commercial harvest for the season.

Harvesting approaches vary by species. California Sea Cucumbers require primarily a find-and-pick strategy from areas of higher productivity, with bags of harvest hoisted to the boat. In contrast, Red Sea Urchins can be hazardous to collect because they inhabit turbulent waters and have long sharp spines. Harvesting Pacific Geoducks in a major operation requires a high pressure water stream to blast away the sediment to reach the Geoduck. This involves extending a large hose from a water pump located on the fishing vessel down to the diver on the bottom, who controls the high pressure water flow with a valve. Below the valve extends a narrow three-foot metal pipe called a ‘stinger,’ used to direct the water stream. Finding and harvesting Pacific Geoducks is arduous work, but proficient commercial divers can dig a Geoduck in seconds.

But there is a lengthening shadow looming over the future of the Southeast Alaska dive fisheries. The ADF&G research team recently completed their survey of the west coast of Dall Island, with grim results. Data show the Red Sea Urchin population has virtually vanished and California Sea Cucumbers have been decimated. These results are not surprising given the increase and impact of Sea Otters. Sea Otters were hunted to near-extinction during the commercial fur trade in the 18th and 19th centuries, but in the 1960s a few hundred were reintroduced to Southeast Alaska. Today Sea Otters number in excess of 25,000 across the region; as a result, many dive fishery areas have been closed to harvest due to the low biomass of target species.

As Sea Otters reclaim their territory there is an increasing conflict with the commercial dive harvesters who today have a large stake in these fisheries. Because fisheries management is under the jurisdiction of ADF&G, and Sea Otters, a species protected under the Marine Mammal Protection Act, are managed under the U.S. Fish and Wildlife Service, a viable solution has been elusive. Without resolution to the management issues, commercial dive harvesters can only watch their fishing industry erode as Sea Otters recolonize Southeast Alaska. For now, these fisheries remain viable, but with each passing year the future becomes more compromised and economic viability declines as Sea Otters expand to fully reoccupy their former range, making it increasingly important to find a solution if these unique fisheries are to survive.

Kyle Hebert lives in Juneau and has worked as a research biologist for ADF&G for the past 20 years. He is currently the Research Supervisor for Dive Fisheries and Herring in Southeast Alaska, and is the department’s Dive Safety Officer. Kyle has an M.S. in Fisheries from the University of Alaska Fairbanks. 🐡

Western Division Meeting of the American Fisheries Society

Planning for the 2018 AFS Western Division Annual Meeting, hosted by our Alaska Chapter, is in full swing. This is going to be a huge meeting, and it’s up to our Chapter to ensure that it’s a great one! We are now soliciting volunteers to help with the meeting arrangements. There are ample opportunities to help out – the best being serving on one of our excellent committees! If you’re interested in serving on one (or several!) of the planning committees, please contact AK Chapter President-Elect and meeting Program Chair Jeff Falke via email at afs.alaska.presidentelect@gmail.com or by phone at 474-6044. Thanks and we look forward to hearing from you! 🐡

Fisheries Training Goes International

For three weeks this past summer along the pristine shores of Lake Aleknagik in Bristol Bay, Alaska, fisheries graduate students from the University of Alaska Fairbanks (UAF), the University of Washington (UW), and Kamchatka State Technical University (KSTU) came together during the height of the Bristol Bay sockeye salmon commercial fishery to learn quantitative fishery management techniques. The course, co-taught by Milo Adkison (UAF) and Ray Hilborn (UW), provided students an opportunity to learn quantitative methods used in Alaska and in other jurisdictions to estimate salmon abundance, forecast run size and timing, and evaluate harvest strategies. The course took full advantage of its proximity to the commercial sockeye salmon fishery, with students tracking the return of the salmon to each fishing district in Bristol Bay, estimating the total run as it developed in real time, and, in teams of two or three students, role-playing the decisions of district fishery managers each day.

While UAF and UW have been teaching this graduate student class together for 12 years, the inclusion of international students has been rare. Two graduate students from Kamchatka, Russia, Anna Shatrova and Kerim Aitukaev, traveled across the Pacific to visit the Alaska on their first visit to the USA. Translator (and unofficial teaching assistant) Viktoria Chilcote was integral to the



Bearded and beardless fashion in a processing plant visit. Photo by John Simeone.

success of the learning by all parties. Guest lectures by locals, and field trips to processing plants, an ADF&G counting tower, and the fishing districts, allowed the students to experience firsthand what goes into management decisions and the real-world impacts of the fishery.

