



American Fisheries Society Western Division Annual Meeting

Alaska, Arizona-New Mexico, California-Nevada,
Colorado-Wyoming, Idaho, Montana, Oregon,
Pacific Islands, Utah, Washington-British Columbia

May 8-11, 2023
Boise, Idaho

President's Message

Greetings AFS members and guests,

Welcome to Boise! We're glad you decided to join us for the 45th annual meeting of the Western Division American Fisheries Society, hosted by the Idaho Chapter. Boise is the state capital, with a lot of entertainment and great food, but conveniently located where you can be in the wilderness within a short drive. This makes it an ideal location to reconvene in-person for the first post-COVID Western Division meeting. I know that we are all excited to reconnect with colleagues and friends that we haven't seen in a few years, but please take the opportunity to expand your network and take in all that Boise has to offer.

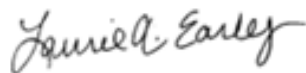
First and foremost, we must acknowledge and share our appreciation for the great team of volunteers that spent endless hours preparing for this meeting. It was no easy feat, as the meeting landscape has changed considerably since the pandemic. Thus, we've encountered more challenges than before, but that didn't slow us down. In the end, the team developed an incredible schedule of events and meeting program that all can enjoy. From Monday workshops to the Alphabet Social and the Welcoming Event at the Idaho State Museum to the Aquatic Film and Photo Festival, the spawning run and student events, there should be something for everyone. Plus, the program is chock full of scientific content that will certainly provide some insight on how we continue with our mission to improve the conservation and sustainability of unique fishery resources and aquatic ecosystems in western North America. All of this could not have been compressed into four short days without the energy and effort of this year's planning team. Please pass along some gratitude to members of the team as you interact with attendees over the next week.

We'd also be remiss if we didn't thank the sponsors for our meeting. Many of them have a booth, so please make sure to swing by and visit with the vendors during the breaks.

Along the line of hosting a meeting that everyone can enjoy, we want to remind folks of AFS's meeting Code of Conduct. For the first time, we will have designated 'Safety Officers', which will be both of us. If at any point in time you want to speak to someone about an incident you experience or witnessed, please feel free to grab one of us. And, we'll take both positive and negative input! We also challenge each and every one of you to meet someone new. For the veteran meeting goers, remember we were all first-timers at one point, so simply saying "hello" to someone you don't know or who may be alone, may be the one thing they need to feel a bit more at "home".

These annual meetings allow us to learn and grow, and hopefully you all will leave feeling a bit more energized and ready to tackle the challenges we face in our profession. Moreover, these meetings provide the opportunity to advance the science around fisheries and aquatic resources and provide a forum to support professionals and students. That at the core, is the AFS mission, and we're glad that you decided to be participate in this year's meeting. We hope you enjoy your time here in Boise and safe travels home!

Sincerely,



Laurie Earley, President
Western Division of the American Fisheries Society



Rob Van Kirk, President
Idaho Chapter of the American Fisheries Society



Managing Aquatic Ecosystems and Shifting Baselines: Challenges and Opportunities

Nearly one-quarter into the 21st century, fisheries professionals are challenged as never before by a changing climate. In terms of managing aquatic ecosystems, Dr. Daniel Pauly coined the term "shifting baselines" to refer to the loss of perception of ecological change from one generation to the next, but for the purposes of this meeting, we use the term to refer to unrelenting transformation of the earth's climate that will likely continue for many decades and that will clearly require seismic shifts in how we manage and conserve aquatic ecosystems. A new thought process is emerging to address fisheries and wildlife management and conservation in the face of such dramatic climate change: Resist-Accept-Direct (RAD). Resist represents the traditional practice of implementing actions to counteract changes and restore ecosystems to prior conditions. Accept is when decisions are made to allow ecological conditions to change without implementing restoration actions, perhaps to divert energy away from "lost causes" and focus efforts where positive outcomes are more achievable. Direct is attempting to forecast future conditions and implement actions that attempt to steer ecosystem changes so that some sort of ecological function persists, though the former ecosystem may not. Three plenary speakers and four invited speakers (see page 11 for more details) will provide a forum to explore RAD and other resource management frameworks from various avenues of research, management, and conservation.

Planning Committee Team

General Meeting Organization

Laurie Earley
Kevin Meyer

Program

Jessica Buelow
Tim Copeland
Eric Fetherman
Darcy McCarrick
Mike Peterson
Kristi Stevenson

Workshops

Kat Gillies-Rector
Jenn Vincent

Fundraising/Tradeshow

Luciano Chiaramonte
Conor McClure
Nick Porter

Registration

Rebekah Horn
Jesse McCane
Kristi Stevenson

Posters

Katie McBaine

Website

Kristi Stevenson

Volunteer Coordination

Jim Chandler
Susie Frawley
Jake Hughes
Jack McLaren
Sage Unsworth

Audio/Visual

Corey Dondero
Jenn Vincent

Film Festival

Dan Brauch
Martin Koenig
Eric Stark

Social Events

Corey Dondero
Jenn Vincent

Event Gift

Will Lubenau

Meeting Logo

Jessica Buelow
Stacey Meyer

Diversity/Equity/Inclusion

Kat Gillies-Rector
Rob Van Kirk
Jenn Vincent

Thank You to the Sponsors of the Western Division AFS Meeting 2023

\$5000

Salmon Science Network

\$2500

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Merck Animal Health/Biomark
Oregon Department of Fish and Wildlife
Washington Department of Fish and Wildlife

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Boise Convention and Visitors Bureau

\$1000

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NOAA Fisheries
Oregon RFID
River Design Group
RivHab
SSA Environmental
Syndel

\$500

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Little Pond Nature Prints
Lost River Fish Ecology, Inc.
Oregon Sea Grant
Redd Zone
Smith-Root, Inc.
Tetra Tech
University of Idaho
Upper Snake River Tribes Foundation

\$350

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National Fish Habitat Partnership - Beyond the Pond
Pacific States Marine Fisheries Commission

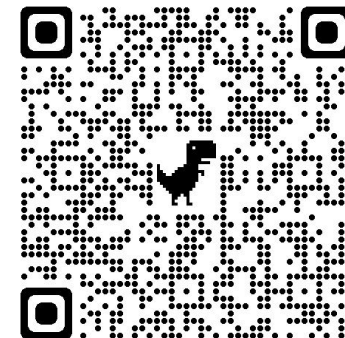
\$200

Frigid Units, Inc.

Film and Photography Festival

Vote for your favorite films!

The 8 finalist films selected will be shown live during the meeting. There will be 2 showings available on Wednesday May 10 at 8:20-9:50am and 1:50-3:20pm. Please stop by and enjoy these outstanding films! We will be awarding the top 3 films with the “Audience Choice” awards. Cast your vote for your favorite films by scanning the QR code. Winners will be announced Thursday during the “best paper awards” session at 3PM.



