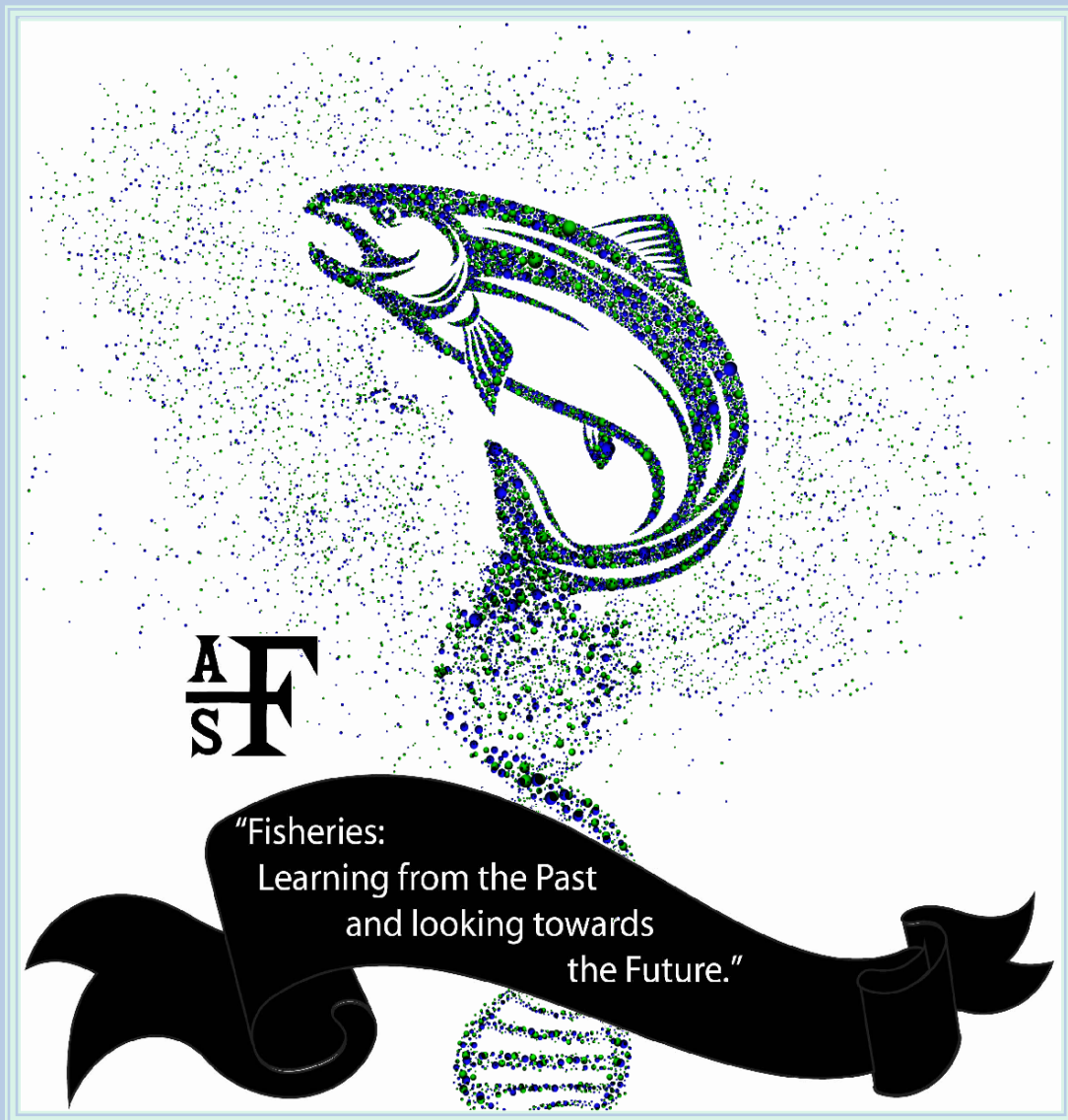


AMERICAN FISHERIES SOCIETY WESTERN DIVISION ANNUAL MEETING

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



April 15 – 18 2013
Boise Idaho

Artwork provided by Cheryl Rabe



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Presidents' Letter of Welcome

Welcome to Boise, Welcome to the Treasure Valley,

Welcome to the 2013 Western Division of the American Fisheries Society Meeting

Presidents' Letter of Welcome

Welcome to the 2013 Western Division American Fisheries Society Annual Meeting, hosted by the Idaho Chapter, in the state capital Boise, Idaho. This meeting is special to us because it is also the 50th Anniversary of the Idaho Chapter, from which the theme was created: "Fisheries: Learning from the Past and Looking Towards the Future"! The meeting features workshops and symposia that members from each of the 17 states, provinces and territories within Western Division can learn from. Attendees will also have a variety of opportunities to enjoy local attractions, continuing education workshops, career development activities and social events including the famous Idaho Chapter banquet.

Please feel free to contact us or any member of the Western Division or Idaho Chapter Executive Committees if you have any questions or concerns - the registration desk will be open every day and our websites are: <http://www.idahoafs.org/> and <http://wdafs.org/>.

We hope you have a great meeting and take advantage of the full learning experience. As always our student members are an integral part of the meeting planning, operations, and follow through. Take a few minutes during the meeting to introduce yourself to the new recruitment class of fish biologists!

Christina (Tina) Swanson
Western Division President



Dmitri Vidergar
Idaho Chapter President





Planning Committee Membership

2013 Western Division American Fisheries Society Annual Meeting Planning Committees

General Meeting Organization

Joe DuPont
Christina Swanson

Advertising

Craig Rabe
Bart Gamett
Travis Neebling
Tom Curet
Dave Lentz
Dona Horan

Best Paper and Poster Awards

Tracy Wendt
John Walrath
Kaleb Heinrich

Continuing Education/workshops

Joe DuPont

Fund Raising

Chris Sullivan
Patrick Kennedy
Greg Schoby
Christina Swanson

Student Social

Kaleb Heinrich
John Walrath

Program

Joe DuPont
Pam Sponholtz
Bill Horton
Hilda Sexauer
Corey Lyman
Stephanie Hallock
Dan Scaife

Arrangements and Accommodations

Joe DuPont

Audio/video

Liz Mamer
Kristi Stevenson
Kristin Wright
Cheryl Zink

Budget and Finance

Bill Horton
Mary Buckman

Food and Beverages

Mike Peterson
Eric Stark
Christine Kozfkay

Volunteer

Joe DuPont
Liz Mamer
Tracy Wendt
John Walrath
Kaleb Heinrich

Trade Show

Chris Sullivan
Patrick Kennedy
Greg Schoby

Registration

Craig Rabe
Bill Horton

Off Site Entertainment

Steve Elle
Ed Powers



General Conference Information

Registration

Registration will be open on Monday, April 15 from 7:00 am until 9:30 pm and on Tuesday and Wednesday from 7:00 am to 5:00 pm. The last day for registration will be Thursday April 18 from 7:00 am to 12:00 pm.

Presentation Preview

Presenters are asked to preview their presentations at the Meadow Room (Lobby), on Monday from 8:00 am to 5:00 pm or on Tuesday through Wednesday from 7:00 am to 5:00 pm to confirm that your animations and embedded items are working as you have designed them.

