



Western Division American Fisheries Society

The Tributary

A Newsletter of the Western Division of the American Fisheries Society, vol. 39, no. 2, July 2015

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President’s Hook

Hello Western Division AFS members!

Spring has changed to summer (finally in Pinedale WY that is) and the hectic field season has begun. At least for us in Pinedale, we try to cram in as much work as possible in our very short field season before the snow starts to fall again. Summer is a busy time for field biologists. Yet, even with all the long days in the field, AFS

officers and committee members are still willing to find hours during the week to dedicate to AFS.

It is this dedication that is shaping AFS2015 quite nicely. For example, there are 140 sessions with 36 concurrent sessions just about every day. Organizing this many sessions is not a simple task. The topics are diverse and certainly international. Some of the topics include ethical science in the face of politics, tools for analyzing environmental

impacts to the aquatic organism, various topics on salmon and trout, the role of our stakeholders in management and conservation, native nongame fish species and so much more, as would be expected with a contribution of over 2,500 abstracts. There is something for everyone.

Continuing education courses are quite diverse with 11 classes being offered, including the AFS workshop “Leadership at all levels in AFS”. I highly recommend this course for current Chapter officers or others interested in some day being more involved with AFS.

A few other items occurring at Portland include the AFS Governing Board meeting on Saturday at the Portland Hilton. The AFS Governing Board meeting is open to all Western Division Chapter Presidents. However it is recommended that you let AFS staff or I know in advance if you plan to participate in this meeting. This meeting will provide the Chapter Presidents with an overview of the happenings of AFS, including the progress on the AFS Communication Plan.

The Western Division of AFS business meeting will be held on Tuesday August 18 at the Convention Center from 12:00 to 1:15 pm. Lunch will be provided to those attending the meeting. The agenda will include but not limited to an overview of the completion of the President’s plan of work, awards, review of the Western Division AFS procedure manual, updates to the Western Division Bylaws, and more.

Another opportunity to learn more about various aspects of fisheries is through AFS Sections. Sections are units of AFS that are intended to advance the AFS’s objectives within various disciplines. Some of the sections within AFS include the international fisheries, fisheries management, fish culture, fish health, equal opportunity, and so many more. Section meetings occur at the annual AFS meeting, usually

a few days prior to the first meeting day. They provide members an excellent opportunity to get involved with AFS. An opportunity I wish I had known when I first started my career in fisheries. I recommend you check out a section meeting while in Portland. For more information on AFS sections and AFS2105 meeting visit <http://fisheries.org/sections> or <http://2015.fisheries.org/>.

And finally, AFS provides an excellent opportunity for us to share our research and management information, listen to others, diversify our ideas and approaches, and support our fellow colleagues. For those new or old to AFS, there are many ways to be involved with the Society. Step up and participate at your Chapter, Division or Society level by joining a committee, mentor a young professional or student, or join an AFS section. Become involved and take advantage of AFS!

Newsletter Items Needed!

The Western Division of the AFS wants to know what *your* research group, management agency, chapter, student subsection, company, *whatever* is up to! Feel free to submit brief summaries of your research, new technologies, or even book reviews of fisheries or fisheries habitats to the newsletter editor.

Email your contributions to:

westerndivnewsletter@gmail.com

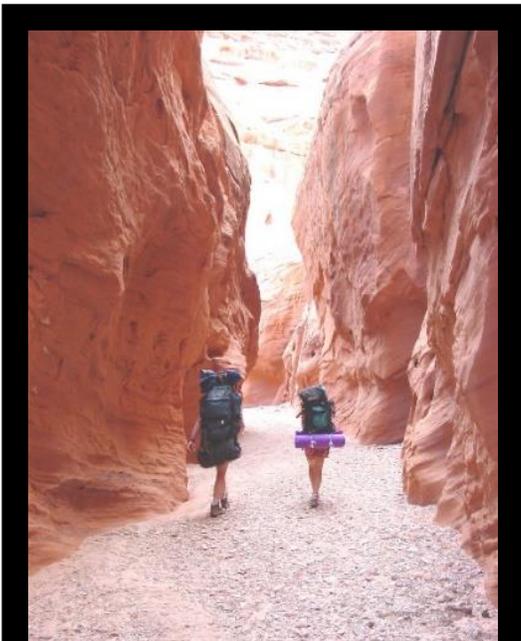
Thanks!