Thanks to all those that submitted films and photos for consideration for this year’s festival!

If viewing the program on your computer, click on the following titles to view the film submissions.

2023 Finalist Films (Live Showings)

[Changing a Landscape to a Lifescape](#)

[Restoring Our Rivers: Communities Taking Action](#)

[Place-People, Lamprey, and Cultural Ecology](#)

[The Odds](#)

[The Native Three](#)

[The Tide is Coming Home](#)

[Natural Infrastructure: Elk River](#)

[Life History Project: Betsy Krier](#)

Photo Festival - Live Showing

All photos submitted will be on display as a slideshow during the film festival as part of the live showing. In addition, the 6 finalists chosen by the judges have been printed and will be displayed throughout the meeting. These 6 beautiful aluminum prints will be available for purchase during the fundraising auction!

2023 Additional Film Submissions

[Five Years Before the Mast: Sights, Sounds, and Smells from Alaska Hatchery Research Fieldwork](#)

[Holiday Farm Fire Survivors Resolve to Protect McKenzie River, Part 1](#)

[Holiday Farm Fire Survivors Resolve to Protect McKenzie River, Part 2](#)

[Holiday Farm Fire Survivors Resolve to Protect McKenzie River, Part 3](#)

[Improving Fish Habitat in Trestle Creek](#)

[The Lost Salmon](#)

[Multi-Species Fishery Management in Lake Pend Oreille, Idaho Natural Infrastructure: Quillayute River](#)

[North Fork Tincup Process Based Back Country Restoration](#)

[The Path Home](#)

[Priest River: A River of Potential](#)

[Salmon are Common Ground](#)

[Shelter From the Storm](#)

[Walleye and Lake Trout Suppression in Lake Pend Oreille](#)

General Conference Information

Oral Presenters were asked to submit their presentation prior to meeting arrival. However, if this has not already been done, speakers are *required to have their presentation uploaded the day before their scheduled talk, with no exceptions*. All talks will be woven together from start to finish for each 4-hour time block, and there will be no opportunity to inject talks on the day of your presentation. Computers will be set up in the lobby for uploading and review; see the schedule below for uploading times each day, and the registration desk for details.

Poster Presenters can attach their poster to their respective poster location (coded by poster number) on Monday afternoon or any time on Tuesday, in Rooms 100C and 130. The designated Poster Session is Wednesday morning (see below). Posters must be dismantled by noon on Thursday.

Code of Conduct: This meeting, like all American Fisheries Society events, is governed by the AFS Code of Conduct (<https://fisheries.org/about/governance/afs-meetings-code-of-conduct/>). Its purpose is to ensure a safe, productive, and welcoming environment for all meeting participants, including vendors and non-AFS guests. In addition to the Code of Conduct Reporting Form provided as a reporting mechanism for violations (<https://fisheries.org/code-of-conduct-reporting-form/>), we are providing onsite contacts for Code violations. Laurie Earley (WDAFS President) and Rob Van Kirk (ICAFS President) will accept complaints at any time from meeting attendees. Please take time to familiarize yourself with the Code of Conduct and its importance.

Accommodations for hearing-impaired attendees: Assistive listening devices (ALDs) are available to help amplify sounds you want to hear while minimizing background noise. ALDs can be used with a hearing aid or cochlear implant. Talk to our volunteers at the registration table if this is something that will help you have a better experience at the meeting

Abstracts will be available for every talk and poster on the Idaho AFS website as soon as possible. Please access these abstracts as needed once they have been posted.

Nursing Moms - There will be a lactation room with a mini fridge available for nursing moms located on the east side of the lobby.

Fundraising



Auction and raffle items will be done using the GiveSmart virtual platform accessible with any smartphone. The link is <http://e.givesmart.com/events/vGf> and it will go live May 5th, the Friday before the meeting begins. Although bidding will be virtual, all items will be present at the meeting so winners can collect their prizes the night of the fundraising banquet. This year, we have rounded up some really great items including an Alpacka pack-raft, several fly rods, a coveted 3-night campground reservation at Redfish Lake, six Idaho fishing trips, and many other prizes. We're hoping to make this one of the biggest years ever for fundraising!

*Everyone who wishes to participate in fundraising will need to create an account with GiveSmart. This can be done from the fundraising page by following the QR code or by going directly to the fundraising website at <http://e.givesmart.com/events/vGf>.

Vote for Best Papers!

You can provide presenter feedback and help contribute to the decision for Best Professional and Student presentations. Scan this QR code and select the day, time, session and speaker and provide your ratings on 5 questions. You can also provide comments to the speaker if you wish. You will remain anonymous unless you identify yourself in the comments. Thank you for participating!



Daily Events and Activities

Monday

Alphabet Social: Find your people on the first night of the conference! This social centers on and celebrates LGBTQIA2S+ and BIPOC identities by holding space for affinity group networking. The event will be held at The Idaho State Museum, just prior to the opening social on Monday evening. BIPOC are welcome at 5:30pm, LGBTQIA2S+ identities are welcome to join at 5:50pm, and allies are welcome at 6:10pm.

Welcome Social: Come join us for the Welcome Social to be held Monday evening at the beautiful Idaho State Museum from 6:30-9:30pm. Food and beverages will be provided, and guests are provided free access to wander through the entire museum (no food or drinks allowed in the exhibit area). Come help us kick off the Joint WDAFS/ICAFS Annual Meeting!

Tuesday

Idaho AFS Committee Meetings Lunch from 12:05-1:20pm, with food provided to those who are willing to attend a committee meeting. This is intended for Idaho AFS members only, to discuss annual committee actions. Box lunches can be picked up in the lobby, with meeting locations as follows:

Native Fish Committee in room 120A
Aquaculture Committee in room 120B
Mentoring Committee in room 120C

Anadromous Fish Committee in room 100E
Aquatic Habitat Committee in room 110AB
Public Education Committee in room 110CD

First-Generation College Students Lunch from 12:05-1:20pm in room 100D, with box lunches provided to those who attend. Experiencing college as a first-generation student is a unique experience for both student and family, and can shape your career for years to come. Join us for an informal gathering of students and professionals who were the first in their family to attend college. This event will be held in Room 100D in the Boise Center, starting at 12:05 on Tuesday. Box lunches can be picked up in the lobby.

Early Career Professionals Lunch from 12:05-2:00pm at the Warehouse Food Hall just a few blocks from the Boise Centre (at 370 S 8th St, Boise, ID 83702; 3-minute walk). Join us for an informal lunch geared toward connecting early career professionals within WDAFS! We will meet at 12:05pm in the Boise Centre Lobby near the registration booth and walk over to the Warehouse Food Hall together. Purchase lunch on your own from one of the 14 vendors at the Warehouse Food Hall, and enjoy your meal in a supportive environment while you network with other early career professionals.