Poster Session

There are over 60 contributed posters on display throughout the meeting in the Falcons Room. Poster viewing begins on Tuesday April 16. Make sure to take a moment to attend the Poster Session scheduled from 5:00 pm to 6:00 pm on April 17. Presenters will be available at this time to answer questions. Posters must be dismantled by 4:00 pm on April 18.

Plenary Session

The Plenary Session begins April 16 in the Eagle Room immediately following the opening remarks from Christina Swanson (President of the Western Division of the American Fisheries Society), Dmitri Vidergar (President of the Idaho Chapter of the American Fisheries Society), and John Boreman (President of the American Fisheries Society).

Symposia and General Presentations

There are over 300 general and symposia papers. Presentations begin on Tuesday, April 16 at 1:20 pm. Symposia and general papers will be presented in the Willows, Pines, Firs/Cottonwoods, Salmon, Snake, Payette, Eagle, Summit, Hawk and Perch rooms. There are up to 8 concurrent sessions.

Raffle and Auction

Raffle tickets will be for sale Monday evening through Wednesday evening. Raffle items will be on display in the Falcons Room until the Banquet at which time they will be moved to the Hawk and Eagle Rooms. Raffle drawings, silent auction, and live auction will occur during the Banquet on Wednesday night which will be held in the Hawk and Eagle Rooms. The auctions will include several prints and artwork, fishing or whitewater trips, fishing/outdoor equipment, jewelry, and more. The special raffles will include several fishing rod/reel combos, prints, artwork, pontoon boat, and one trip. You must be present to win raffle prizes. Other fundraising options include the bean bag game which will be set up at all Socials (grand prize is a fly rod combo).



General Conference Information

Morning Coffee

Coffee, tea, pastries, juice and fruit will be served each day starting at 7:30 am prior to the morning sessions.

Snack breaks

A variety of snacks, coffee, soft drinks, and fruit will be available during the morning and afternoon breaks. *Breaks are sponsored by the Natural Resources Defense Council and the Bureau of Land Management*

Socials

Welcome Social – A Welcome Social will be held Monday evening from 6:30 pm until 9:30 pm. Free beer, soft drinks, and appetizers are provided. Cash bar will also be available.

Mentoring Social and Student Mixer – The Mentoring Social is on Tuesday, April 16th at the Basque Center, one block from the Grove Hotel and Boise Centre. The Mentoring Social begins at 5:30 pm where professionals will be asked to pair up with students to talk about fisheries issues, job opportunities, and any other topics of interest. Mentors will also facilitate networking between the students and other professionals with similar interests. Immediately following the Mentoring Social, the Student Mixer will begin around 6:30 pm with pizza, salad, beer, and soft drinks provided. Attendees are encouraged to continue mingling amongst students and professionals alike for the rest of the evening. Please be sure to thank the students and the University of Idaho's Department of Fish and Wildlife Resources for sponsoring this excellent event, and be sure to venture outside your comfort zone to get to know some new people. *Sponsored by University of Idaho*

Banquet – The Banquet will be held on Wednesday evening in the Hawk and Eagle Rooms from 6:00 pm until midnight. Buffet style meals with all of the accouterments, soft drinks, and kegs of beer will be provided (bring the glass you received at registration to get free beer). A cash bar is also available. Everyone is welcome at the social, raffle, auction and of course to play a few games.

Tradeshow

Take a few moments to visit with the vendors at the Tradeshow. They will be set up Tuesday through Wednesday from 8:00 am until 5:00 pm and on Thursday from 8:00 am until 12:00 pm in the Falcons Room. This is a great opportunity for AFS members to learn about the most advanced equipment available.

Student Chapters Sales

The Student Chapters are an integral part of AFS and the local chapters have spent considerable time assisting with organizing this meeting. They will have t-shirts and sweatshirts available for sale in the Hawk and Eagle Rooms. Stop by and pick up a souvenir.



General Conference Information

Job Fair

The Job Fair will initially be located at the registration area as the meeting kicks off and will then move to the Falcons Room. This fair provides employers an excellent opportunity to post information on job openings and provides students a chance to share their resumes and meet future employers.

Spawning Run

If you are registered for the Spawning Run please check in at the registration desk prior to 2:00 pm on Wednesday, April 17 to receive your number and t-shirt. The Spawning Run will commence on Thursday April 18 at 6:30 am. Cost is \$7.00 and each participant will receive a t-Shirt.

Continuing Education

Continuing Education workshops will be held on Monday April 15. Full and half day workshops will be available and will cover topics including stress and fish physiology, habitat restoration, spatial statistics, electrofishing methods, and a new approach to sharing methods and protocols.

Business and Committee Meetings

Western Division AFS Executive Committee Meeting – The meeting will be held from 8:00 am until 12:00 pm on Monday, April 15 in the Perch Room. Drinks and snacks will be available.

Idaho Chapter AFS committee meetings - Idaho Chapter AFS committees are organized to help carry out the mission of the Chapter. Each of the eight committees is made up of Chapter members and is chaired by one to three committee chairpersons. The annual meeting is a time when these committees gather face-to-face to discuss past accomplishments/struggles and actions to pursue in the future. The committees listed below will be meeting on April 16 from 12:00 pm until 1:15 pm. All meeting attendees are welcome to join in a committee meeting to provide their thoughts and ideas.

Committee Room Assignments

Committee	Room
Anadromous Fish	Payette
Aquaculture	Snake
Fish Habitat	Salmon
Fundraising	Falcons
Mentoring	Firs/Cottonwoods
Native Fish	Pines
Public Education	Willows



General Conference Information

Western Division AFS Business Luncheon – Come join us for the Western Division AFS business meeting and get a free lunch! Here's your opportunity to weigh in on important AFS issues and support your colleagues as we recognize their outstanding service to the society and to fisheries science and protection with our Award of Excellence, Award of Merit, Riparian Challenge awards, Chapter of the Year and Student Sub-unit of the Year awards. We will also be awarding our student scholarships. The Western Division AFS business luncheon will be held on April 16 from 12:00 pm until 1:15 pm. All meeting attendees are welcome and encouraged to join us.

Idaho Chapter AFS Business Luncheon – Idaho Chapter of AFS will host their business luncheon on April 17 from 12:00 pm until 1:50 pm.

Best Paper/Poster Awards Ceremony

The best paper/poster awards ceremony will be held in the Firs/Cottonwoods room on April 18 at 5:00 pm. This is a great opportunity to congratulate your colleagues and friends for a job well done.