Western Division AFS Chapter Challenge!

As a member of the Fund Raising Committee for AFS2015 I would like to propose a Challenge to each Chapter. And yes, there is an incentive to participate!!

I am asking for assistance from Chapter Officers to approach their members for a silent auction donation to AFS2015 in Portland OR. These donations are typically a donated trip or a gift certificate (fishing trip, cast and blast trip, whitewater rafting, tour). Use your imagination!

As an added incentive to donate a great trip that highlights your Chapter, whichever Chapter's donation that is auctioned off for the highest amount, will receive 50% of the proceeds from that sale.



An example donation, donated by Eric Wagner, Utah Chapter of AFS: Guided hiking trip to the slot canyons of the Grand Staircase-Escalante national Monument. The trip is for 3 days of guided hiking in the canons of the National Monument for a party of two.

To participate, please send a single page word document describing the trip, gift certificate or experience to hilda.sexauer@wyo.gov. Be sure to include the Chapter you belong to with your submission.

And take a few minutes to visit the AFS website <http://2015.fisheries.org/events/silent-auction/> for examples of trips that have already been donated

Thank you and I look forward to bidding on many unique trips our Division has to offer!!

-Hilda

Underwater Nevada: Connecting Fish, Water, and People

Terry Lee Wells, Nevada Discovery Museum

Dr. Zeb Hogan of the University of Nevada, Reno is working with the Terry Lee Wells Nevada Discovery Museum (The Discovery) to develop a new museum exhibit called *Underwater Nevada: Connecting Fish, Water and People*. *Underwater Nevada* is designed to introduce museum visitors to the freshwater fish, and accompanying aquatic habitats, of arid Nevada.

The primary activities surrounding this exhibit include: Fieldwork and content development in collaboration with Dr. Hogan surrounding Nevada's native freshwater fish species, leading to the creation of a photographic exhibit piece for The Discovery; and additional context and content development around "Water in the West," with a special focus on Nevada's heritage tied to conservation efforts in the state.

The focus of the fieldwork will be to obtain and edit 18-24 large format underwater prints of Nevada's fishes, aquatic natural history and habitats based on fieldwork capturing Nevada's native freshwater fish species. The approximately 600 square-foot exhibit will utilize a 12' x 30' curved wall in The Discovery's Nevada Stories gallery as a focal point to fabricate and display the high resolution, underwater imagery from the field of fish species from around Nevada, as well as content on text panels.

Our fish subjects for *Underwater Nevada* may include the Lahontan cutthroat trout, bull trout, cui-ui, White River springfish, Chinook salmon, as well as Colorado River fishes, such as the Colorado pikeminnow, razorback sucker, and humpback chub – three of Nevada’s most endangered species. Topics addressed within *Underwater Nevada* will include fish ecology and conservation, the challenges of water quality and quantity in a high desert landscape; how humans, plants and animals co-exist in these environments; and what is being done to restore and recover these freshwater landscapes.

Underwater Nevada is designed to promote the AFS mission and WDAFS objectives by educating students and the general public about fisheries and aquatic science. By exposing young people to fish-related educational content, we hope to create enthusiasm around fisheries science and promote the development of fisheries professionals. The Discovery and Dr. Zeb Hogan will work together to promote science-based management, conservation and understanding of fisheries resources by focusing on northern Nevada’s freshwater fish, watershed health, water quality, and regional conservation issues.

Underwater Nevada’s opening is intended to coincide with The Discovery’s hosting of a National Geographic traveling exhibition, *Monster Fish: In Search of the Last River Giants*, opening to the public on November 14, 2015. The Discovery’s *Underwater Nevada* exhibit will therefore capitalize on a museum-wide focus on fish and fisheries science in late 2015 through 2016. It will be viewed by an estimated 180,000 people in its first year, elevating the visibility of fisheries issues to a broad

audience.

