

Tributary

The newsletter of the Western Division of the American Fisheries Society since 1975

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Credit: BLM Alaska

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President: Jackie Watson **Vice President:** Todd Pearsons
Sec.-Treasurer: Tracy Wendt **Past-President:** Brian Missildine **President-Elect:** Daniel Dauwalter
Student Representative: Britta Baechler **Tributary Editors:** Niall Clancy & Tim D'Amico

PRESIDENT'S HOOK

WDAFS Still Active During Winter

These short, cold winter days sure make me want to curl up with a good book and fall asleep. I hope all of you are getting the rest and relaxation you deserve and enjoying time with your friends and family this holiday season.



WDAFS 2018 Retreat, Antelope Island, UT: from left – Tracy Wendt, Steve Brumbaugh, Gabe Temple, Jackie Watson, Eric Fetherman, Todd Pearsons, Paul Thompson, and Britta Baechler.

good shape, but your current ExCom has committed to working with the Financial Sustainability Committee to come up with a Financial Sustainability plan. This will help direct how much the division should be saving annually, how much the division should be spending to benefit members each year, and aid in generating a balanced budget.

Fortunately, I've got an amazing team of dedicated people who are keeping me focused and not allowing me to get lazy this winter. For starters, there is an incredible group of folks, led by your Cal-Neva officers Rob Titus, Steve Brumbaugh, and Laurie Earley, hard at work planning for the AFS/TWS meeting in Reno. Anticipated attendance is between 3,000 and 5,000 fisheries and wildlife professionals and students – what a great opportunity to expand your network and share your accomplishments! I encourage everyone to find a way to participate at this meeting. Please consider hosting a symposium or submitting a presentation and we are always looking for volunteers, student presentation judges, and mentors. The call for Continuing Education workshops and Symposia opened on Dec. 14th. Abstracts will be accepted Feb. 19th. Please see afstws2019.org for more details.

Britta Baechler, our WD student representative, recently hosted a successful student colloquium in Corbett, OR. The colloquium is an event that is organized entirely by students, for students. Britta and her crew, solicited donations, contracted a venue, hosted a workshop, and pulled off a great event that allowed undergraduate and graduate students an opportunity to share their research, build their communication skills, and broaden their networks. Thanks to everyone who contributed to this meeting and please read more about the event in this issue of the *Tributary*. Britta has also put significant effort towards updating our WD Procedures Manual so that future student reps are well informed of their duties. I have had the pleasure of working with several very dedicated and talented student reps, and like them, Britta has kept the bar high – thank you!

Your WD Executive Committee met here in Salt Lake City the first weekend of November for our midyear retreat. The meeting started with an amazing field trip, organized by UT Chapter President Paul Thompson, to Antelope Island State Park. The bison roundup and Least Chub habitat tours were awesome! During the retreat we approved the annual budget that included funding two book projects; increasing funding for small project grants to \$7,500; \$6,000 in scholarships; and \$11,500 in travel grants for the 2019 Reno meeting. Please check the WD website often to take advantage of these opportunities. Financially the Western Division is in

The ExCom has also been discussing communication quite a bit lately. We recognize that people receive information in a variety of ways and as a group we could do a better job of disseminating that information. For those of you who read this newsletter, please be ready to provide input, in a future survey, to let us know how we can improve the *Tributary*. We are also currently working to improve our list serve and updating our website. In addition, Western Division would like to have a regular presence on multiple social media platforms. If you have an interest in communication please step forward, we can use your talents as we make progress towards increasing and improving our communication capabilities.

Finally, I know that all our Chapters are gearing up to host their annual meetings this spring. If you have any opportunity to step outside of your home chapter and attend another chapter's meeting, please do so! I am always excited to learn how the different chapters handle, highlight, and conduct their business. Arizona-New Mexico successfully hosts a joint meeting with TWS every year expanding the reach of their chapter by broadening the audience. Oregon Chapter has some incredible diversity and inclusion initiatives and unique ways to benefit their student members. Cal-Neva has some impressive student subunits who are actively engaging their local communities. This year I'm excited to see Utah Chapter host a Lake Sucker Summit with colleagues in Nevada and Oregon. And I can't wait to see how Colorado-Wyoming's measures to re-engage their aquaculture folks turns out. By the way, one of the perks of being a Western Division officer is getting to travel to the various Chapter meetings. If this sounds like something you'd enjoy, you might consider running for office.