Continuing Education

Power-Based Standardization in Electrofishing (Half-Day – 1:00 – 5:00, Boise Centre Payette Room)

Jim B. Reynolds, University of Alaska-Fairbanks

Spatial Statistical Modeling on Stream Networks (Full-Day – 8:00 – 5:00, Idaho Water Centre, 322 E. Front Street)

Jay M. Ver Hoef, NOAA Alaska Fisheries Science Center

Erin E. Peterson, CSIRO

Daniel J. Isaak, U.S. Forest Service RMRS

Physical, Ecological, Engineering and Social Considerations in Using Wood in Stream Restoration (Full Day – 8:00 – 5:00, Boise Centre Salmon Room)

Tim Abbe, PEG/PHG, Natural Systems Design

Leif Embertson, P.E., Natural Systems Design

Jeanne McFall, PSMFC/IDFG

Physiological Stress in Fish Culture and Fish Management: Good Stress, Bad Stress...Good Fish, Bad Fish (Half Day – 8:00 – 12:00, Boise Centre Snake Room)

Doug Munson, Idaho Department of Fish and Game

How Many Different Ways is this Method Implemented? Discussion of best practices for snorkeling methodology and pool measurement methods (Half-Day – 8:00 – 12:00, Boise Centre Payette Room)

Amy Puls, PNAMP

Jacque Schei, PNAMP

*Note: Details on each continuing education workshop can be found at:

<http://www.idahoafs.org/2013AnnualMeeting/workshops.php>



Symposia

Parentage based tagging: from conception to implementation

Organizer: Matt Campbell, Idaho Department of Fish and Game

This symposium will focus on an exciting new genetic technology, called Parentage Based Tagging (PBT), that should provide an excellent tool for addressing management and conservation needs associated with marking hatchery stocks, conducting hatchery evaluations and reform, and enforcing salmonid fishery management measures. Talks will focus on describing the development of new genetic markers and analysis software and the development of sampling methodologies for estimating stock composition in fisheries and the proportion of hatchery-origin spawners on wild spawning grounds. Talks will also provide examples of the implementation of PBT programs for Chinook salmon and steelhead in the Snake River basin and in California. A panel discussion at the end of the symposium will answer questions from the audience and discuss the possibilities of extending this technology throughout the Columbia River Basin.

Sponsored by Fluidigm Corporation and Idaho Department of Fish and Game

Hydraulics and habitat

Organizer: Jeanne McFall, Pacific States Marine Fisheries Commission / Idaho Department of Fish and Game

This Symposium will focus on enhancing aquatic habitat by influencing stream hydraulics to restore stream function. Recent studies have shown that techniques focusing on restoring natural processes may be more cost effective and more self-sustainable over the long-term in improving fish populations. This symposium will facilitate discussions of river restoration, the use of large wood or beaver to create in-stream structures, bio-engineering techniques, and passive methods like riparian planting to restore the natural processes and functions to improve aquatic habitat. We will share methods used, design reasoning, construction techniques, and lessons learned.

Sponsored by R3 Wetland Solutions

New information regarding climate effects on aquatic resources in the western US: how do we use this stuff?

Organizer: Dan Isaak, U.S. Forest Service

Record warm and dry conditions across much of the U.S. during 2012 are a sobering reminder of the profound effects of climate. As formerly extreme conditions become the "new normal" this century, fish populations will have to adapt through behavioral, evolutionary, and distributional means. The amount and pace of change may be disruptive to biological communities and user groups in some areas. Understanding and predicting these changes with sufficient accuracy requires biophysical information across a range of spatial and temporal scales. Significant advances have been made in recent years towards improved understanding of climate effects on aquatic systems and this symposium will assemble presentations that cover the spectrum of this research across the western U.S. Complimentary presentations will also be solicited from representatives of key resource agencies and publics to facilitate a dialogue regarding how (and whether) the new information is useful.



Symposia

PIT-Tag technology: progression from novel to standard fisheries tool

Organizer: Steve Anglea, Biomark, Inc.

PIT tags introduced into the Pacific Northwest in the mid-1980's were first used to evaluate survival through the hydroelectric projects in the Columbia River basin. Innovations such as multiplexing readers, high performance tags, and larger antennas have resulted in the widespread application of PIT-Tag technology as a fisheries tool. Advances in PIT-Tag technology, and the rate at which fisheries researchers and managers are adopting it, has created its own set of challenges related to data base management and analyses. Information on implantation techniques, monitoring juvenile and adult fishes, data base management and analyses, and management decisions will be presented.

Interactions of fish and hydropower operations in the west – an update on recent studies and trends in resource management in the FERC relicensing process

Organizer: Matt Hutchinson, HDR

This symposium will examine current fish-related research at hydropower facilities in the west associated with FERC relicensing or similar processes. Long-term studies that were derived as part of FERC relicensing of existing dams have led to advancements in how hydroelectric facilities are configured or operated in relation to fish. The symposium will also provide an opportunity to discuss how research on fish interaction with traditional hydroelectric facilities can be used for future developments of alternative hydroelectric energy such as pump storage, small/micro hydro, and hydrokinetic.

Making fishing better – how fisheries management has improved the recreational angling experience

Organizer: Dan Garren, Idaho Department of Fish and Game

Today's fisheries biologists are inundated by a variety of challenges including ESA issues, native fish concerns, harvest allocation, dealing with climate change, hydropower development, habitat degradation and permitting and paper-work but still manage to carry out a primary function of fisheries management – providing quality recreational opportunities for sport anglers. Scientific conferences and agendas tend to reflect the challenges we face, but often overlook the fundamentals of fisheries management that are vital to meeting angler expectations. This symposium will provide the opportunity for presenters to highlight projects, research and/or management actions that have resulted in improvements to recreational fisheries or the fishing experience.

Sturgeon management and conservation: what have we learned and where are we headed

Organizer: Ken Lepla, Idaho Power Company

Over the past 25 plus years, considerable research has been directed at white sturgeon to better understand basic ecology, population demographics, and the anthropogenic threats that have led to



Symposia

population declines. While much has been learned, there remains considerable work in further understanding mechanisms limiting productivity and recruitment for natural populations as well as the best use of aquaculture as a tool for conservation. This symposium will facilitate information sharing on issues facing white sturgeon and invites biologists, managers, and private sector interests to present information and perhaps new directions on research, management, and restoration activities for white sturgeon.

Status, management, and biology of Colorado River fishes

Organizer: Bill Stewart, Arizona Game and Fish Department

With the headwaters in the Rocky Mountains of Colorado and the outflow into the Gulf of California, the Colorado River is home to a very diverse assemblage of fish species. Water development and the introduction of nonnative species for sportfishing have created numerous challenges for fisheries managers and finding a balance among the competing interests is often difficult. Presentations for this symposium will highlight what programs, research, and monitoring activities are in place to address such challenges along the Colorado River.

Aquatic vegetation management

Organizer: Robert Hand, Idaho Department of Fish and Game

This symposium will include updates on current research, case studies, techniques, and management strategies employed to manage aquatic vegetation for improving fish habitat, water quality, or recreation in western reservoirs and rivers.

Silver bullet or so much fertilizer? synthesis and dialogue regarding the science and management of nutrient amendments as mitigation tools

Organizer: T.J. Ross, Idaho Department of Fish and Game

Fisheries scientists and managers have increasingly focused on the detrimental consequences to biodiversity and productivity of oligotrophication; reductions in nutrients that may be due, for instance, to losses of Pacific salmon or sequestration in reservoirs. These losses have elicited a range of management strategies, primarily nutrient amendments designed as mitigation. This symposium will include presentations to synthesize findings and highlight major uncertainties from the suite of investigations that have evaluated in-stream nutrient mitigation efforts, followed by a panel-facilitated dialogue regarding the management applications of such tools, including cost-benefit assessment and practical challenges of their application.