The exhibit would not be possible without WDAFS sponsorship and provides the potential for generating revenue to the division by increasing participation in the 2016 WDAFS conference in Reno.

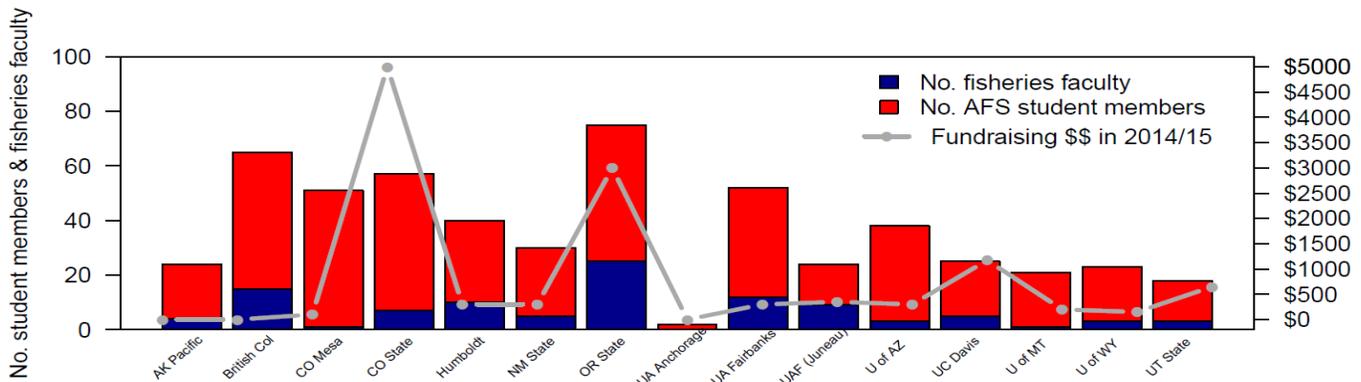
Students Spill Fundraising Secrets

Jane Sullivan, WDAFS Student Representative

This spring we asked student subunits in the Western Division to complete a survey about student metrics (e.g. number of student members, fisheries faculty, annual fundraising) and fundraising strategies. Fifteen subunits responded and here is what we found.

The top fundraising subunits include Colorado State University, Oregon State University, and University of California Davis. Subunits employ a wide range fundraising strategies, including:

- T-shirt, pint glass, sticker, hats, cozies, and bake sales
- Donations, raffles, or ticket sales at organized events (e.g. bowling nights, fish trivia night, film screenings, pizza nights, and other student social events)
 - One local bar in California donates 10% of proceeds to their subunit



Western Division AFS student subunit metrics by university. Stacked bar graph shows number of student members (red) and fisheries faculty (blue) on the primary y-axis. Grey line shows fundraising dollars (USD) on the secondary y-axis.

- Utah State University is partnering with Trout Unlimited to host a Film Festival
- Silent auctions at the state chapter meetings
- Donations from the state chapter
- Running A/V at state chapter meetings
- Subunit membership fees
- Fishing derbies
 - Colorado State University earns up to \$2400/semester at their fishing derby!
- Grants

A big congratulations to these subunits! Thank you for sharing your fundraising secrets with other students. If your Western Division subunit has additional creative fundraising strategies, or if you'd like to submit a comment or correction, please contact your WDAFS Student Representative Jane Sullivan at wdafs.student@gmail.com.

Hatchery vs. Wild Salmonid Symposium Review

Troy Brandt

Reprinted from the Piscatorial Press from the Oregon Chapter of the AFS

Hatchery vs. Wild Salmonid Symposium was held January 22-23, 2015 at the Hilton Portland in Portland, Oregon. Over 250 registrants participated in the symposium which included 26 speakers from state and federal fisheries agencies, Columbia Basin tribes, universities, and the private sector. Symposium topics centered on hatchery fish performance and genetics, the influence of hatchery fish on wild populations, managing hatchery and wild fish, and hatchery reform. Attendees came from six states and hailed from twelve different sectors including Tribes, fishing organizations, state and federal fisheries management agencies, municipalities, utilities, and conservation organizations, among others.