And if you find time to curl up and read a book this winter, I highly recommend Craig Johnson's Longmire mysteries and *Not Between Brothers* by David Marion Wilkinson. Happy Holidays!

Jackie Watson
WDAFS President
Utah Division of Wildlife

GUEST EDITORIAL

What's Up With WOTUS?

On December 11th, the US Environmental Protection Agency (EPA) and the US Army Corps of Engineers (USACE) released a proposed rule that regulates Waters of the US (WOTUS) to redefine the scope of Clean Water Act protections for certain streams and wetlands. This would replace the 2015 Clean Water Rule and seeks to remove protections for headwater and seasonally-flowing waterways. In Montana, where the west half holds the source of some of the US's major rivers like the Missouri and the Columbia; and the east half has streams that dry out before the fourth of July-that would leave a lot of us hanging.

The twitter version of the 253 pages of the proposed rule, is that many headwater streams, seasonally-flowing streams, and isolated ponds or wetlands would no longer be subject to the Clean Water Act. The changes in what is or is not jurisdictional (e.g legally recognized as a Water of the US) would reduce protections from actions such as discharge into or placement of fill or bank stabilization on these waters. An important "so what" aspect is that the new rule dismisses the importance of these waters for maintaining the integrity of downstream waters. We all know that if you make changes to a watershed in one area, that often affects areas up and downstream. This rule dismisses that premise and ignores the scientific basis for the protections put in place under the 2015 rule.

AFS convened a group of fisheries experts earlier this year to develop a manuscript describing the scientific evidence for the importance of headwater streams and the potential effects of adoption of this proposed rule on fish and fisheries. This scientific evidence will be published in *Fisheries and submitted to the EPA as part of AFS' comments to the new rule.*

AFS joined the Consortium of Aquatic Science Societies in a statement urging the agencies to consider the far-reaching implications of a narrower rule. The CASS statement notes,

"More than a half century of scientific research has unequivocally demonstrated that the physical, chemical, and biological integrity of "traditionally navigable" waters fundamentally depend on ephemeral, intermittent, and perennial headwater streams, as well as the myriad associated lakes, wetlands, and off-channel habitats."

Scientists and managers who deal with water quality, fisheries, wetlands, and impacts to waterways have been awaiting the rule. Should it become final, a fisheries biologist in Montana and other places in the west could see the following changes:

- Rivers and streams that contribute perennial or intermittent flow to downstream traditional navigable waters in typical year are jurisdictional under the proposal; no ephemeral features are considered jurisdictional under the proposal.
- Isolated lakes and ponds were considered adjacent waters together with isolated wetlands under the expanded definition of "neighboring" in the 2015 Rule. Under this proposed rule, fewer lakes and ponds may be jurisdictional than under the 2015 Rule because:
- Under the agencies' new proposal wetlands must either abut jurisdictional waters or have a direct hydrological surface connection to jurisdictional waters in a typical year to be jurisdictional themselves; wetlands physically separated from jurisdictional waters by

a berm, dike, or other barrier are not adjacent if they lack a direct hydrologic surface connection to a jurisdictional water in a typical year (EPA Fact Sheet).

Most fisheries biologists recognize the value of tributary habitat and associated wetland habitats to fish and wildlife, and the origins and maintenance of almost 30 years of "no net loss" of wetlands policy in the US are firmly based on this valuation. In addition to the changes to stream protection, the proposed rule would make it much easier for wetlands to be lost without requiring mitigation for that loss. This is a prime example of how policy can and will affect your ability to manage fisheries effectively. Even with Montana's Steam Permit system (including the 310 and SPA 124 permits and others) this new rule would potentially reduce the regulation of discharge and fill into streams and wetland areas. Waters in states that do not have similar stream protection laws would be at even higher risk.