Turning mitigation into beneficial conservation for native fish: challenges, successes, and the attempts to reach a comprehensive approach

Organizer: Julie Meka Carter, Arizona Game and Fish Department



Symposia

Mitigation and conservation programs and projects specifically tied to fisheries resources have been developed for decades to offset impacts of various activities including dam construction and operation, water delivery, extractive industry development, and sport fish stocking. There has been a recent movement to use mitigation dollars to a broader extent by considering it as a tool to aid in the restoration and conservation of native aquatic species in a more holistic and comprehensive manner. The mitigation approach or strategy varies by program, but ultimately follows the “avoid, minimize, compensate” concept. When fisheries conservation projects are tied to a mitigation program, it is generally as a result of the protection of the Endangered Species Act for threatened and endangered fish. Thus there becomes a substantial opportunity for fishery managers to develop meaningful and comprehensive conservation and mitigation programs to benefit certain species. However, some of the challenges therein lie with the ability to implement a long-term beneficial conservation program while working with a multitude of partners, matching mitigation actions with existing species recovery or management plans, variability and constraints with funding, and the ability to show measureable success as a result of the program. This symposium will invite speakers currently working on mitigation and conservation programs to share information on their program or project challenges, successes, and attempts to reach a comprehensive approach to ultimately benefit fisheries resources.

Challenges of invasive mollusks: threats, management tools and options

Organizer: Christine Moffitt, USGS-University of Idaho

Aquatic ecosystems are threatened by probability of colonization by invasive mollusk species such as zebra, quagga mussels, Asian clams, New Zealand mudsnails. In this symposium we will address some of the case histories of invasions and consequences. We will provide an overview of regional efforts to prevent introductions, and contain, eradicate existing infestations. This symposium will provide an opportunity for researchers and managers within the Western Division to present the latest information on some of the infestations and approaches that are being used to address these challenges.

The science of science communication: the art of telling compelling stories in a new media environment

Organizer: Christina Swanson, Natural Resources Defense Council

Although scientific literacy rates are alarmingly low, the public responds with great interest when scientists share their research. Today people receive information instantly from a vast array of sources. Technological advances have resulted in a proliferation of new communication tools and interaction platforms. Scientists, however, are usually trained to communicate via journals and conference presentation to a limited audience and not with the policy-makers, popular media, or the general public. This hybrid symposium-workshop combines presentations from science communication leaders of various disciplines with audience participation activities designed to help scientists develop and improve their science communication skills.

Sponsored by Natural Resources Defense Council



Symposia

Advancing techniques for modeling salmonid life cycles and population production: considerations and case studies

Organizer: Timothy Copeland, Idaho Department of Fish and Game

Better techniques are needed to estimate salmonid production for conservation and fisheries management. Production potential synthesizes habitat capacity, life history, biological diversity, environmental variation, and number of spawners. Effects of management actions must be projected through the life cycle to evaluate demographic responses and inform decisions, especially for anadromous fish, which spend much of their life cycle far from sites of management actions. Our objectives are to 1) describe recent developments in integrated modeling of life cycles, 2) highlight research and case studies improving the scientific basis for estimating production potential, and 3) facilitate coordination of research and modeling efforts.

Advancements in co-management of anadromous fishes

Organizer: Jay Hesse, Nez Perce Tribe

The life cycle of anadromous fishes inherently crosses multiple natural resource management jurisdictions, making effective collaboration between managers paramount. Fisheries managers are demonstrating they are up to the task of refining co-management processes and collaborative on-the-ground actions. Presentations in this symposium will describe how fisheries managers have moved beyond arguments over harvest allocations and are now focused on working together to protect, restore, and enhance anadromous fish returns.

Establishing common ground in reproductive success studies

Organizer: Jay Hesse, Nez Perce Tribe

Genetics-based reproductive success studies are increasingly utilized to inform management decisions. The relative reproductive success (RRS) calculation has provided a common metric for comparing the performance of naturally spawning hatchery and natural populations. However, variation in how studies are conducted, analyzed, and reported hinders direct and clear comparisons among studies. This symposium will bring together investigators of salmonid reproductive success studies in the Pacific Northwest to achieve two goals: 1) inform people on key factors of RRS analyses that influence interpretation and synthesis of results across studies, and 2) promote better standardization of reproductive success analyses and study design attributes.

Rangewide status assessment for interior Redband trout

Organizer: David Lentz, California Department of Fish and Game

During 2012, a multi-state, federal and tribal effort with funding from the Western Native Trout Initiative was completed to produce a rangewide status assessment for interior redband trout. This symposium will



Symposia

provide a venue for those interested and involved with redband trout to learn about information generated from the assessment, other research, and their contributions to management and conservation of redband trout.

Pacific lamprey conservation and restoration: using data from the past, present, and future to better understand a complex critter

Organizer: Brian McIlraith, Columbia River Inter-Tribal Fish Commission

Pacific lampreys (*Entosphenus tridentatus*), a culturally and ecologically important fish species, have declined throughout much of their range along the Pacific Coast. Efforts to better understand Pacific lamprey and ultimately restore populations will require managers to think creatively, utilize existing tools effectively, and apply emerging technologies proactively to put the lamprey puzzle together. This symposium will highlight existing efforts to address limiting factors and understand basic Pacific lamprey life history using standard and emerging techniques as well as evaluate how new information is being used to guide restoration efforts.

Aquatic habitat monitoring: what are we measuring, what trends are emerging, and how is the data being communicated?

Organizer: Pamela Reber, Coast Fork Willamette Watershed Council

Well-established data collection methods may hold clear meaning and produce good metrics for the researchers who implement them, but do habitat biologists, restoration practitioners, and funders understand how to interpret the results? Good communication at the science-policy interface is increasingly difficult when there are multiple drivers for data collection and when outcomes and methods vary with each attribute. This symposium topic will review regional aquatic habitat monitoring trends, explore monitoring metrics validity and repeatability, and improve communication about aquatic habitat monitoring for all participants! Expert presenters on a range of widely-used methods will present key findings.

Lake and reservoir fisheries management: food web-based approaches

Organizer: Andy Dux, Idaho Department of Fish and Game

Lake and reservoir fisheries are becoming increasingly complex to manage given the rapid spread of introduced fishes and other aquatic invasive species and increasing alterations to lake and reservoir systems. As a result, it is becoming increasingly important to understand food web interactions in lakes and reservoirs to improve fisheries management in these waters. The goal of this symposium is to bring together fisheries professionals to share and discuss food web-based research and management approaches. This may include topics such as balancing predator-prey populations, suppression of nonnative species, or evaluating factors that affect lake productivity and nutrient cycling.

Columbia & Snake Rivers mainstem passage: past, present, and prospects



Symposia

Organizer: Russ Kiefer, Idaho Department of Fish and Game

Hydropower development in the mainstem Columbia and Snake Rivers began during the 1930s and continued through the late 1970s. Public policy and legal rulings developed various programs and mitigation investments to protect, mitigate and enhance anadromous fish populations of the Columbia and Snake rivers. The significant drivers of these fish conservation investments are the Northwest Power Act, ESA listing of numerous salmon and steelhead stocks in the Columbia River basin, and Native American Treaty rights. The extensive efforts implemented pursuant to these drivers have resulted in one of the largest mitigation programs in the world. Research, monitoring and evaluation of Columbia and Snake rivers' mainstem fish passage has focused on life cycle effects and resulting adult fish returns.