The symposium opened with a keynote address from David Noakes, professor and senior scientist from Oregon State University and the Oregon Hatchery Research Center (OHRC). Dr. Noakes reviewed historical ecosystem changes associated with the Industrial Revolution and humankind's transition from an agrarian to industrial society and the benefits and costs associated with development. Dr. Noakes framed the debate of hatchery and wild fish, highlighting scientists' increasing understanding of how hatchery operations imprint hatchery fish during early development.

In the first Hatchery Fish Performance and Genetics session, presenters focused on field and laboratory investigations that assessed hatchery fish fitness and selection effects, genetic composition of hatchery strains, and straying of hatchery fish. The later session included results from the OHRC highlighting phenotypic variation in hatchery rearing practices, hatchery spring Chinook salmon performance in the Willamette Valley, and growth and survival of hatchery Columbia River Chinook salmon in the Northern California Current.

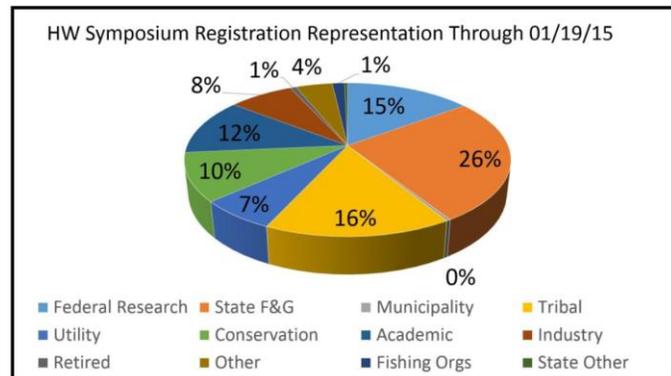
The Influence of Hatchery Fish on Wild Populations session, began with updates on reintroduction programs including coho reintroduction in the Upper Columbia River, and rebuilding Snake River sockeye salmon populations in the Sawtooth Valley. The afternoon concluded with a review of both genetic and ecological summaries of hatchery and natural-origin Chinook salmon in the Grande Ronde River, Imnaha River, and Hood River basins. Papers were also presented on a supplementation program with natural-origin broodstock in Johnson Creek and intraspecific competition between hatchery and wild fish. Matt Falcy with ODFW provided a well-received tutorial on the "Golden Triangle of Genetic Goodness" and the results of a viability model predicting hatchery and wild population responses to environmental change.

The half-day Friday symposium included two sessions titled Managing Reality: Co-existing Wild and Hatchery Populations and Hatchery Reform:

Where Do We Go From Here? The first group of presentations covered hatchery programs managed by the Nez Perce Tribe, Oregon Department of Fish and Wildlife, Yakama Nation, and Idaho Department of Fish and Game. Gabe Temple with Washington Department of Fish and Wildlife (WDFW) reviewed ecological interactions and potential effects of hatchery fish on anadromous and resident species in the Yakima River system.

The four presentations in the final session focused on hatchery reform implemented by the U.S. Fish & Wildlife Service and the Colville Confederated Tribes. Brent Hall with the Confederated Tribes of the Umatilla Indian Reservation reviewed federal government treaty obligations to Tribes and the role of hatcheries in meeting fisheries' obligations. The final presentation by Brian Missildine provided an update on WDFW's state-wide steelhead management plan and the state's response to the Wild Fish Conservancy lawsuit regarding Chambers Creek hatchery steelhead.

Each session was followed by a panel discussion that included interactions between the audience and presenters. An evening reception following the first day of the symposium also facilitated discussions on the hatchery-wild topic. Symposium sponsors included Oregon RFID, Bio-Oregon, ODFW, Cabela's, and River Design Group, Inc. Thanks to our sponsors, presenters, and attendees for making the Hatchery vs. Wild Salmonid Symposium a success!



Did you miss the symposium?