The science is being dismissed. If you would like to let the decision makers know that, as a scientist, you disagree with the proposed rule, you can submit a comment.

Some of the most chilling aspects of this proposed rule are the types of comments the agencies state that they are seeking. Some of the suggested comment topics include:

- Should tributaries be limited to perennial flowing waters only (exclude intermittent streams)?
- Should tributaries be defined by flow level- with a suggested average annual flow of 5 cfs or more?
- Should aerial photos be used to determine whether a stream is perennial?
- Does a break in flow in a channel make a stream not a tributary? (think about the Colorado River on this one).

If you wish to comment, the agencies will take comment on the proposal for 60 days after publication in the Federal Register. The agencies will also hold an informational webcast on January 10, 2019, and will host a public listening session on the proposed rule in Kansas City, KS, on January 23, 2019. Additional information on both engagements is available at <https://www.epa.gov/wotus-rule>

Comments on the proposal should be identified by Docket ID No. EPA-HQ-OW-2018-0149 and may be submitted online. Go to <https://www.regulations.gov> and follow the online instructions for submitting comments to Docket ID No. EPA-HQ-OW-2018-0149

References:

Link to proposed rule:<https://www.epa.gov/wotus-rule/revise-definition-waters-united-states-proposed-rule>

EPA Fact Sheet on the Proposed WOTUS Rule: www.epa.gov/sites/production/files/2018-12/documents/factsheet_key_changes_12.10.0.pdf?utm_source=Waterkeeper+Movement+Internal+List&utm_campaign=00696ff4f0-EMAIL_CAMPAIGN_2018_12_11_08_29&utm_medium=email&utm_term=0_a6636d597b-00696ff4f0-73131493

Leanne Roulson, AFS Second Vice President

ANNUAL REPORT

Western Native Fishes Committee

Howdy howdy from native fish land!

As I shake the dust from the old keyboard and prepare for the long winter drudgery of driving a desk for a living, I reflect back on a productive field season and enjoyable fall hunting season. I hope you all got a chance to get your hands wet as well, and are in the midst of putting together plans to make more positive strides for the fishes and critters that spark your passion. Here with the Western Native Fishes Committee, we think that passion helped drive continued success at pursuing our mission as a group, and we look forward to next year already.

This year marked the completion of the Cutthroat Trout taxonomic revision project that has been on our to-do list since I took over as one of the co-chairs for WNF back in 2015. "Cutthroat Trout Evolutionary Biology and Taxonomy", edited by Patrick Trotter, Pete Bisson, Luke Schultz, and Brett Roper is currently in press through AFS and would make a wonderful holiday present to the fish nerd, budding taxonomist, brooding evolutionary biologist, or really anyone in need of a more than adequate paperweight on an already disheveled desk (present company included!). All jokes aside, it's been meaningful to wrap up that project and I certainly learned a lot during the few years it took to pull together. We've received generally positive feedback on the book, but we acknowledge that disagreement and discourse are part of the scientific process and recognize the dynamic nature of taxonomy in light of the ever increasing data and insights into Cutthroat Trout distributional patterns. A big thanks goes out to the editors and authors, as well as Nate Cathcart, who helped greatly to shake the money trees and get the book over the financial hurdle to publication.

This year in Anchorage we again hosted a successful full day symposium featuring talks on a variety of Western fishes, from Stonecat on Colorado's Front Range to fishes of the Arizona desert to Sheefish in Western Alaska. A big thanks goes out to all the speakers as well as Nate Cathcart and Tim D'Amico for helping organize the symposium and serve as moderators. One of the perks of a meeting in Alaska, in addition to some great friends that I have up there, is getting a chance to sample some of the local fisheries resources.