WDAFS Executive Committee Meeting Lunch from 12:05-1:20 pm in Room 140. This meeting is for members of the Western Division Executive Committee, and box lunches can be picked up in the lobby.

Spawning Run/Walk on Tuesday from 4-5pm on the Boise Greenbelt. If you are pre-registered, please check in at the registration desk prior to noon on Tuesday to receive your number and t-shirt. You can still register for the event prior to noon on Tuesday (cost is \$15.00) but you will not receive a t-shirt if you signed up after April 8th. The start and end of the race will be at Biomark, Inc. Come join in the fun prior to the Student Mixer. Race start time will be 4pm sharp.

Student Mentoring Panel Discussion from 5-6pm in Room 120B. The Idaho Chapter AFS Mentoring Committee is hosting a panel discussion with professionals from several state and federal agencies, NGOs and tribes. Students and young professionals will hear about different career paths that professionals followed to reach their current position. Panelists will also field questions from students and young professionals about career development, graduate school, career planning, and other relevant topics. This event is right before the Student-Mentor mixer and a great way to break the ice or think of interesting topics to discuss later in the evening.

Daily Events and Activities

Student/Professional Pizza Mixer from 6-10pm at the Boise Centre in Room 100A. This is an informal mixer aimed at connecting students to professionals in the fisheries field who can help them on their career path. Attendees will get bingo cards to fill out by meeting students or professionals with different traits or career experiences on the bingo card. Completed cards will be entered in a raffle for great prizes, so bring your business cards and your game face! Complimentary food and beverages provided.

Wednesday

Aquatic Film and Photo Festival in Room 100B. There will be two separate showings, at 8:20-9:50am and 1:50-3:20pm, to give attendees additional time to see all of the submitted photos and films.

Vendor Trade Show with morning refreshments from 10:00-11:30am in Rooms 100C & 130. Although each break throughout the meeting is designed to allow for interaction with vendors, this time block has been specifically set aside for vendors to showcase their equipment and services.

Poster Session with morning refreshments from 10:00-11:30am in Rooms 100C & 130. Intertwined with the Vendor Trade Show will be an opportunity to interact with poster presenters for a 90 minute question/answer period.

ICAFS Annual Business Meeting and Luncheon from 11:30am - 1:30pm in Room 100A. This meeting is open to all Idaho Chapter members, although food is limited to individuals who signed up for this event. There will be updates from Chapter EXCOM and Committees, new EXCOM members will be announced, and award recipients will be recognized.

Early Career Professionals Resume/Interview Workshop from 1:40-3:20pm in Room 140. The Western Division AFS Early Career Professionals Committee is excited to host a resume and cover letter review session on Tuesday afternoon! Students and early career professionals can receive constructive feedback on cover letters and resumes, with guidance geared toward both seasonal positions and permanent positions in the fisheries and natural resource fields. Please either bring A) a hard copy or B) a personal computer with a copy of your resume and/or cover letter to participate.

WDAFS/ICAFS Banquet and Fundraiser from 6:00-10:30pm in Room 100A. Come join in the fun and enjoy complimentary food and beverages. This event will include a silent and live auction to raise money for scholarships, classroom programs, travel grants, and other worthy causes.

Thursday

WDAFS Business Meeting and Luncheon from 12:00 - 1:30 pm in Room 100A. This meeting is open to all Western Division members, although food is limited to individuals who signed up for this event. There will be updates from Division leadership, Committees, and awards recipients will be recognized.

Best Student and Professional Poster Award winners will be announced at the conclusion of the meeting, at 2:50pm in Room 110CD, immediately following the final speaker. Best oral presentations will be announced at a later date, due to time constraints.

Schedule at a Glance

| Monday, May 8th | | |
|-----------------|--|--------------------|
| Time | Event | Location |
| 7:30 - 5:00 | Registration | Lobby |
| 8:00 - 12:00 | Monitoring Stream Temperature | Room 110B |
| 8:00 - 12:00 | Primer on the Human Dimensions of Fisheries Management | Room 100E |
| 8:00 - 5:00 | Small Stream Restoration Summit | Room 100D |
| 9:00 - 12:00 | Fish Printing Workshop | Room 110A |
| 1:00 - 5:00 | Using Program R in Fisheries Science | Room 100E |
| 1:00 - 5:00 | Drones and Remote Sensing in Fisheries Science | Room 110B |
| 1:00 - 3:00 | Identifying and Preventing Harrasment in the Field: A Training by FieldFutures | Room 120A |
| 11:30 - 5:00 | Vendor Set-up | Rooms 100C & 130 |
| 1:00 - 5:00 | Poster Set-up | Rooms 100C & 130 |
| 2:00 - 5:00 | Speaker Presentation Uploads | Lobby |
| 4:00 - 5:00 | ICAFS EXCOM Pre-Meeting | 120C |
| 5:00 - 5:30 | Volunteer and Moderator Meeting | 120A |
| 5:30 - 6:30 | Alphabet Social | Idaho State Museum |
| 6:30 - 9:30 | Welcome Social | Idaho State Museum |

| Tuesday, May 9th | | |
|------------------|--|---------------------|
| Time | Event | Location |
| 7:00 - 5:00 | Registration | Lobby |
| 7:00 - 5:00 | Speaker Presentation Uploading | Lobby |
| 8:00 - 5:00 | Vendor Booths | Rooms 100C & 130 |
| 8:00 - 5:00 | Poster and Fundraising Displays | Rooms 100C & 130 |
| 8:00 - 10:00 | Meeting Opening and Plenary Session | Room 100A |
| 10:00 - 10:20 | Refreshments with Vendors/Posters/ Fundraising | Rooms 100C & 130 |
| 10:20 - 12:05 | Invited Speaker Session | Room 100A |
| 12:05 - 1:20 | ICAFS Committee Meetings Lunches | See above |
| 12:05 - 1:20 | First-Generation College Students Lunch | Room 100D |
| 12:05 - 2:00 | WDAFS EXCOM Lunch | Room 140 |
| 12:05 - 1:20 | Early Career Professionals Lunch | Warehouse Food Hall |
| 1:20 - 3:40 | Contributed Presentations (concurrent) | See below |
| 3:40 - 5:00 | Refeshments with Vendors/Posters/ Fundraising | Rooms 110C & 130 |
| 4:00 - 5:00 | Spawning Run/Walk | Biomark |
| 5:00 - 6:00 | Student/Mentor Panel Discussion | 120B |
| 6:00 - 10:00 | Student/Professional Mixer | Room 100AB |