Alaska and Kamchatka are the last strongholds of healthy, wild Pacific salmon populations. Establishing a generation of salmon ecologists and fisheries managers that are able to draw from both Russian and American scientific expertise and management tactics will only serve to enhance the ability for both countries to maintain healthy



Russian and American shadow management team agonizes over whether to open their district tomorrow. Photo by John Simeone.

salmon populations. World Wildlife Fund (WWF) provided the funding to bring the two Russian students together with their US colleagues this summer. The WWF seeks to deepen collaborations with Russian and US scientists and managers in order to ensure sustainable management of wild Pacific salmon. In 2016, WWF helped fund an initial exchange between UAF and KSTU by supporting fisheries students and professors (Megan McPhee and Peter Westley from

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Fisheries Training Goes International, continued

UAF and Alexander Bonk from KSTU) to participate in a field-based Alaska-Kamchatka exchange. The four-week exchange provided opportunities for Russian and American participants to study salmon, field research techniques, and fishery management on Alaska's Kenai Peninsula and Bristol Bay watersheds, and on Kamchatka's Kol River, which flows in to the Sea of Okhotsk.

All sides of the KSTU, UAF, UW, and WWF collaboration hope that this partnership will blossom and foster joint research and conservation efforts between students and faculty in the coming years. With new generations of well-prepared leaders working on both sides of the Bering Sea, we can hope for healthy, sustained salmon runs long into the future. 🐟

Marine Debris Funding Opportunities

The NOAA Marine Debris Program is providing several grant funding opportunities for FY2018 related to marine debris. The amount of funding available and the application deadline varies by project type. For more information, contact Peter Murphy (peter.murphy@noaa.gov) or go to <http://marinedebris.noaa.gov/funding/funding-opportunities>.

FY2018 Community-Based Marine Debris Removal

The NOAA Marine Debris Program (MDP) announces grant funding available in FY2018 for the development and implementation of locally-driven, marine debris prevention, assessment, and removal projects that benefit coastal habitat, waterways, and NOAA trust resources. Funded projects will create long-term, quantifiable ecological habitat improvements through on-

the-ground marine debris removal activities. Priority will be given to projects targeting derelict fishing gear and other medium- and large-scale debris. Another focus will be projects that also foster awareness of the effects of marine debris to further the conservation of living marine resource habitats, and contribute to the understanding of marine debris composition, distribution, and impacts.

Funding of up to \$2,000,000 is expected to be available for Community-based Marine Debris Removal Project Grants in Fiscal Year 2018. Typical awards will range from \$50,000 to \$150,000. Applications must be submitted no later than November 1, 2017. For more information, go to <https://marinedebris.noaa.gov/funding/funding-opportunities>. 🐟

Diversity and Inclusion Symposium

The NOAA Fisheries' Alaska Regional Office (AKR), the Northeast Fisheries Science Center (NEFSC), the West Coast Regional Office (WCR), and the Office of Equal Employment Opportunity sponsored and convened a very successful and well-attended symposium at the national American Fisheries Society meeting in Tampa, Florida on August 22, 2017. The symposium was entitled "Harnessing the Power of Diversity and Inclusion: Game Changing Solutions for Enhancing Diversity and Inclusion in the Fisheries Profession."

Speakers from NOAA included Dr. Richard Merrick (retired), Dr. Kaja Brix (AKR), Melanie Okoro (WCR), and Todd Christenson (NOAA Office of Education). There were other speakers representing academic institutions, NGOs, and other Federal and state agencies. The

symposium and the roundtable discussions that followed were facilitated and moderated by Tony Chatman, a well-regarded expert on diversity and inclusion.

In his opening remarks, the incoming AFS president, Steve McMullin, agreed to incorporate the content and recommendations from the symposium in an upcoming edition of the AFS journal *Fisheries* and in his three-year work plan for AFS. A summary of the symposium and recommendations will be provided to NOAA Fisheries Leadership and to the symposium participants when completed.

For more information contact Doug Mecum (doug.mecum@noaa.gov); Shivonne Nesbit (shivonne.nesbit@noaa.gov), or April Croxton (april.croxton@noaa.gov). 🐟

Rejecting Truth or Accepting Falsehood — Which Error Is Worse?