If you didn't get a chance to get to Anchorage, the good news is that there will be another opportunity at the Reno meeting next September. Because this will be a parent society meeting as well as a joint meeting with The Wildlife Society, WNF will be helping to organize a "Native Freshwater Fishes Conservation Symposium" that we hope will help folks cross pollinate from the different watersheds across the country. Can you imagine a world where someone studying Snail

Darters in Tennessee can hab-knob with someone studying Least Cisco in southwest Alaska? Get yourselves to Reno for the 5th annual WNF symposium! I personally am pretty hell bent on talking Hellbenders with some non-fish aquatic folks. Get in touch with Nate Cathcart, Tim D'Amico, Phil Branigan, or myself if you have any presentation ideas.

The completion of the Cutthroat Trout book, it allowed us to give a little more time and effort towards dusting off the Western Native Fishes database and making moves towards updating some of the data that is currently contained there. Admittedly, this will likely be a fairly lengthy process over the course of several years, but we're hoping that by 2020 we can have a good grasp on the quickest way to update data in the database, and will be ticking off some of the fishes on the list. We're always welcome to additional expertise with this, so if you'd like to lend a hand (furnish a fin, if you will) please let me know and we'll turn you loose.

With that, I think that about covers everything. I'll leave it there and hope to hear from you more in the coming year. For the time being, I'll wish everyone a merry fish-mas, happy holi-Dace and a happy New Year.

Luke Schultz
WNF Committee Co-Chair
Oregon State University



WNF co-chair Luke Schultz and WDAFS president-elect Dan Dauwalter enjoying a change of scenery from their typical small non-game fish in the Mountain West to the high seas of Alaska chasing King Salmon. It's a good day to be a fish biologist!

STUDENT REPRESENTATIVE REPORT

Student Colloquium a Success!

The WDAFS Student Colloquium was held November 15-18, 2018 at the Menucha conference center in Corbett, Oregon, located about 40 minutes East of Portland. The Colloquium, held annually, serves as an opportunity for students throughout the Western Division to interact with one another, share research, attend workshops and field trips related to their fields of work. It is organized and run entirely by students and is designed to foster a network among fisheries students that will last well into their careers. This year, the event was jointly hosted by Oregon State University and Mt. Hood Community College Student Subunits. There was a great turnout, with a total of 29 undergraduate and graduate Western Division students traveling from California, Washington, Alaska, Idaho and Oregon to attend!

The first full day of the Student Colloquium focused on a workshop led by Su Kim and Alix Smith of NOAA to provide students with tips and tricks to create engaging infographics for presentations and manuscripts. Students then spent three hours designing their own infographics based on their research or interests, under the guidance of Su and Alix. There were some truly amazing products that came out of the work session! The following day, students had an opportunity to practice their oral presentation skills and receive feedback on their thesis or dissertation project design, re-

search methods, and delivery. Eleven students delivered 15-minute talks, which ranged in topics from myxozoan fish parasites, to salmonid movement and habitat uses, local ecological knowledge of groundfisheries, tidal marsh community structure and more. On the final day of the event, students participated in informative field trips to the Cascade and Bonneville fish hatcheries, and were able to learn about the intricacies of rearing salmonids. They even met the legendary Herman the sturgeon!

The 2018 WDAFS Student Colloquium strengthened relationships among student participants, and broadened their knowledge of regional fisheries research and issues. Through extensive fundraising and generous financial donations from sponsors, venue rental, food, and the workshop were provided to students at a cost of only \$25 plus travel to the venue. The students are extremely thankful to all of the event sponsors, and we look forward to seeing familiar faces as well as new faces at the 2019 Colloquium!

Britta Baechler
WDAFS Student Representative
Portland State University



AFS Sponsors:

WDAFS, Palouse Subunit, and CO-WY, UT, CA-NV, OR, AK, WA-BC, & MT Chapters

Attendees of the 2018 WDAFS Student Colloquium

CHAPTER UPDATE

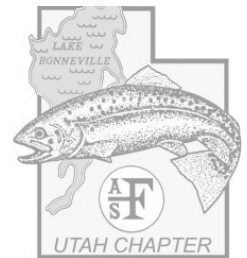
It is Time to Promote Our Success!