Schedule at a Glance

| Wednesday, May 10th | | | Thursday, May 11th | | |
|---------------------|--|------------------|--------------------|--|------------------|
| Time | Event | Location | Time | Event | Location |
| 7:00 - 5:00 | Registration | Lobby | 8:00 - 12:00 | Vendor Booths | Rooms 100C & 130 |
| 7:00 - 5:00 | Speaker Presentation Uploading | Lobby | 8:00 - 12:00 | Poster take-down | Rooms 100C & 130 |
| 8:00 - 5:00 | Vendor Booths | Rooms 100C & 130 | 8:00 - 10:00 | Contributed Presentations (concurrent) | See below |
| 8:00 - 5:00 | Poster and Fundraising Displays | Rooms 100C & 130 | 10:00 - 10:20 | Refreshements with Vendors | Rooms 100C & 130 |
| 8:00 - 10:00 | Contributed Presentations (concurrent) | See below | 10:20 - 12:00 | Contributed Presentations (concurrent) | See below |
| 8:20 - 9:50 | Film and Photo Festival - morning showing | Room 100AB | 12:00 - 1:20 | WDAFS Business Luncheon and Awards | Room 100A |
| 10:00 - 11:30 | Poster Session with morning refreshemnts | Rooms 100C & 130 | 1:30 - 2:50 | Contributed Presentations (concurrent) | See below |
| 10:00 - 11:30 | Vendor Trade Show wirh morning refreshemnts | Rooms 100C & 130 | 12:00 - 3:10 | Vendor take-down | Rooms 100C & 130 |
| 11:30 - 1:30 | ICAFS Annual Business Meeting & Lucheon | Room 100AB | 2:50 | Meeting Closing and Best Paper Awards | 110CD |
| 1:40 - 3:20 | Contributed Presentations (concurrent) | See below | 2:55- 4:25 | ICAFS EXCOM Post-Meeting | Room 120C |
| 1:50 - 3:20 | Film and Photo Festival - afternoon showing | 100AB | | | |
| 1:40 - 3:30 | Early Career Professionals Resume/Interview Workshop | Room 140 | | | |
| 3:20 - 3:40 | Refreshments with Vendors/Posters/ Fundraising | Rooms 100C & 130 | | | |
| 3:40 - 5:00 | Contributed Presentations (concurrent) | See below | | | |
| 6:00 - 10:30 | Banquet and Fundraiser | Room 100AB | | | |

Tuesday Morning

Plenary Session

Room 100A

| | | |
|-------------|-------------------------------------|---|
| 8:00 - 8:15 | Introduction to the Meeting | Laurie Earley , President of the Western Division of the American Fisheries Society, Rob Van Kirk , President of the Idaho Chapter of the American Fisheries Society Leanne Roulson , Past President of the American Fisheries Society |
| 8:15 - 8:20 | Introduction to the Plenary Session | Kevin Meyer , President-Elect of the Idaho Chapter of the American Fisheries Society |
| 8:20 - 8:45 | Dr. Frank Rahel | RAD-ical ideas for managing ecosystem change |
| 8:45 - 9:10 | Dr. Mary Donovan | Challenges and opportunities for managing coral reef ecosystems for resilience to climate change |
| 9:10 - 9:35 | Dr. Amy Teffer | Climate-adaptive stocking |

Panel Discussion

10:00 - 10:20 ***Refreshments with Vendors/Posters/Fundraiser - Rooms 100C and 130***

Invited Speakers

| | | |
|---------------|--|--|
| 10:20 - 10:50 | Dr. Charlotte Cote | Indigenous food sovereignty, environmental justice, and sustainability |
| 10:50 - 11:15 | Dr. Rob Van Kirk | New approaches to providing streamflow for fisheries in the American West |
| 11:15 - 11:40 | Mike Belchik | Landscape-scale fisheries restoration and climate change resiliency: The Yurok Tribe's approach to Klamath River Restoration |
| 11:40 - 12:05 | Paul Powers | Restoration of resilient river - wetland corridor |
| 12:05 - 1:20 | ICAFS Committee Meeting Lunch | <i>See Daily Events</i> |
| 12:05 - 1:20 | First-Generation College Students Lunch | Room 100D |
| 12:05 - 1:20 | Early Career Professionals Lunch | Warehouse Food Hall |
| 12:05 - 2:00 | WDAFS EXCOM Lunch | Room 140 |

| * Student | | | | | | |
|-------------------|--|---|---|---|---|--|
| Tuesday Afternoon | | | | | | |
| Room | 120A | 120B | 110AB | 110CD | 100D | 100E |
| Session Name | Instream Flow and Water Level Protection | Contributed Talks | Contributed Talks | Contributed Talks | Contributed Talks | Contributed Talks |
| 1:30 | UAV Floodplain and River Design RivHab Tech Talk | Open Protocol Acoustical Telemetry System Lotek Tech Talk | Habitat modeling approaches in the Lower Boise River HDR Tech Talk | The advantages of HDX technology Oregon RFID Tech Talk | Improving Aquatic Organism Passage (AOP) through culverts with Flexi-Baffle SSA Environmental Tech Talk | Syndel Biosecurity Solutions Syndel Tech Talk |
| 1:40 | The emergence of instream flow and water level conservation as an integrative discipline Thomas Hardy | Visualizing the core of Idaho Fish & Game's anadromous snorkel program Alexa Ballinger | Habitat suitability assessment of Loggers Creek Dorene MacCoy | Trout management in the Big Wood River: Past and present Tucker Brauer | Investigating angler use and harvest using creel surveys and fish tagging John Heckel | The role of a university-operated conservation hatchery on a multiple agencies involved experimental supplementation project Tien-Chieh Hung |
| 2:00 | Developing water level claims for Upper Klamath Lake, Oregon based on physical habitat needs of Lost River <i>Deltistes luxatus</i> and shortnose <i>Chasmistes brevirostris</i> sucker, two endangered fish species Dudley Reiser | Diversity in life history movement and survival of juvenile steelhead in Idaho Marika Dobos | Side channel restoration at the Diane Moore Nature Center, Boise, Idaho Gregory Kaltnecker | Distribution and abundance of Redband Trout and nonnative trout in the Wood River basin of central Idaho Jennifer Vincent | Using state-space models to estimate recreational angling effort and infer processes that regulate angler dynamics Joshua McCormick | Evaluating an egg supplementation program in the lower Boise River Zoe Brandt |
| 2:20 | Wild trout abundance in relation to winter streamflow in the Henry's Fork Snake River John Heckel | Assessment of current smolt production and smolt-to-adult return rates for RAD management of Snake River spring/summer Chinook Timothy Copeland | Fish in the city: Urban runoff alters the gut microbiome and physiology of Western Mosquitofish <i>Gambusia affinis</i> Matea Djokic* | Seasonal post release survival and movement of Brown Trout in a southern hydropeaking tailwater Hayden Wall* | Angler typologies revealed using license purchasing histories Michael Lant* | A current review of epigenetic effects associated with salmonid supplementation and domestication Ilana Koch |