You can view the [Hatchery-Wild Posted Presentations](#) here! ORAFS also distributed a poll following the symposium to solicit feedback from presenters and attendees. We received 59 responses. View the poll results at [Hatchery-Wild Symposium Poll Results](#).

Extended Drought in California: Responses for at-risk fish

Dave Lentz, CA Department of Fish and Wildlife

While most of the west has experienced much drier than normal conditions for some time, California's drought has been truly exceptional and has been the subject of national news reports. Currently, the state is experiencing the driest four-year period on record. California's water supply must support one of the nation's largest agricultural economies and the largest state population of nearly 39 million people. The state's water managers have been challenged on many fronts with severely diminished snow packs, record high temperatures in 2014 with associated higher evaporation, alarming depletion of ground water and other events that have triggered unprecedented actions.

The governor and state water officials have implemented water use restrictions across the state. Water supply agencies have worked through voluntary water use cutbacks, to mandatory restrictions, to the likelihood of water rationing for some communities. Water allocations from the large central valley water projects have been cut and even some of the most senior water rights holders have recently been served with curtailment orders suspending their diversion rights by the state water board.

While Californians adjust to the effects of severe water scarcity the state's fishery managers have been forced to implement a number of drought response measures to address at-risk fish populations and hostile drought related habitat

conditions that impact those fish. The governor and legislature have provided drought emergency funding to the Department of Fish and Wildlife (CDFW) to conduct drought stressor monitoring and conduct fish rescues as needed. Some funding provided infrastructure improvements at several state hatcheries to support some rescued fish. Efforts have focused on listed fish and species of special concern.

From March 1, 2014 to May 20, 2015, CDFW staff rescued more than 172,000 fish (45 species) and 80 turtles (western pond turtles). There were 529 rescue events on 41 watersheds spanning 22 counties. Most of the rescued fish were anadromous salmonids and rescues typically involved moving captured fish to downstream locations. An example event was the rescue of about 30,000 juvenile fall-run Chinook salmon from the Mokelumne River, releasing them to the western Sacramento-San Joaquin delta. CDFW trout managers developed protocols for drought response measures that included elements for monitoring and evaluating responses such as options for translocations and rescues. In 2014, biologists used these drought response measures to conduct multiple translocations of McCloud redband trout as stream habitats were drying up over the summer. Eventually, more than half of the remaining “pure” McCloud redbands were taken into captivity at a hatchery facility with tanks enabling isolation and equipped with recirculation, filtration, UV treatment, and chilling features.

While native trout have been challenged by low stream flow and elevated water temperatures in summer, low water and diminished habitat conditions have taken a toll in winter as well. Redbands were observed to have perished after being isolated in shallow pools and drying stream reaches when these habitats froze in early winter.

As monitoring at-risk native trout populations picks up in 2015, we are already seeing flow, temperature and population conditions that are indicating the necessity for taking actions to protect these populations will soon arrive. We are anticipating the

need to evaluate options for translocations or rescues for listed cutthroat in California’s eastern Sierra where nearly all cutthroat trout are isolated in headwater tributary streams. Taking trout into captivity is the option of last resort but may become necessary later this year.



Drought habitat monitoring, measuring pool depth on a Lahontan cutthroat trout stream.

Student-Mentor Luncheon opportunities available!

Sign up for our Student-Mentor Luncheon at the Annual Meeting in Portland for generous portions of academic and career advice, inspiration, revelations, and new contacts. Students and Mentors needed!

Make your reservations at <https://www.surveymonkey.com/s/K5ZJK66>.



Recovery of Oregon Chub

Paul Scheerer, ODFW

An inconspicuous minnow that inhabits the backwaters of the Willamette Valley gained national prominence when it became the first fish in the United States to be taken off the federal Endangered Species list due to conservation efforts. The collective effort by a very strong public-private partnership in the Willamette Valley clearly demonstrates that listed species can be recovered and delisted in a highly populated, working

landscape, a testament to the resilience of the species and the innovation of Oregon Department of

Fish and Wildlife biologists. This is one of the rare success stories for the Endangered Species Act (ESA), which just turned 40 years old last year. The law made it the official policy of the United States not to let any species go extinct. It sets a high standard in that it not only prevents extinction, but also mandates recovery to a more sustainable state.