Often, we don't take the time to promote the good work that we as fisheries professionals are accomplishing. This is a shame because we are all making a positive difference for our local fisheries and our partners want to hear where we are having success. I work for the Utah Department of Natural Resources and in Utah, we rely heavily on partner collaboration in everything that we do. Our motto is "Partnerships are the key to conservation effectiveness and trust is the glue that holds these partnerships together".

Recently, we have had many positive conservation successes directly linked to collaborative efforts with our amazing partners and we decided that it was time to promote some of these successes. I was one of many that helped pull together a publication we titled - The Power of Proactive Conservation: How Recent Partnerships and Successes are Keeping Utah Species Off the Endangered Species List. I encourage you to look at this publication (<https://udw-dev.dwr.utah.gov/pdf/WAP/follow-up-report.pdf>) and continue to think of and find ways to promote the great work that you do!



Paul Thompson
UT AFS President
Utah Division of Wildlife



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Oregon Chapter of the American Fisheries Society

55th Annual Meeting

"At the Nexus of Science and Restoration: what do we know"



**The Riverhouse,
Bend, Oregon
March 4-8, 2019**

The vision of the meeting is to foster an environment to share what we have learned through science and practice about restoration planning and design.

- Plenary speakers: Dr. John Kitzhaber, Former Oregon Governor, who was instrumental in the development and implementation of the Oregon Plan for Salmon and Watersheds; Mr. Louie Pitt tribal member and Director of Governmental Affairs for the Confederated Tribes of the Warm Springs who will share his perspective about habitat restoration; Queta Gonzalez, Director of the Center for Diversity & the Environment who will speak to the topic of diversity in fisheries.
- Two workshop offerings: Aquatic Resources GIS Workshop and; Diversity Equity and Inclusion.
- Technical Sessions: Large-scale/Long-term Restoration Plan Monitoring; Human Dimensions; Native Fish; Hatchery Research and Innovations; Re-Wilding or Passive Restoration; Traditional Ecological Knowledge; Lampreys; Local Topics- Deschutes; Genetics in Fish Management and many more!

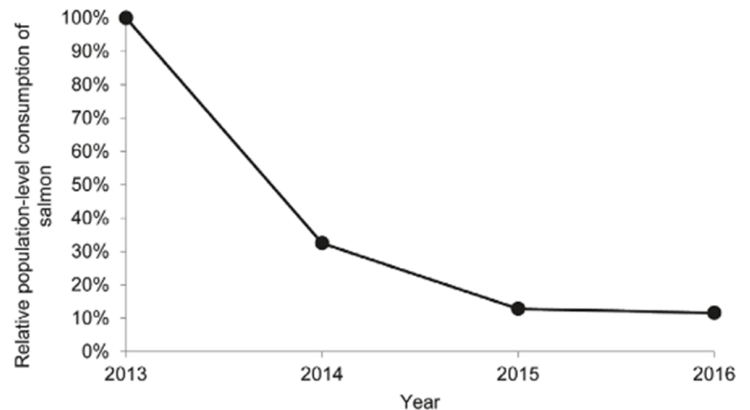
Your suggestions and assistance are welcomed and encouraged. Please contact Program Co-Chairs

Quantifying the Net Benefits of Suppression: Truncated Size Structure and Consumption of Native Salmonids by Invasive Northern Pike in an Alaska Lake

Michael B. Courtney, Erik R. Schoen, Andy Wizik, and Peter A. H. Westley

Abstract:

Predation by nonnative Northern Pike *Esox lucius* is implicated in the decline of native salmonid *Oncorhynchus* spp. populations in south-central Alaska. In response to the ongoing invasion of Northern Pike, eradication and suppression programs are under way in several severely impacted watersheds throughout the region. As previous research indicates that owing to the particular composition of their diet small Northern Pike may have disproportionate impacts on juvenile Pacific salmon *Oncorhynchus* spp. (hereafter, “salmon”) populations, there is a potentially important trade-off between overall predator reduction and truncation of the size structure of the population. We examined this trade-off using bioenergetics models and field data collected during a 5-year Northern Pike suppression program in Shell Lake, a heavily impacted Sockeye Salmon *O. nerka* nursery lake in the Susitna River drainage of south-central Alaska. Our results confirm that Northern Pike of all sizes consumed salmon and that on average salmon made up a smaller proportion of the diets of large Northern Pike. However, large Northern Pike consumed more salmon biomass per capita than smaller Northern Pike, according to the bioenergetics model incorporating size-dependent metabolic needs. Compared with the period prior to initiation of suppression efforts in 2013, Northern Pike consumed 68% less salmon in 2014, 87% less in 2015, and 88% less in 2016. Despite the fact that the catches are now dominated by smaller and younger Northern Pike, the suppression program has been highly effective at reducing the consumption of salmon in Shell Lake, with stark reductions in the catch of all size- and age-classes. Importantly, the reduction in the abundance of the oldest (age 5) Northern Pike to near zero was a key element in this reduction in predator consumption. Therefore, we conclude that suppression strategies targeting a broad range of size-classes of Northern Pike are more likely to be effective at reducing the consumption of salmon than strategies targeting only smaller size-classes.



Total consumption of salmon by the entire Northern Pike population in Shell Lake. Values for consumption of salmon were estimated by multiplying the per capita consumption of salmon by an average Northern Pike in each age-class, by the relative abundance of that Northern Pike age-class in each year. Relative consumption is scaled so that consumption by all age-classes in 2013 = 100%.

Citation:

Courtney, M. B., E. R. Schoen, A. Wizik, and P. A. H. Westley. 2018. Quantifying the net benefits of suppression: truncated size structure and consumption of native salmonids by invasive Northern Pike in an Alaska lake. *North American Journal of Fisheries Management* online ahead-of-print.

CALL FOR SYMPOSIA

2019 AFS Annual Meeting

The American Fisheries Society extends a warm invite to attend the 149th AFS Annual Meeting in Reno, Nevada, Sept. 29–Oct. 3, 2019. This year The Wildlife Society and American Fisheries Society will come together for the first-ever joint national conference of these two organizations. The event will likely be the largest gathering of fish and wildlife professionals ever, and will provide unprecedented opportunities for science-sharing and potential collaboration. At this conference, we hope to give members opportunities to learn, connect, and engage in ways that will help propel their careers forward and inspire even better results in the areas of wildlife and fisheries science and management.

Proposals for **Symposia** must be submitted by **February 1, 2019**.

afstws2019.org



Student Units on Social Media:



Important Dates

January 3-6

Canadian Conference for Fisheries Research
London, ON

January 28-February 1

Montana Chapter Annual Meeting
Billings, MT

February 1

Deadline to submit Cont. Ed. Workshop Proposals for AFS Annual Meeting in Reno, NV

February 7-9

Arizona-New Mexico Chapter Annual Meeting
Albuquerque, NM

February 19

Deadline to submit symposium proposals for AFS Annual Meeting in Reno, NV

February 26-28

Colorado-Wyoming Chapter Annual Meeting
Fort Collins, CO

March 4-8

Oregon Chapter Annual Meeting
Bend, OR

March 6-8

Idaho Chapter Annual Meeting
Boise, ID

March 12-14

Utah Chapter Annual Meeting
Provo, UT

March 19-21

Alaska Chapter Annual Meeting
Sitka, AK

29th Annual
Idaho Water Quality Workshop
January 29 - 31, 2019
BSU Student Union Building, Jordan Ballroom
Boise, Idaho

Invitation

Please join us to discuss Idaho water quality results, methods and trends.

Since 1990, this conference has provided a forum for discussion of Idaho water quality, and an outstanding opportunity to network and share information.

Attendance is **free**. Registration is required.

Visit www.deq.idaho.gov/water-quality-workshop to:

- register
- learn about the speakers
- review the agenda
- get hotel and parking info