| * Student | | | | | | |
|--------------------------------------|---|---|--|--|---|--|
| Tuesday Afternoon (continued) | | | | | | |
| Room | 120A | 120B | 110AB | 110CD | 100D | 100E |
| 2:40 | The future of instream flow and water level conservation; Science, law, policy, and the public Tom Annear | Estimation of adult steelhead in a coastal river using SONAR Kevin See | Interactions between runoff volume, timing, and annual temperatures shape adfluvial sucker spawning migration schedule Timothy Walsworth | Toward empirical assessment of adaptive capacity in aquatic populations across scales: From genomes to landscapes in native Rainbow Trout populations in Idaho Chris Caudill | How to tell fish stories and reach a broader audience Sara Cassinelli | Effects of hatchery supplementation on natural production of a Pacific salmon population Shubha Pandit |
| 3:00 | Instream flow and water level protection Q/A Tom Bassista | Addressing the complexities of steelhead behavior when estimating adult abundance Carli Baum | | | | Effects of using natural-origin Chinook Salmon in hatchery broodstocks Darcy McCarrick |
| 3:20 | | The quest for fisheries-specific salmon and steelhead hooking mortality estimates Ian Courter | | Using de novo transcriptomes to decipher the relationships in Cutthroat Trout subspecies <i>Oncorhynchus clarkii</i> Andrea Kokkonen* | | Strategic evaluation of goals for spring/summer Chinook Salmon hatcheries in the Snake River Basin Jonathan Ebel |
| 3:40 - 4:00 | Refreshments with Vendors/Posters/Fundraiser - Rooms 100C and 130 | | | | | |
| 4:00 - 5:00 | Spawning Run/Walk | | | | | |
| 5:00 - 6:00 | Student Mentoring Panel Discussion - Room 120B | | | | | |
| 6:00 -10:00 | Student/Professional Mixer - Room 100AB | | | | | |

| * Student | | | | | | |
|--------------------------|--|--|--|--|--|--|
| Wednesday Morning | | | | | | |
| Room | 120A | 120B | 110AB | 110CD | 100D | 100E |
| Session Name | Contributed Talks | Forward-looking Science and Stewardship of Large River Systems | Free Round of PBR (Process-Based Restoration) | The Future of the Western Division of AFS | Contributed Talks | Contributed Talks |
| 8:00 | PIThy: A web-based application for processing and analysis of PIT-tag data Brian Maschhoff | | Introduction to Process-based Restoration Symposium | Modeling stream temperature and flow from gridded climate datasets in Alaska's Yukon and Kuskokwim basins Rebecca Shaftel* | | The demise of salmon and steelhead in the Upper Snake River Basin: A chronological history of dam blockage Dennis Daw |
| 8:10 | | Boise River floodplain restoration - It's for the birds! River Design Group Tech Talk | What should streams look like? How does the concept of reference condition relate to the practice of stream restoration? | | Always watching so you don't have to: Vision technology to monitor fishes Merck Animal Health Tech Talk | |
| 8:20 | PIT tag data tools on the Columbia River DART website Jennifer Gosselin | The diversity of northwestern U.S. rivers, threats, and future prospectuses Dan Isaak | | Evaluating the success of eradicating non-native Brook Trout using Trojan-Y chromosome fish in southern Rocky Mountain streams Michael Miller* | Interactions among Yellow Perch, Northern Pike minnow, and Smallmouth Bass in Lake Cascade, Idaho Bryce Marciniak* | Evaluation of fish assemblage in the Grande Ronde Valley, OR, underscores potential threats to local Chinook Salmon and steelhead populations Sean Gibbs |
| 8:40 | PIT-tag analysis tools from Columbia Basin Research Rebecca Buchanan | Historical Baselines I: Trajectories of fisheries management and Chinook Salmon abundance in Idaho's Salmon River Basin Timothy Copeland | Process-based riverscape restoration - now or never Chris Jordan | Why so salty? How a rare and endemic animal lives in harsh environments Audrey Lindsteadt* | Growth and food habits of Walleyes in the Lake Pend Oreille system, Idaho Susie Frawley* | Evaluating Chinook Salmon and steelhead response to tributary reconnection Stacey Meyer |
| 8:20 - 9:50 | <i>Film and Photo Festival - morning showing - Room 100AB</i> | | | | | |

| * Student | | | | | | | Wednesday Morning (continued) | | | | | | |
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| Room | 120A | 120B | 110AB | 110CD | 100D | 100E | | | | | | | |
| 9:00 | <p>IGNITE Talks: Surfing the tidal wave: Use of transiently aquatic habitat by juvenile Pacific salmon and other fishes in estuaries Dan Scurfield; An evaluation of Lake Trout natural reproduction potential in Bear Lake Cindy Nau;</p> | <p>Historical Baselines II: Revisiting historical Chinook Salmon abundance estimates to inform recovery potential - What have we learned? Russ Thurow</p> | <p>New models of evaluation and communication for processing uncertainty in process-based restoration Caroline Nash</p> | <p>There and Back Again: Community traits and interactions mediate aquatic-terrestrial linkages across a mosaic of headwater stream-riparian ecosystems in Northern Yellowstone National Park Jeremy Brooks*</p> | <p>Evaluating Wallowa Lake's food web and potential limiting factors for Sockeye Salmon reintroduction Brian Simmons</p> | <p>Steelhead populations show modest response to 2012-2016 California drought Haley Ohms</p> | | | | | | | |
| 9:20 | <p>A portable riverbank photo studio: How to take better fish photographs despite muddy water Jan Boyer; Towards a better understanding of</p> | <p>How can large rivers support cold-water fish in a warmer future? Jonathan Armstrong</p> | <p>Can you have your water and use it, too? The persistent, pernicious issue of downstream water availability Christine Brisette</p> | <p>Reach-scale associations between Brook Trout and Bull Trout in Idaho: Patterns across space and time Nicholas Voss*</p> | <p>Trophic niche dynamics of Brown Trout and Mottled Sculpin in a regulated Rocky Mountain river Nitsa Platis*</p> | <p>Two-year cycles in Snake River steelhead growth suggest competition with Pink Salmon in the Pacific Ocean Ryan Vosbigian*</p> | | | | | | | |
| 9:40 | <p>invasive crayfish impacts on salmonids Claire Vaage*; Logging for Largemouth Joe Thiessen; Fall Chinook stocking in Coeur d'Alene Lake: Enough is enough Carlos Camacho; Effects of introduced Northern Pike on a managed Rainbow Trout fishery in a southwestern reservoir Jane Trujillo</p> | <p>Proactive science and stewardship of salmon watersheds Jonathan Moore</p> | <p>Wood you believe it? Experimental nonnative wood addition enhances in-stream habitat for native desert fishes Benjamin Miller*</p> | <p>Student involvement in the Western Division of AFS and how the WDAFS Early Career Professionals Committee can help as students finish their degree programs Jack McClaren, Audrey Harris, Tawni Riepe</p> | <p>Investigating the role of network complexity in sustaining biodiversity in meta-food webs of a wilderness river Laurel Faurot</p> | <p>A re-interpretation of radio tag data for passage of adult salmonids past dams in the Columbia and Snake rivers Brian Maschhoff</p> | | | | | | | |
| 10:00 - 11:30 | Trade Show and Poster Session with Refreshments - Rooms 100C and 130 | | | | | | | | | | | | |
| 11:30 - 1:30 | ICAFS Business Lucheon - Room 100AB | | | | | | | | | | | | |