The symposium will explore the emerging understanding of mainstem passage and the effects on juvenile migrations and adult returns and is organized into three segments. The first segment will be a brief review of past policies, science, and management decisions. Technical presentations in segment two will explore the emerging science and fish passage management with an emphasis on adult returns and life-cycle analysis. The final segment will consist of manager and stakeholder perspectives regarding future hydrosystem management, culminating with a panel discussion about incorporating the emerging science into decision making to meet public policy goals and legal requirements.

The management and science of upriver bright fall Chinook in the Columbia River basin-what are we learning and how can we use it?

Organizer: Jeffrey Fryer, Columbia River Inter-Tribal Fish Commission

Snake River and Columbia River Hanford Reach fall Chinook salmon populations provide comparisons and contrasts from two very different river environments. Both populations face challenges due to hydropower development, but one is ESA listed and the other is the largest spawning population of fall Chinook salmon in the contiguous United States. Current research is dramatically improving our understanding of the relationships between river conditions and survival at all life-stages. Some long-standing commonly held beliefs are being confirmed, others are being rejected, and new theories developed during our quest for more effective management and protections.

*NOTE: A complete list of organizers, phone numbers, and email addresses can be found at <http://www.idahoafs.org/2013AnnualMeeting/symposia.php>



Schedule at a Glance

Time	Event	Room/Location
Monday, April 15 th		
7:00 am – 9:30 pm	Registration	Meadow (Lobby)
7:00 am – 9:30 pm	Trade Show/Vendor Set up	Falcons
8:00 am – 5:00 pm	Presentation Preview	Meadow
8:00 am – 5:00 pm	Job Fair Set up	Meadow
8:00 am – 5:00 pm	Poster Set up	Falcons
8:00 am – 12:00 pm	Western Division AFS Executive Committee Meeting	Perch
8:00 am – 5:00 pm	Continuing Education - Spatial Statistical Modeling on Stream Networks	Idaho Water Centre
8:00 am – 5:00 pm	Continuing Education - Physical, Ecological, Engineering, and Social Considerations in Using Wood in Stream Restoration	Salmon
8:00 am – 12:00 pm	Continuing Education - Physiological Stress in Fish Culture and Fish Management: Good Stress, Bad Stress... Good Fish, Bad Fish	Snake
8:00 am – 12:00 pm	Continuing Education - How Many Different Ways is this Method Implemented? Discussion of best practices for snorkeling methodology and pool measurement methods	Payette
1:00 pm – 5:00 pm	Continuing Education - Power-Based Standardization in Electrofishing	Payette
3:00 pm – 6:30 pm	Executive Committee Planning Meeting	Perch
6:30 pm – 9:30 pm	Welcoming Social	Glen
Tuesday, April 16 th		
7:00 am – 5:00 pm	Registration	Meadow
7:00 am – 5:00 pm	Spawning Run Registration	Meadow
7:00 am – 5:00 pm	Presentation Preview	Meadow
7:30 am	Morning Coffee, Tea, Pastries	Falcons
8:00 am – 5:00 pm	Tradeshow/Vendor Exhibits	Falcons
8:00 am – 5:00 pm	Job Fair	Falcons
8:00 am – 5:00 pm	Poster Viewing	Falcons
8:00 am – 12:00 pm	Plenary Session	Eagle
12:00 pm – 1:15 pm	Western Division AFS Business Luncheon	Hawk
12:00 pm – 1:15 pm	Idaho Chapter AFS Committee Meetings	
	Anadromous Fish	Payette
	Aquaculture	Snake
	Fish Habitat	Salmon
	Fundraising	Falcons
	Mentoring	Firs/Cottonwoods
	Native Fish	Pines
	Public Education	Willows
1:20 pm – 5:20 pm	Symposia and General Presentations	Boise Centre
3:00 pm – 3:20 pm	Break	Falcons



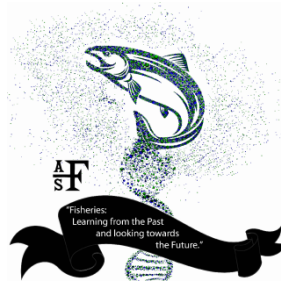
Schedule at a Glance

Time	Event	Room/Location
5:30 pm – 6:30 pm	Mentoring Social	Basque Center
6:30 pm	Student Mixer	Basque Center
Wednesday, April 17 th		
7:00 am – 5:00 pm	Registration	Meadow
7:00 am – 2:00 pm	Spawning Run Registration	Meadow
7:00 am – 5:00 pm	Presentation Preview	Meadow
7:30 am	Morning Coffee, Tea, Pastries	Falcons
8:00 am – 5:00 pm	Tradeshow/Vendor Exhibits	Falcons
8:00 am – 5:00 pm	Job Fair	Falcons
8:00 am – 5:00 pm	Poster Viewing	Falcons
8:00 am – 12:00 pm	Symposia and General Presentations	Boise Centre
9:40 am – 10:00 am	Break	Falcons
12:00 pm – 1:50 pm	Idaho Chapter AFS Business Luncheon	Eagle
2:00 pm – 5:00 pm	Symposia and General Presentations	Boise Centre
3:20 pm – 3:40 pm	Break	Falcons
5:00 pm – 6:00 pm	Poster Session	Falcons
6:00 pm – 12:00 am	Banquet, Awards, Auction, Raffle	Hawk and Eagle
Thursday, April 18 th		
6:30 am	Spawning Run	Green Belt
7:00 am – 12:00 pm	Registration	Meadow
7:30 am	Morning Coffee, Tea, Pastries	Falcons
8:00 am – 12:00 pm	Tradeshow/Vendor Exhibits	Falcons
8:00 am – 3:00 pm	Job Fair	Falcons
8:00 am – 3:00 pm	Poster Viewing	Falcons
8:00 am – 12:00 pm	Symposia and General Presentations	Boise Centre
9:40 am – 10:00 am	Break	Falcons
12:00 pm – 12:50 pm	Box Lunches Provided	Meadow
1:00 pm – 4:40 pm	Symposia and General Presentations	Boise Centre
3:00 pm – 3:20 pm	Break	Falcons
5:00 pm	Best Paper/Poster Awards Ceremony	Firs/Cottonwoods
5:30 pm – 8:00 pm	Executive Committee Wrap-up Meeting	Merlins



Plenary Session

Fisheries: Learning from the past and looking towards the future



The Idaho Chapter AFS is celebrating 50 years as a chapter at this Western Division meeting. To commemorate this special event, a past president from each decade will give a 10-minute presentation discussing how the Chapter has changed since they were at the helm, challenges/successes they faced, and recommendations they have for us as we move forward. We all can learn from these presentations, as most chapters have gone through similar patterns in growth and have faced many of the same challenges as the Idaho Chapter. Speakers will discuss how the Chapter has experienced dynamic change from just a few biologists meeting around a kitchen table in the early years to over 300 participants attending the annual meeting. Membership has changed from mostly a white male membership to where now many women and races including an international mix of fisheries workers and students are members of the Chapter. Some of the challenges these past presidents will discuss includes the movement to a more professional setting, the roles of activism or advocacy, political intervention in fisheries management, involvement in developing legislation, the controversy over dams and dam removal, and the ebb and flow of aquaculture workers as active AFS participants. After these presentations the audience can also get involved and present questions to the speakers or any of the other many past presidents who will be attending this meeting. We hope you all can join us for this special event where we will learn from our history and the advice our past leaders will have for us.