Jim Reynolds

In statistical parlance, Type I error is rejecting something true, while Type II error is accepting something false. Which error is worse? It depends on the priorities of the situation. Take for example, a jury trial. The accused is innocent until proven guilty. *Our legal system would rather free 10 guilty persons than convict just one innocent person.* So, if we convict an innocent person, we are rejecting truth (innocence), a Type I error. However, if we acquit a guilty person, we are accepting something false (innocence), a Type II error. This table summarizes the scenario:

VERDICT			
		Guilty	Not Guilty
T R U T H	Guilty	Correct decision	A Type II error of accepting the falsehood of innocence. Less serious because we free a guilty person.
	Not Guilty	A Type I error of rejecting the truth of innocence. More serious because we convict an innocent person.	Correct decision

In this example, the error of acquitting a guilty person results from reasonable doubt, inadequate evidence, or a well-hidden crime. Convicting an innocent person is the result of being framed by others, bias and pre-conceived guilt in the legal system, or a failure to consider alternative theories to the crime.

What about fisheries management decisions? Let's take a common Alaskan example: closure of Pacific salmon spawning runs to harvest. What are the choices? Keep the run open to harvest or close it to maximize available escapement. *Despite the hardship on fisheries, Alaskan society has decided it is more important to protect salmon stocks through closures.* This table summarizes Type I and Type II errors for management decisions:

DECISION			
		Closure	No Closure
T R U T H	Closure needed	Correct decision	A Type II error of accepting the falsehood that closure is not needed. More serious because we threaten the stock.
	Closure not needed	A Type I error of rejecting the truth that closure is not needed. Less serious because we protect the stock.	Correct decision

Of course, this table offers no help to managers unless probabilities of Type I and Type II errors are known (but difficult to know due to data limitations). Our yes-no decisions are not always easy. In order to do our best, we must know our priorities and remember that outcomes never give black-or-white results. In fisheries, like most life situations, we deal with shades of gray (probabilities).

Jim Reynolds was AFS Alaska Chapter President during 1981-1982. 🐟

AmazonSmile

Please spread this message far and wide! Tell your family and friends, your colleagues, and anyone who shops online at Amazon. Anyone interested in AFS and Alaska's fisheries can now support the AFS Alaska Chapter financially, at no additional cost! When customers shop on AmazonSmile (<https://smile.amazon.com/>), the AmazonSmile Foundation will donate 0.5% of

the price of eligible purchases to the charitable organizations selected by customers.

There is no additional expense to the customer, not a price add-on, and at no cost to the AFS Alaska Chapter. The shopping experience is identical to *Amazon.com* with the added benefit that the AmazonSmile Foundation donates to the charitable organizations selected by customer. 🐟

Student Subunit Happenings

Tessa Minicucci, Student Subunit Representative

The Student Subunit of the AFS Alaska Chapter would like to recognize the following students for defending their theses during the 2017 summer and fall semester: Vincent Domena (M.S., UAF) – “Spatial variability of particulate and dissolved trace metals in Beaufort Sea fast ice;” Mark Nelson (M.S., UAF) – “Fifty years of Cook Inlet Beluga Whale ecology recorded as isotopes in their bone and teeth;” Kristin Neuneker (M.S., UAF) – “Migration patterns and energetics of adult Chinook Salmon *Oncorhynchus tshawytscha* in Alaska rivers;” and Katie Shink (M.S., UAF) – “Characterizing the diet and population structure of lampreys *Lethenteron* spp. using molecular techniques.”

With the fall semester underway, things are beginning to ramp up with student happenings around campus. The Juneau campus took part in their annual fall road clean-up, in collaboration with the Adopt-A-Highway program, 10 students assisted in picking up trash along 3.5 miles of highway around the campus. Juneau students and faculty also represented the UAF College of Fisheries



Tessa Minnucci, AFS Alaska Chapter Student Subunit Representative.



Fairbanks M.S. student subunit Vice President Caitlin Forster holding a minnow trap that was set during the Olnes Pond BBQ. Photo by Chase Jalbert.

and Ocean Sciences at NOAA Fisheries’ Ted Stevens Marine Research Institute (TSMRI) on August 19 to celebrate the 10th anniversary of TSMRI, as well as Ted Stevens Day, which included a special dedication for the late Senator Stevens.

In Fairbanks, at the first meeting of the semester, the AFS student subunit welcomed new students, learned about the AFS and upcoming events, gained student feedback, and learned about Alaska native fishes. There was also a barbeque held at Olnes Pond Campground,

Continued on next page

Student Subunit Happenings, continued

where students set minnow traps in Olmes Pond and the Chatanika River for fish collection. Students cooked food and fished while the traps were soaking and were successful in collecting a Grayling and a Least Cisco for the AFS student fish tank at UAF.