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| 1:50 - 3:20 | Film and Photo Festival - afternoon showing - Room 100AB | | | | | | | | | | | | |
| Room | 120A | | 120B | | 110AB | | 110CD | | 100D | | 100E | | |
| Session Name | NOAA's Habitat Restoration through the Bipartisan Infrastructure Law | | Forward-looking Science and Stewardship of Large River Systems | | Free Round of PBR (Process-Based Restoration) | | The Future of the Western Division of AFS | | The Integration of Fish Habitat Design and Monitoring Response | | Bull Trout: Considerations for Management and Conservation | | |
| 1:40 | NOAA's Habitat Restoration through the Bipartisan Infrastructure Law - Introduction | | The need for constructing endangered fish habitats that conform to climate-driven flow changes in a western U.S. river | | Food-web dynamics in a river-floodplain mosaic overshadow effects of engineered logjams: Consequences for salmon and process-based restoration | | Utilizing the spotting patterns of S. confluentus to identify individuals in photo identification software | | Update on the latest in fish tracking from Innovasea | | | | |
| 1:50 | Larissa Lee | | Richard Valdez | | Colden Baxter | | Svyetlana Parry* | | Innovasea Tech Talk | | Introduction to The Integration of Fish Habitat Design and Monitoring Response Symposium | | |
| 2:00 | Strategic Action Planning to support coast Coho recovery – Overview and lessons learned | | Reconnecting the Kootenai River floodplain to restore ecosystem productivity and native fish recruitment | | Measuring channel response to Process-Based Restoration | | Electrofishing and angling data reduce error in abundance estimates for trout in the Lamar River | | Improved habitat design through integration of advanced technology and response monitoring | | Expanding our understanding of Bull Trout viability | | |
| | Tim Elder | | Shawn Young | | Eric Winford* | | Keith Wellstone* | | Jeanne McFall | | Dan Nolfi | | |
| 2:20 | A collaborative approach to ecosystem restoration in the McKenzie River Sub-basin (OR) | | Huu-ay-aht Watershed Renewal Program: Looking forward after the first 5 years | | Quantifying and mapping the thermal and hydrologic retention capacity of beaver habitat and beaver restoration analogs with UAS | | The story of one invertebrate, two fish parasites, and the largest dam removal project in the world | | Drone Assisted Stream Habitat (DASH) Surveys: Quantifying habitat to inform and assess rehabilitation efforts | | Bull Trout: An IDFG perspective | | |
| | Jared Weybright | | Kaitlyn Manishin | | Matthew Steinwurtzel* | | Elliott Cameron* | | Tulley Mackay* | | Brett Bowersox | | |

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| Wednesday Afternoon (continued) | | | | | | |
| Room | 120A | 120B | 110AB | 110CD | 100D | 100E |
| 2:40 | Steelhead passage through an agricultural floodplain - Funding needs and sources Tom Elliott | Challenges and innovations for stewarding transboundary river systems Erin Sexton | Resist-accept-direct for restoration: Landscape-scale prioritization of floodplain reconnection in Lahontan Cutthroat Trout habitat using remote sensing and GIS Hayley Glassic | Potential benefits of implementing lake-level informed removal efforts to control Common Carp Ellie Wallace* | Hydrologic analysis for river restoration projects: How to integrate ecologically relevant flows into restoration design Tyler Rockhill | A synthesis of Bull Trout population genetics John Hargrove |
| 3:00 | Removing barriers on the Olympic Peninsula Nicole Rasmussen | The social-ecological system of the Kenai River fishery (Alaska, USA) Chase Lamborn | A Watershed Pyramid Scheme– RAD-ical perspectives from Central Oregon streams Jonathan Kochersberger | Estimating the relative production of migratory Westslope Cutthroat Trout in tributaries to the lower Priest River, Idaho Collin Hendricks* | Integrated monitoring and adaptive management to support the reconnection of historic floodplains to the Lemhi River Jeffrey Diluccia | The genomic of isolated lake Bull Trout Alexandra Fraik |
| 3:20 | <i>Refreshments with Vendors/Posters/Fundraiser - Rooms 100C and 130</i> | | | | | |
| Session Name | NOAA's Habitat Restoration through the Bipartisan Infrastructure Law | Forward-looking Science and Stewardship of Large River Systems | Free Round of PBR (Process-Based Restoration) | Contributed Talks | The Integration of Fish Habitat Design and Monitoring Response | Bull Trout: Considerations for Management and Conservation |
| 3:40 | A collaborative approach to removing barriers on ESA listed streams in Idaho Abbie Gongloff | Estimated effects of a Stage 0 treatment on juvenile Chinook length and abundance Aleah Hahn* | Integrating data from multiple tools for monitoring riverscapes and prioritizing restoration actions Robert AI-Chokhachy | Characterizing the fish assemblage in the Lake Powell forebay and identifying the potential for nonnative fish escapement into the Lower Colorado River Barrett Friesen* | Using mobile PIT array technology to monitor juvenile salmonid use of restored side channel and off-channel habitats Bryce Oldemeyer | Informing conservation and management of adfluvial Bull Trout in Lake Pend Oreille, Idaho using genetic tools Jeff Strait |
| 4:00 | A community-based coalition strategy for NOAA Transformational Habitat Funding Jay Krienitz | Spatio-temporal variation in estuarine summer water temperature and implications for nursery function for juvenile Pacific salmon with climate warming Phoebe Gross* | Using a landscape-scale approach to prioritizing LTPBR sites through partnerships and collaboration Shelby Weigand | An experimental test for coexistence with the freshwater invader, Western Mosquitofish Samuel Lewis* | Increasing future effectiveness by assessing past actions: Fish habitat capacity change at habitat improvement sites in a heavily impacted river Jim Gregory | Population demographics and dynamics of juvenile Bull Trout in a montane ecosystem Sage Unsworth* |