Plenary Session

PLENARY SESSION – EAGLE ROOM

FISHERIES: LEARNING FROM THE PAST AND LOOKING TOWARDS THE FUTURE

- 8:00 - 8:15 Introduction to the Meeting
Christina Swanson
President of the Western Division of the American Fisheries Society
Dmitri Vidergar
President of the Idaho Chapter of the American Fisheries Society
John Boreman
President of the American Fisheries Society
- 8:15 - 8:20 Introduction to the Plenary Session
Joe DuPont
Program Chair
- 8:20 - 9:35 A Look Back at 50 Years of AFS Leadership
Past Presidents of the Idaho Chapter of the American Fisheries Society
Jerry Mallet, 1969
Bob White, 1976-77
Roy Heberger, 1988
Chip Corsi, 1996
Bart Gamett, 2007
- 9:30 - 10:05 **BREAK**
- 10:05 - 10:40 A brief look at the past, present, and future of fishing regulations
Jim Fredericks
Regional Fisheries Manager for the Idaho Department of Fish and Game
- 10:40 - 11:20 A selective history of fish sampling and thoughts on where we're headed
Dan Schill
Fishery Research Manager for the Idaho Department of Fish and Game
- 11:20 - 12:00 Reflecting on the past, and visioning the future
Stuart Leon
Retired Chief of the Division of Fisheries and Aquatic Resource
Conservation for the U.S. Fish and Wildlife Service
- 12:00 - 1:15 **WD BUSINESS LUNCHEON**
- 12:00 - 1:15 **IDAHO CHAPTER COMMITTEE LUNCHEONS**



Plenary Session

A brief look at the past, present, and future of fishing regulations **Jim Fredericks, Idaho Department of Fish and Game**

Fishing regulations have become increasingly complex over the past five decades, as fishery managers try to maintain angling diversity in the face of increasing pressure on limited resources. Though often critical of convoluted rules, anglers have been complicit if not a driving force behind their development. Specialization of users and a public input process that favors the most avid anglers encourage complexity. The result is an ever increasingly elaborate set of rules. In Idaho, for example, rule brochures have grown from 8 pages in the 1940's to nearly 80 in 2010. At a minimum, the increasing complexity of rules is often a source of frustration for anglers and law enforcement officers. At worst, complicated rules intimidate novice anglers and create an obstacle to angler recruitment or retention. In 2010, Idaho conducted a comprehensive review of both the content and format of the fishing rules in an effort to make the brochure more comprehensible. By shifting from "statewide general rules" to "regional rules" we eliminated numerous exceptions. We also removed frivolous or antiquated rules, reduced "hidden definitions", and modified the brochure format. Public response suggests the revision was a success, but the importance of sustaining the effort is apparent. Two years after the simplification effort, already we've seen the tendency for complexity to creep back into the rules. Looking forward, fishery managers face new challenges and opportunities developing and presenting regulations. The process and tools for public participation are rapidly evolving. Similarly, the electronic information era creates opportunities to provide the public with access to regulations in formats we're only beginning to consider. As anglers become increasingly mobile, managers at regional, state, and federal levels should consider inconsistencies across jurisdictional boundaries and the sometimes conflicting messages sent to the public as a result. Ultimately, managers and the angling public should strive for rules that provide diversity but minimize complexity, avoid inconsistencies that send conflicting messages to the public, and don't discourage recruitment and retention of novice anglers.

A selective history of fish sampling and thoughts on where we're headed **Dan Schill, Idaho Department of Fish and Game**

Historically, fish sampling methods consisted largely of seines, weirs, and hook-and-line, all approaches adapted from traditional human fish harvest activities. A notable exception was the development of electrofishing, a novel approach in fish collection made possible by the development of portable generating devices first used in World War II. By the late 1940's, interest in development of more mobile backpack shockers produced a working model while a description of the first modern electrofishing boat was published in 1950. Electrofishing, used in concert with standard mark-recapture or depletion designs, quickly surpassed fish weirs and seines as the predominant sampling approach for lotic species due to its effectiveness and portability. Another fish enumeration approach for streams (snorkeling) was pioneered by personnel at the University of Idaho Cooperative Research Unit during the mid to late 1960's. Biologists in the Intermountain West subsequently expanded snorkel techniques from the original approach



Plenary Session

(single observers conducting strip counts) into a wide variety of methods and approaches including night snorkeling. Lethal stream methods including dynamite, the zap gun, and primacord all had their day but either disappeared or are now used infrequently. Several other long-established lentic sampling approaches including hydroacoustics, purse seines, and Lake Merwyn traps have a proven track record, but in limited circumstances. Understanding the history of past sampling efforts will help to ensure the best sampling approaches for current and future studies. Two major technological advances in the last few decades have revolutionized stock-abundance estimation in the anadromous fish world, the first being the arrival of PIT tags (and associated detection arrays) and the second being the genetic methods of genetic stock identification and parental based tagging. The future of stream fish sampling in the west will largely entail a mix of traditional, and widely applicable methods such as snorkeling, dam collections, electrofishing, and screw traps, often with an ever-increasing PIT tag or genetic tagging component. Biologists need to consider whether or not some technological advances or “improved” sampling designs are truly necessary to accurately detect the population signals they are trying to understand in their fish sampling programs.

Reflecting on the past, and visioning the future **Stuart C. Leon, Ph.D.**

Throughout the previous century and a half, fisheries professionals have been charged with sustaining the nation's aquatic resources in the face of ever changing societal needs, political impediments, and emerging conservation challenges. In the past few years alone, there has been a shift in emphasis from hatcheries to habitat as evidenced by the National Fish Habitat Partnership, and a concomitant critical review of the role of captive propagation with adaptive shifts in policy as seen in the Pacific Northwest. Broad-based partnerships remain essential to our efforts, including everything from sustaining healthy fisheries to restoring depleted stocks, recovering listed species, battling the introduction and spread of aquatic invasive species and pathogens, connecting youth with nature, and ensuring an informed public. From an economic perspective, the work we do provides for a staggering return on investment. A recent study by the U. S. Fish and Wildlife Service (2011) determined that for every dollar invested in its fisheries program, 28 dollars were returned to the American public. Does a remarkable and storied history portend a bright and secure future? Not necessarily. The challenges that lay ahead for fisheries professionals are daunting and unparalleled in history. Climate change, political dysfunction and ineptitude, shrinking budgets, experience and mentoring lost to increasing retirements, population shifts to urban environments, and a disillusioned and apathetic public will undoubtedly test agency capabilities. As in the past, these and other challenges will be countered to a large extent by the dedication and commitment of fisheries professionals across the federal, state, tribal, academic, and non-governmental spectrum.