Oregon chub are small floodplain minnows that live in sloughs, swamps, beaver ponds, and low gradient tributaries. These off-channel habitats were dramatically reduced by the construction of Willamette River flood control dams, channelization of the river for navigation, the draining of wetlands for agriculture and development, and are prime habitats for nonnative game fish, such as bass and bluegill, which prey on the species. Due to these

threats, this fish was listed as endangered in 1993, when only 8 populations totaling fewer than 1000 fish were known to exist. Now, 22 years later, there are over 80 populations and more than 100,000 fish.

This success is a remarkable story of cooperation between landowners, non-profit organizations, and state and federal agencies that got behind the effort decades ago to ensure the species would not become extinct. This partnership includes ODFW, the US Fish and Wildlife Service, the US Army Corps of Engineers, the US Forest Service, Oregon State Parks, Oregon Department of Transportation, local municipalities, numerous private landowners, watershed councils, the McKenzie River trust, and others. In contrast to high profile species, such as the Pacific salmon or the grey wolf, most of the recovery activities have occurred under the radar screen with little impact to the local communities.

ODFW biologist Paul Scheerer has devoted 22 years of his professional life to recovering Oregon chub populations in the Willamette Valley. He was joined in 2005 by Brian Bangs, who has enthusiastically lead on-the-ground efforts since 2009. This team of biologists lead the charge by conducting research and monitoring, promoting habitat protection and improvements, and conducting reintroductions of the fish into unoccupied habitats. Specific examples included working closely with the US Army Corps of Engineers to manage flows and temperatures to benefit native fish including Oregon chub, coordinating with the McKenzie River trust to identify high quality habitats for land acquisition, working with the Middle Fork Willamette, Santiam, and Long Tom Watershed Councils to identify private landowners who were willing to enhance and protect chub habitats, and coordinated with the US Fish and Wildlife Service, US Forest Service, Oregon Parks and Recreation and Oregon Department of Transportation to protect, enhance, and create habitat on lands that they manage.

Through extensive surveys at over 1000 locations in the basin, this team has discovered many previously

undocumented populations. Historical records of the species' occurrence were rare, as no targeted surveys occurred until the 1980's. This effort was, at times, like finding a needle in a haystack, but persistence has paid its rewards. In addition, recovery has benefitted from the introduction of Oregon chub into suitable, unoccupied habitats. There have been 21 introductions to date. These help reduce the threat of extinction by expanding the species range and providing backup populations that can be used in the event of loss of local populations. Many of the introductions have occurred on private lands. Coordinated efforts with US Fish and Wildlife Service's and ODFW's private lands biologists have helped to identify properties and willing landowners and to acquire funding under various Farm Bill programs, like the Wetland Reserve Program, to re-create high quality habitat that has been lost over the years.

Recovery is the goal of the ESA. Success has been rare, but progress is being made. Oregon chub have benefitted from the protections afforded by the act, as have countless other species of fish, birds, amphibians, and mammals that also depend on these off-channel habitats. However, the status of this species and others like it depends on a concerted community effort to understand, protect, and restore the natural river processes that these species require for continued survival. This community effort is what made Oregon chub recovery possible.



Oregon Chub habitat in the McKenzie River basin.

Give a fish its due: Nongame native fish of the Western U.S.

A symposium featuring the nongame native fish of the Western United States, to be held during the International 2015 American Fisheries Society Annual Meeting in Portland, Or

1:20PM Monday August 17 through 520PM Tuesday August 18, 2015

Oregon Convention Center Room B-116

The symposium includes the presentation of the 2015 Oregon Chapter American Fisheries Society

Native Fish Conservationist of the Year Award

840AM Tuesday August 18th in Room B-116 of the Oregon Convention Center

The coveted hand-carved fish award, sponsored by the Native Fish Society, honors an individual outstanding in the field of native fish conservation in the State of Oregon.

Attend and learn about fascinating native fish that just don't get their due!