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| Wednesday Afternoon (continued) | | | | | | |
| Room | 120A | 120B | 110AB | 110CD | 100D | 100E |
| 4:20 | NOAA's Habitat Restoration through the Bipartisan Infrastructure Law - Discussion and future opportunities Larissa Lee | Patterns in predation: Understanding climate mediated predation impacts of a subarctic predator Benjamin Rich* | How to keep the PBR flowing: Perspectives from Tribal, NGO, and land management practitioners Scott Miller, Wes Keller, Warren Colyer | How non-native Wakasagi may threaten the persistence of endemic Delta Smelt in the San Francisco Estuary Yi-Jiun Jean Tsai | Hand pulls, herbicide, and channel relocations: Winning the battle with Eurasian Watermilfoil in Jefferson Slough Mike Sanctuary | Evaluating Bull Trout fish/redd metrics in the Puyallup Basin, Washington Jeffery Johnson |
| 4:40 | | Material flow and meta-food webs of a floodplain mosaic: Effects of river regulation and introduced species on the Snake River, ID James Paris | | A species on the edge: Can intraguild predation explain Burbot decline Robert Eckelbecker* | | |
| 5:00 | | | Beyond Process-Based Restoration - Following the science Michael Pollock | Optimizing invasive species eradication in time and space: A case study of Green Sunfish removal in intermittent streams Jessica Diallo* | | |
| 5:20 | | | Free Round of PBR Closing Remarks Brian Hodge, Matt Corsi | | | |
| 6:00 - 10:30 | Fundraising Banquet - Room 100AB | | | | | |

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| Thursday Morning | | | | | | |
| Room | 120A | 120B | 110AB | 110CD | 100D | 100E |
| Session Name | Addressing Aquatic Organism Passage | Non-permanent Rivers and Streams | Filling the Void: Expanding Anadromous Fish into Historical Habitat | Applying Research in Hatcheries | Western Native Fishes | Contributed Talks |
| 8:00 | | | Lessons from the recovery of Columbia Basin Sockeye Salmon and implications for restoration into other subbasins | Research in aquaculture: Strategic innovation | | |
| 8:10 | Introduction to the Addressing Aquatic Organism Passage Symposium | | Jeff Fryer | | Introduction to the Western Native Fishes Symposium | |
| 8:20 | Incorporating non-summer growth potential elevates the importance of downstream habitats in aquatic connectivity decision making | | Okanagan Nation Alliance's Okanagan Basin Sockeye Salmon Reintroduction and Restoration Program (1995-2023) | George Schisler | Assessing the genetic variation of Lahontan Cutthroat Trout in the Walker River Tributaries | |
| 8:30 | Helen Neville | | David Duvall | Bridging the gap between public and private aquaculture, collaborative research opportunities, and why we're better together | Paul Lee* | |
| 8:40 | Outcomes from a Forest Road and Fish Passage Assessment on the Coeur d'Alene Reservation: A 15 year retrospective Stephanie Hallock | What are non-perennial waters and why should we care? An introduction to the session Leanne Roulson | A case for sprawl: Encouraging salmon to move to the suburbs using targeted hatchery releases David Venditti | Jesse Trushenski | | Assessing the utility of coral reef indicators for evaluating ecosystem-based management thresholds Shannon Hennessey |

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| Thursday Morning (continued) | | | | | | |
| Room | 120A | 120B | 110AB | 110CD | 100D | 100E |
| 9:00 | Use of flexible baffles to improve Aquatic Organism Passage (AOP) through culverts in North America Shane Scott | Identifying potential climate-change refugia for fishes in the face of warming, drying, barriers, and invasive species Niall Clancy* | Is trap and haul a viable, long-term management solution to passage issues at Big Bear Falls in the Potlatch River Basin, Idaho? Brian Knoth | Collaboration of research and hatchery production staff to benefit management of hatchery trout fisheries Will Lubenau | Upper Columbia River Redband Trout in the midst of climate change Aspen Nelson | Challenges of implementing marine ecosystem based management Moses Koroma |
| 9:20 | Tools for tracking road stream crossings and streamflow permanence - feature mapping with mobile data collection Emily Heaston | Analyzing modeled representations of no- and low-flow in the Pacific Northwest Adam Price | Clearwater Basin anadromous fishes - Past, present, and future Jason Vogel | Balancing feed costs and growth, health, and angler preference for catchable Rainbow Trout reared on the standard feeds from four commercial feed manufacturers Eric Fetherman | Harnessing genomic techniques to inform conservation management of the Lahontan Cutthroat Trout <i>Oncorhynchus clarkii henshawi</i> Alana Luzzio* | Research across an international border: Partnering to assess a shared at-risk species Dayv Lowry |
| 9:40 | Lessons learned from a decade of monitoring adult Chinook movement in the Lostine River, Oregon Shane Vatland | Using lidar and spectral imagery to identify and model streamflow in small streams Konrad Hafen | Heesu, the other anadromous fish: Restoring Snake Basin Pacific Lamprey Jay Hesse | Case studies of implementing research outcome into the operation of a conservation hatchery Tien-Chieh Hung | Conservation challenges for endemic crayfishes of western North America Eric Larson | Exploring rockfish (Sebastes) diversification using a phylogenetic comparative approach: Depth, color, and pattern Peter Searle* |
| 10:00 - 10:20 | Refreshments with Vendors - Rooms 100C and 130 | | | | | |
| 10:20 | Fish passage as a key step in the process to restore native fish assemblages by means of non-native trout removal James DeRito | Evaluating the effects of intermittent flow on the resilience and vulnerability of fish assemblage structure Cienna Hanson* | The case for effective hatchery management: Restoration of fall Chinook Salmon in the highly altered, secondary habitats of the Snake River William Young | Triploid Burbot <i>Lota lota</i> production: Optimization of thermal and hydrostatic parameters, tetraploid induction, and confirmation of triploid sterility Luke Oliver | Effects of catch-and-release ice fishing on trout mortality in a highly pressured fishery Nathan Tillotson | Positive selection and adaptive radiation in Rockfish Tanner Van Orden* |