Symposia and General Sessions

Fisheries techniques

Turning mitigation into beneficial conservation for native fish: challenges, successes, and the attempts to reach a comprehensive approach

Making fishing better – how fisheries management has improved the recreational angling experience

The management and science of upriver bright fall Chinook in the Columbia River basin-what are we learning and how can we use it?

The science of science communication: the art of telling compelling stories in a new media environment

Advancing techniques for modeling salmonid life cycles and population production: considerations and case studies

Fish interactions

Status, management, and biology of Colorado River fishes

Silver bullet or so much fertilizer? synthesis and dialogue regarding the science and management of nutrient amendments as mitigation tools

New information regarding climate effects on aquatic resources in the western US: how do we use this stuff?

Rangewide status assessment for interior Redband trout

Hydraulics and habitat

Ocean

Columbia & Snake Rivers mainstem passage: past, present, and prospects

Advancements in co-management of anadromous fishes

Aquatic vegetation management

Parentage based tagging: from conception to implementation

Challenges of invasive mollusks: threats, management tools and options

Interactions of fish and hydropower operations in the west – an update on recent studies and trends in resource management in the FERC relicensing process

Pacific lamprey conservation and restoration: using data from the past, present, and future to better understand a complex critter

PIT-Tag technology: progression from novel to standard fisheries tool

"Fisheries:

Resident fish issues

Learning from the Past

Lake and reservoir fisheries management: food web-based approaches

and looking towards

Salmon and steelhead issues

"the Future"

Aquatic habitat monitoring: what are we measuring, what trends are emerging, and how is the data being communicated?

Beyond fish

Sturgeon management and conservation: what have we learned and where are we headed

Use of genetics in fisheries

Wild Chinook salmon in a dynamic wilderness landscape

Establishing common ground in reproductive success studies

Session Name	Fisheries Techniques	Turning mitigation into beneficial conservation for native fish: challenges, successes, and the attempts to reach a comprehensive approach	Making Fishing Better – How fisheries management has improved the recreational angling experience	The management and science of upriver bright fall Chinook in the Columbia River basin-What are we learning and how can we use it?
Moderator	Sean Wilson	Julie Meka-Carter	Dan Garren	Russell Langshaw
Room Name	WILLOWS	PINES	FIRS/COTTONWOODS	SALMON
1:20	Efficacy of mobile electrofishing equipment for inducing lake trout embryo mortality Peter Brown	Turning mitigation into beneficial conservation for native aquatic species in Arizona Julie Meka-Carter	Management of a Primal Fishery in Alaska: Chatanika River Whitefish Audra Brase	Intro to the management and science of upriver bright fall Chinook in the Columbia River basin: What are we learning and how can we use it? Russell Langshaw
1:40	Electrofishing with spheres, rings and rods: electrical fields of three common electrodes Jim Reynolds	The Clark Fork Settlement Agreement: A Collaborative Approach to Hydropower Relicensing and Native Fish Conservation Chip Corsi	Using Community Based Social Marketing (CBSM) to foster conservation through fishing license sales: An application of the Theory of Planned Behavior Matt Bartley	Abundance and population composition of hatchery- and natural-origin Snake River fall Chinook salmon from 2005 – 2012 estimated by run reconstruction William Young
2:00	Assessing the predictive ability of a process-based net rate of energy intake model for drift-feeding salmonids Eric Wall	Collaborative Implementation of the Clark Fork Settlement Agreement: Where the Rubber Meets the Road Joe DosSantos	The South Fork Snake River Yellowstone cutthroat trout story: active management of a world class fishery Brett High	Fall Chinook Salmon Redd Counts In The Snake River – Moving Toward A New Methodology Phillip Groves
2:20	Graduated-Field Fish Guidance Technology: A Review of Successes, Limitations and New Concepts for Hydropower and Other Applications Carl Burger	Using hatchery supplementation to sustain fisheries in a barrier-constrained river system Bill Bosch	Lake Cascade Yellow Perch Fishery Restoration Dale Allen	Acclimation Enhances Postrelease Performance of Hatchery Fall Chinook Salmon Subyearlings while Reducing the Potential for Interaction with Natural Fish Stuart Rosenberger
2:40	Comparison of techniques for sampling juvenile burbot in lotic systems Christopher Smith	Success of a Non-traditional Mitigation Project for Okanagan Sockeye Tom Kahler	Using species manipulation to improve alpine sport fisheries Mike Hadley	Modeling Spatially Explicit Life History Strategies In Juvenile Fall Chinook Salmon: Using Multiple Chemical Signatures to Improve Determination of Source Location Jens Hegg
3:00	BREAK			
Session Name	Fisheries Techniques	Turning mitigation into beneficial conservation for native fish: challenges, successes, and the attempts to reach a comprehensive approach	Making Fishing Better – How fisheries management has improved the recreational angling experience	The management and science of upriver bright fall Chinook in the Columbia River basin-What are we learning and how can we use it?
Moderator	Sean Wilson	Julie Meka-Carter	Dan Garren	Russell Langshaw
Room Name	WILLOWS	PINES	FIRS/COTTONWOODS	SALMON
3:20	Evaluations of Artificial and Natural Markers for Monitoring Hatchery Releases of Juvenile Burbot (<i>Lota lota</i>) Neil Ashton	Conservation and Mitigation Program: An Overview and progress update of Arizona's Newest Conservation Program Sharon Lashway	Improving Return-to-Creel of Hatchery Catchable Rainbow Trout in Idaho: Statewide Exploitation Rates and Evaluating Rearing Density John Cassinelli	Upriver Bright Fall Chinook salmon in the Columbia River Basin - Transparency, Collaboration, and Science...creative ways in achieving compliance: Priest Rapids and Wanapum Dams Jeffrey Fryer
3:40	Evaluation of sampling designs to assess status and temporal change for salmonids in Yellowstone Lake John Syslo	Conservation, Mitigation, Passion and Frustration in a Desert Oasis Called Fossil Creek Arizona Matthew Rinker	Patterns of catch and harvest of rainbow trout in Idaho community fishing ponds Martin Koenig	Effect of Priest Rapids Dam operations on Hanford Reach fall Chinook salmon productivity Ryan Harnish
4:00	30 Years of Weir Operations on the Imnaha River: the Effect of Logistics on Salmon Management and Biology Tim Hoffnagle	The Puget Sound Rockfish Conservation Plan: a blueprint for integrated research, management, and recovery Dayv Lowry	Angler demographics and use of community fishing ponds in the southwest region, Idaho. Art Butts	Assessment of losses of juvenile fall Chinook salmon in the Hanford Reach of the Columbia River in relation to flow fluctuations, 2011 and 2012 Paul Hofferth
4:20	Development of a tool to evaluate outplanting strategies and prespaw mortality of Upper Willamette River spring Chinook Michael Colvin	A collaborative approach for effective watershed restoration in the Lemhi River sub-basin, Idaho. Jeffrey Diluccia	Deadwood Reservoir: A Joint Venture to Improve Idaho's Kokanee Fisheries Bob Becker	Getting Lucky? Are the Hanford Reach fall Chinook salmon highly productive because we know what we are doing, or it is by happenstance? Russell Langshaw
4:40	Counting Salmon in California: A Return on Investment for Effective Salmon Conservation Jeanette Howard	Montana's Hungry Horse Dam Mitigation Program: The scientific framework for mitigating fisheries impacts in the Flathead Basin Amber Steed	A Comparison of Seasonal Movements of Rainbow Trout in a Lake Drainage versus a River Drainage and their Availability to Anglers Craig Schwanke	
5:00			Managing Chinook Salmon Fisheries in the Clearwater River Drainage to Increase Angler Satisfaction Don Whitney	
5:30	MENTORING SOCIAL			
6:30	STUDENT MIXER			