Save the Date: The 2017 AFS Western Division Student Colloquium will take place November 14–17 in McCall, Idaho. The AFS Palouse Student Subunit is excited to host this event at the Quaker Hill Conference Center and will be providing

travel assistance to eligible attendees. This event is a great opportunity to interact with a diverse array of students from all over the west, present current research and receive feedback in a friendly and constructive environment, as well as attend a fisheries stock assessment workshop in R. The AFS Alaska Chapter will also be providing travel assistance to two students, and we encourage all interested students to attend. For more information, contact Tessa Minicucci, afs.alaska.studentsubunit@gmail.com.

New AFS Western Division Student Representative

Britta Baechler was recently elected AFS Western Division Student Representative for 2017–2018. Ms. Baechler is currently pursuing a Master's degree in Environmental Science and Management at Portland State University, but is no stranger to Alaska or AFS. Although growing up in Homer, AK, Britta also spent a significant portion of her

childhood in remote Lake Clark National Park, AK. While pursuing a B.A. in Biology at Lewis & Clark College in Portland, OR, Britta spent summers working for the Alaska Department of Fish and Game in Homer, AK, the National Oceanic and Atmospheric Administration in Seattle, WA, and the Oregon Department of Fish and Wildlife in Lakeview, OR. After receiving her undergraduate degree, Britta spent two years as a Fishery Biologist and four years as the Assistant Area Management Biologist for shellfish in the Bering Sea and Aleutian Islands off Alaska. Britta then transitioned to tropical marine resource management for three years, serving as a NOAA Coral Reef Management Fellow and Marine Protected Area Coordinator for the U.S. territory of the Commonwealth of the Northern Mariana Islands. Ms. Baechler has been involved with AFS since she was a Hutton Junior Fisheries Biology Program Scholar in high school, and she looks forward to representing and serving AFS students in 13 U.S. states, the Canadian provinces of British Columbia and the Yukon Territory, Mexico, and U.S. Pacific territories and protectorates.



Britta Baechler, new AFS Western Division Student Representative, with a sampled razor clam.

ONCORHYNCHUS

Oncorhynchus is the quarterly newsletter of the Alaska Chapter of the American Fisheries Society. Material in this newsletter may be reprinted from other AFS websites.

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

Meetings and Events

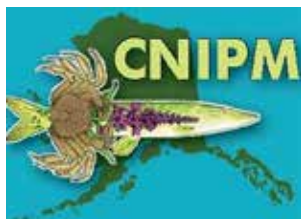


Smoked Seafood School

October 12–13, 2017: This workshop for home or commercial applications will be held in Kodiak. For more information, see <https://seagrant.uaf.edu/map/workshops/2017/smoked-seafood-school/>.

Alaska Invasive Species Workshop: The Legacies of Biological Invasions

October 24–26, 2017: This workshop will be held in Anchorage. For more information, see <http://www.uaf.edu/ces/pests/invasivespecies/>.



Alaska Seafood Processing Leadership Institute



November 13–17, 2017: This training targeting mid-level managers in a seafood plant will be held in Kodiak. For more information, see <https://seagrant.uaf.edu/map/aspli/2017/>.

Western Division of the American Fisheries Society Student Colloquium



November 14–17, 2017: This Meeting will be held in McCall, ID. For more information, see <http://palouse.fisheries.org/2017-wdafs-student-colloquium-4/>.

2017 Alaska Young Fishermen's Summit

December 6–8, 2017: This summit providing training, information, and networking opportunities for commercial fishermen early in their careers will be held in Anchorage. For more information, see <https://seagrant.uaf.edu/map/workshops/2017/ayfs/>.



Alaska Marine Science Symposium

January 22–26, 2018: This symposium will be held in Anchorage, AK; abstract submission deadline is October 5, 2017. For more information, go to <https://www.alaskamarinescience.org/>.

Pacific Fisheries Technologist Conference

February 5–7, 2018: This 69th annual conference will be held in Girdwood. For more information, see <http://www.pftfish.net/>.



Tenth International Conference on Climate Change: Impacts & Responses



April 20–21, 2018: This conference will be held in Berkeley, CA. For more information, go to <http://on-climate.com/2018-conference>.

Western Division Meeting of the American Fisheries Society

May 21–25, 2018: This meeting will be held in Anchorage, AK, hosted by the AFS Alaska Chapter. For more information, see <https://wdafs.org/meetings/annual-meeting/>.



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