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| Thursday Morning (continued) | | | | | | |
| Room | 120A | 120B | 110AB | 110CD | 100D | 100E |
| Session Name | Addressing Aquatic Organism Passage | Non-permanent Rivers and Streams | Filling the Void: Expanding Anadromous Fish into Historical Habitat | Applying Research in Hatcheries | Western Native Fishes | Contributed Talks |
| 10:40 | Restoring fish passage in the Tillamook Bay and Nestucca Watershed Cory Sipher | Non-permanent streams in the Colorado River Basin insulate against hybridization in catostomid species Zachary Hooley-Underwood | This history of spring and summer Chinook Salmon fishing in Idaho Joe Dupont | Spontaneous autopolyploidy testing protocol for three-month-old Kootenai River White Sturgeon Mark Elliston | Exploring impacts of lake level decline on a critical native forage species in a large terminal desert lake Sarah Barnes* | When digestive physiology doesn't match "diet": <i>Lumpenus sagitta</i> (Stichaeidae) is an "omnivore" with a carnivorous gut Daniel Rankins* |
| 11:00 | Transformational aquatic connectivity restoration through the Bipartisan Infrastructure Law and beyond Amy Horstman | Characterizing the availability of native salmonid spawning habitats in intermittent tributaries Skylar Rousseau* | Lessons learned from a decade of salmon and steelhead reintroduction on the Deschutes Megan Hill | Investigating Kootenia River White Sturgeon natural substrate during egg incubation Brian Michaels | Age-structured survival rates of Burbot in the Kootenai River's hatchery-augmented fishery Joshua Heishman* | Utility of parentage-based tagging for monitoring Coho Salmon <i>Oncorhynchus kisutch</i> in the interior Columbia River basin Rebekah Horn |
| 11:20 | Fish passage monitoring and remediation in a highly modified New Zealand ecosystem Ryan Easton* | The effect of flow regime on the feeding ecology of Redband Trout <i>Oncorhynchus mykiss</i> in an intermittent stream Christopher Walser | Recolonization by steelhead and salmon in the White Salmon Subbasin following dam removal Joe Zendt | Starting at the source: How the College of Southern Idaho views teaching students to conduct research as an essential requirement of the aquaculture program curriculum Melissa Wagner | Plasticity and genetic basis of thermal tolerance and performance traits in Redband Trout Zhongqi Chen | Using quantitative PCR to estimate Chum Salmon <i>Oncorhynchus keta</i> abundance with environmental DNA on the Chena River Maggie Harings* |
| 11:40 | AOPs - Connecting agencies, disciplines, and habitat Kevin Davis | | Assisted migration of Coho Salmon: Stakeholder engagement in adaptive management Joseph Benjamin | Hatchery propagation did not reduce natural steelhead productivity relative to habitat conditions and predation in a mid-Columbia River subbasin Mark Roes | History of Burbot monitoring in the Kootenai River - The power of PBT Aaron Black | Adaptive haplotypes associated with age-at-maturity in Dworshak National Fish Hatchery steelhead Audrey Harris |

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|--------------|------|--|------|--|-------|--|--|--|---|--|------|--|--|
| 12:00 - 1:20 | | Western Division Business Meeting and Luceon - Room 100A | | | | | | | | | | | |
| Room | 120A | | 120B | | 110AB | | 110CD | | 100D | | 100E | | |
| Session Name | | | | | | | Applying Research in Hatcheries | | Contributed Talks | | | | |
| 1:30 | | | | | | | Fecundity trends of Chinook Salmon in the Pacific Northwest Michael Malick | | Population structure of White Sturgeon <i>Acipenser transmontanus</i> in the Columbia River inferred from single nucleotide polymorphisms Stuart Willis | | | | |
| 1:50 | | | | | | | The influence of fall body length and rearing conditions on smolt migration survival in relation to Columbia River migration conditions for spring Chinook Salmon reared at Leavenworth National Fish Hatchery from 2010-2020 Ben Kennedy | | Evidence of reduced growth in Kootenai River White Sturgeon and implications for recovery Troy Smith | | | | |
| 2:10 | | | | | | | An evaluation of rearing strategies for steelhead production at Hagerman National Fish Hatchery, Idaho - Can a Partial Recirculating Aquaculture System (PRAS) address the challenges of a large-scale steelhead mitigation program? Rod Engle | | Using microchemistry to inform growth dynamics of Kootenai River White Sturgeon Courtne Ghere* | | | | |

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| Thursday Afternoon (continued) | | | | | | |
| Room | 120A | 120B | 110AB | 110CD | 100D | 100E |
| Session Name | | | | Applying Research in Hatcheries | Contributed Talks | |
| 2:30 | | | | Smoltification strategies: understanding a unique feature of salmonid biology and how to manage the process in aquaculture Jesse Trushenski | White Sturgeon population dynamics and demographics of a hatchery-established population Donavan Maude* | |
| 2:50 | | | | Best Paper Awards | | |

| # | Poster Title | Author |
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| 1 | Opening rivers for the movement and migration of native fishes in the Bear River Basin | James DeRito |
| 2 | Influence of increasing water temperature on the thermal tolerance of <i>Gonidea angulata</i> and its host fish, <i>Cottus spp.</i> | Rachael Valeria* |
| 3 | Revisiting the mitochondrial DNA phylogeography of Mountain Whitefish <i>Prosopium williamsoni</i> in Idaho | Erika Alvarado |
| 4 | A novel method to map channel units using non-spatial field data to develop scalable summaries and inform restoration design | Michael Briggs |
| 5 | Effect of temperature in growth, survival, and chronic stress responses of juveniles of Arctic Grayling <i>Thymallus arcticus</i> | Alonso Longoria* |
| 6 | Comparison of pectoral fin rays and lapilli for estimating age of Northern Pikeminnow in a montane reservoir | Bryce Marciniak* |
| 7 | The heart of the issue: What drives interpopulation differences in physiological and behavioral plasticity? | Jon Masingale* |
| 8 | Effect of climatic variation on spawning migrations of Utah Sucker and Green Sucker | McKay Curriden* |
| 9 | The drying of Dry Creek: Influence of springs on headwater stream intermittency | Elizabeth Crowther* |
| 10 | Does stream connectivity and species assemblage affect fish diet composition in headwater streams? | Brandy Smith |
| 11 | Drivers and consequences of Chinook Salmon <i>Oncorhynchus tshawytscha</i> juvenile migratory diversity in a wilderness river | Samuel Owens* |
| 12 | Shocking news: A deep dive into the electrofishing literature | Jim Reynolds |

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| # | Poster Title | Author |
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| 13 | Lower Boise River mussel surveys | Dorene MacCoy |
| 14 | Phylogeography of <i>Prosopium</i> species in Idaho | Katharine Coykendall |
| 15 | Effects of domestication practices on genetic variation associated with reproductive traits of Rainbow Trout | Sara Schwarz |
| 16 | Using environmental DNA to assess spatiotemporal variation in Arctic Grayling and Chinook Salmon throughout the Chena River | Kristen Reece* |
| 17 | Evaluating the need for regulation change in a popular fishery | Phil Saporito |
| 18 | Precision of age determination using pectoral fin rays removed with or without the articulating process | Jessica Moon* |
| 19 | Annual flows and spatial distribution of Bull Trout | Thomas Doolittle* |
| 20 | Evaluation of non-lethal genetics sampling techniques for fry | Darcy McCarrick |
| 21 | Biological carryover effects from juvenile migration on age at maturity in wild spring/summer Chinook Salmon in the Snake River, USA | Caitlin O'Brien |
| 22 | What can divergent long-term monitoring efforts tell us about small scale salmonid habitat restoration in the Pahsimeroi River, Idaho? | Luke Anderson* |
| 23 | Conservation of imperiled native <i>Catostomus</i> suckers using a barrier intervention | Jillian Campbell* |

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The Boise Center Floor Plan