Symposium Nongame Native Fish Species Checklist

- ✓ Speckled Dace (*Rhinichthys osculus*)
- ✓ Humpback Chub (*Gila cypha*)
- ✓ Razorback Sucker (*Xyrauchen texanus*)
- ✓ Colorado Pikeminnow (*Ptychocheilus lucius*)
- ✓ Pahrump poolfish (*Empetrichthys latos*)
- ✓ Amargosa pupfish (*Cyprinodon nevadensis*)
- ✓ Speckled Dace (*Rhinichthys osculus*)
- ✓ Oregon Chub (*Oregonichthys crameri*)
- ✓ Lost River (*Deltistes luxatus*) and Shortnose (*Chasmistes brevirostris*) suckers
- ✓ Miller Lake Lamprey (*Entosephenus minimus*)
- ✓ Warner Sucker (*Catostomus warnerensis*)
- ✓ Northern Leatherside Chub (*Lepidomeda copei*)
- ✓ Utah Chub (*Gila atraria*)
- ✓ Umatilla Dace (*Rhinichthys umatilla*)
- ✓ Coast Range (*Cotus aleuticus*), Prickly (*C. asper*), Riffle (*C. gulosus*), Torrent (*C. rhotheus*), and Shorthead (*C. confusus*) sculpin.

Attend and rack up frequent flyer miles while never leaving the conference room! **Symposium Destination Checklist**

- ✓ The desert of the Southwest
- ✓ South and Central California
- ✓ The Grand Canyon of the Colorado River
- ✓ The desert streams of the Western United States
- ✓ Oregon's Willamette River
- ✓ The Klamath Basin
- ✓ Great Basin in Oregon and Utah
- ✓ Lost and Kootenai rivers of Idaho
- ✓ Northeastern Washington
- ✓ The Puget Sound

Western Division to Hold a Special Workshop on the Subspecies Classification of Cutthroat Trout at the Portland Annual Meeting

Planning Committee for the WDAFS Special Workshop on the Taxonomy and Evolutionary Biology of Cutthroat Trout

In an earlier issue of *The Tributary*, we announced that the Western Division will hold a Special Workshop on the subspecies classification of Cutthroat Trout at the upcoming annual AFS meeting in Portland, Oregon.

The reason for this is that differences among researchers over which of the Cutthroat Trouts are truly subspecies and which should either be lumped with others or split apart have increased recently as more and more sophisticated DNA evidence has become available. This erosion of consensus around the validity of currently recognized subspecies has already disrupted the recovery program for one ESA-listed subspecies, and could affect recovery programs for others, along with aquatic habitat management and restoration plans and fishery management programs.

The Western Division ExCom believes the scientific expertise exists to resolve the issues involved, and to this end, will convene a select panel of 16 experts in evolutionary biology and taxonomy to consider the different viewpoints, reconcile differing interpretations of the evidence, and, if it deems necessary, offer a revised classification of Cutthroat Trout subspecies that satisfies the available evidence.

Part One of the Special Workshop, as it will be staged at the annual meeting, is a one-day symposium in which members of the select panel

will present detailed reviews of the different lines of evidence supporting the current classification of Cutthroat subspecies as well as the lines of evidence supporting changes to this classification. This symposium is open to everyone registered for the meeting; look for *Taxonomy and Evolutionary Biology of Cutthroat Trout* in the annual meeting program. For those interested, abstracts of the talks to be delivered by the panelists are also posted on the annual meeting web site.

Part Two of the Special Workshop, which will commence the day following the symposium, will be a day and a half of closed panel working sessions in which the select panel will weigh all of the evidence at hand and reach its conclusions. These sessions will be held off-site and are open to invited panelists only.

Support for this Special Workshop has been provided by co-sponsorship contributions from the following organizations, which we want to take this opportunity to acknowledge:

- U.S. Forest Service
- Region 6 Office, U.S. Fish and Wildlife Service
- International Federation of Fly Fishers (IFFF)
- Washington State Council, IFFF
- California Fish and Wildlife
- WDAFS Small Grant Program
- Alaska Chapter, AFS
- Montana Chapter, AFS
- Trout Unlimited (TU)
- Idaho Council, TU
- Idaho Chapter, AFS

We are still soliciting funds for this Special Workshop. It is not too late to make a contribution to help underwrite the cost of bringing our expert panel together. If you think this work is important and your agency or organization is not yet on our list of co-sponsors, we would certainly be grateful if you would pass this along. All contributions should

be made out to *Western Division American Fisheries Society*, earmarked *Cutthroat Trout Workshop*, and sent to WDAFS Treasurer Travis Neebling, c/o Wyoming Game and Fish Department, 3030 Energy Lane, Casper, WY 82604.

For further details, a prospectus for the Special Workshop is available that provides additional information about the justification for the Workshop, its objectives, and how it will be structured and staged. For a copy of this prospectus, e-mail ptrotter@halcyon.com.

Online registration deadline: **July 31st**

[Click for more info about classes](#) | [Click to register online](#)

NEW! A Brief and Gentle Introduction to Program MARK for Fisheries Biologists

Instructors: Jim Peterson & Kimberly Millers

Saturday, August 15, 2015, 8:00 a.m. – 4:30 p.m.

NEW! Analyzing Fish Diets and Tissue Composition to Assess Trophic Status

Instructors: Jim Garvey

Saturday, August 15, 2015, 8:30 a.m. – 5:00 p.m.

NEW! Bayesian II: Intermediate Bayesian Inference Using Gibbs Sampling (BUGS) for Fish Biologists

Instructor: Dan Rawding & Pete McHugh

Sunday, August 16, 2015, 8:00 a.m. – 5:00 p.m.

Beginning/Intermediate GIS for Fisheries Scientists

Instructors: Nick Sievert & Jacob Schwoerer

Saturday, August 15, 2015, 8:00 a.m. – 5:00 p.m.

NEW! Decision Support Tools for Adaptive Management

Instructor: Elise Irwin

Saturday, August 15, 2015, 8:00 a.m. – 5:00 p.m.

NEW! Large Wood, Partnerships, and Lessons Learned

Instructors: Bruce Zoellick, Greg Wanner, & Jeff Uebel

Saturday, August 15, 2015, 8:00 a.m. – 5:00 p.m.

NEW! Age and Growth Analyses with R

Instructors: Derek H. Ogle & Taylor Stewart

Sunday, August 16, 2015, 8:00 a.m. – 5:00 p.m.

FREE! Leadership at All Levels in AFS

Instructor: Steve McMullin

Sunday, August 16, 2015, 8:00 a.m. – 12:00 p.m.

AFS Cancellation & Refund Policy: AFS reserves the right to cancel any course. A full refund will be issued only if the CE course or workshop is cancelled by AFS or by the instructor. AFS staff will notify all registrants of class cancellations. Questions? Contact Beverly Pike, Director of Student & Professional Development at bp Pike@fisheries.org.

Western Division Officers, Student Representative and Committees

OFFICERS:

President: **Hilda Sexauer**, Hilda.Sexauer@wyo.gov
President-Elect: **Jim Bowker**, Jim_Bowker@fws.gov
Vice President: **Cleve Steward**, Cleve.Steward@gmail.com
Secretary-Treasurer: **Travis Neebling**, Travis.Neebling@wyo.gov
Past President: **Pam Sponholtz**, longfin@infomagic.net
Student Rep.: **Jane Sullivan**, jysllivan@alaska.edu

COMMITTEES:

Investment Sub-Committee

Henry Booke

WD Membership Committee

Cleve Steward

Meeting Program Chair

Jim Bowker

AFS Nominating Committee Representative for WD

Bob Gresswell

Archivist

Eric Wagner

Audit Committee

Michael Mills

Environmental Concerns Committee

Lori Martin

Time and Place Committee

Dave Lentz

Western Native Fishes Committee

Luke Schultz (Chair)

Awards Committee

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Maughan-Trachtenberg Scholarship Committee

Robert Gresswell

Riparian, Watersheds, and Habitat Committee

Tracy Wendt

Student Committee

Jane Sullivan