TUESDAY AFTERNOON ▴ APRIL 10				
Session Name	The Science of Science Communication: The Art of Telling Compelling Stories in a New Media Environment	Advancing techniques for modeling salmonid life cycles and population production: considerations and case studies	Fish Interactions	
Moderator	Christina Swanson	Tim Copeland	Cathy Gidley	
Room Name	SNAKE	PAYETTE	EAGLE	PERCH
1:20	Introduction to Key Concepts in Science Communication Demian Ebert	Advancing the Science of Estimating Pacific Salmon Production Potential Eric Knudsen	Status of the Wind River drainage, Wyoming sauger population Paul Gerrity	VACANT
1:40	Science Narrative Relies on FACTS Bill Loftus	From a model to a response design and back again - or was it the other way around? Chris Beasley	Population Dynamics of Northern Pike and Smallmouth Bass in Lake Coeur d'Alene, Idaho John Walrath	
2:00	Compelling Visuals for Science Stories Perrin Ireland	Resource allocation optimization for salmon habitat restoration Robert Lessard	Non-native invasive fish....Should they be managed for the public to the detriment of native fish conservation? Joe Maroney	
2:20	Taking Back Power for Yourself and Your Message Bruce Herbold	Viability of Isolated Populations: What Life History Traits Aid Persistence? Kellie Carim	Smallmouth bass abundance and dietary habits at three mainstem Columbia River dams: are tailrace and forebay environments 'hotspots' of salmonid predation? Erick Van Dyke	
2:40	Science as a Second Language: Communicating Science to Policy and Decision Makers Christina Swanson	A modeling approach for simultaneous estimation of persistence of multiple populations for freshwater conservation planning Seth Wenger	Salmon vs Bass: An unreconcilable conflict? Noreen Clough	
3:00	BREAK			
Session Name	The Science of Science Communication: The Art of Telling Compelling Stories in a New Media Environment	Advancing techniques for modeling salmonid life cycles and population production: considerations and case studies	Fish Interactions	Status, Management, and Biology of Colorado River Fishes
Moderator	Christina Swanson	Tim Copeland	Cathy Gidley	Bill Stewart
Room Name	SNAKE	PAYETTE	EAGLE	PERCH
3:20	Sharing Information with the Public Rocky Barker	The density dilemma: limitations on juvenile production in threatened salmon populations Annika Walters/ Tim Copeland	Stock Characteristics of Lake Whitefish in Lake Michigan Matthew Belnap	A History of Fish Conservation in the Colorado River System Richard Valdez
3:40	Workshop	Marine survival and spatial scaling of density-dependence: consequences for freshwater productivity in salmonids Thomas Buehrens	Agonistic behavior between three species of commonly stocked salmonids in Utah reservoirs Konrad Hafen	
4:00		Life-cycle models for the diverse and plastic <i>Oncorhynchus mykiss</i> : challenges and opportunities Neala Kendall	Attempting to purify a Yellowstone cutthroat trout stream by removing rainbow trout and hybrids via electrofishing Erin Larson	Seasonal fish community distributions and movements in two perennial tributaries to the San Juan River C. Nathan Cathcart
4:20		Individual variation in behavioral strategies leading to successful recruitment in sockeye salmon Jeremiah Osborne-Gowey	Suppression of Nonnative Salmonid Species to Benefit Migratory Bull Trout in an Open System: Lessons Learned from an Effort Performed on the Lower East Fork Bull River, Montana. Sean Moran	Adaptive Management of Colorado River Fishes in Grand Canyon: An Overview Bill Stewart/ Scott Vanderkooi
4:40	Panel Discussion Jeremiah Osborne-Gowey	Evaluating potential life history tactics in an extirpated steelhead population in Alameda Creek, California Willis McConnaha	Response of wild trout to stream restoration over two decades in the Blackfoot River Basin, Montana Ron Pierce	The Lower Colorado River Multi-Species Conservation Program Bill Stewart
5:00				Razorback sucker research and monitoring on Lake Mead, Nevada and Arizona Ron Kegerries
5:30	MENTORING SOCIAL			
6:30	STUDENT MIXER			

Session Name	Fisheries Techniques	Silver bullet or so much fertilizer? Synthesis and dialogue regarding the science and management of nutrient amendments as mitigation tools	New information regarding climate effects on aquatic resources in the western US: how do we use this stuff?	Rangewide Status Assessment for Interior Redband Trout
Moderator	Kelly Carter-Lynn	T.J. Ross, Colden Baxter	Dan Isaak	Dave Lentz
Room Name	WILLOWS	PINES	FIRS/COTTONWOODS	SALMON
8:00	Comparing standard North American freshwater fish data using a simple online tool: fisheriesstandardsampling.org Sally Petre	Introduction T. J. Ross and Colden Baxter	Adult Pacific salmonids in hot water: behavior and survival studies from the Columbia River basin Matthew Keefer	Introduction Kenneth Currans
8:20	Self-Reporting Bias in Chinook Salmon Sport Fisheries in Idaho: Implications for Roving Creel Surveys Joshua McCormick	Nutrient amendments vs salmon runs: What are we trying to accomplish and are we seeing the bigger picture? Mark Wipfli	Seasonal Variation in the Bioenergetic Cost of Migration in Snake River Spring/Summer Chinook Salmon and Potential Selection for Earlier Migration in Response to Climate Change Lisa Crozier	When Is A Redband Trout Not A Redband Trout? Kenneth Currans
8:40	A comparison of methods for calculating adult salmon abundances from spawner and redd survey data. William Youmans	Salmon analogs influence stream food webs at multiple levels of biological organization Peter Kiffney	Using a multi-decade census to describe the ecological and evolutionary responses of several salmonids to climate warming Ryan Kovach	Initiation of a Range-wide Status Assessment for Interior Redband Trout Scott Grunder
9:00	This spot is just right: Using channel morphology to refine steelhead redd surveys Marika Dobos	Spatiotemporal complexity in stream food web responses to salmon subsidies Scott Collins	Interspecies synchrony in salmonid densities associated with large-scale bioclimatic conditions in central Idaho: review and reality check Timothy Copeland	The Building of the Redband Database: It Wasn't Done in a Day... Shannon E. Albeke
9:20	Using state-space models to evaluate multiple survey methods: a case study for a threatened population of Chinook salmon (<i>Oncorhynchus tshawytscha</i>) in Johnson Creek, Idaho Brandon Chasco	Managing and mitigating MDN for wildlife: linear solutions for a non-linear problem? Gregg Servheen	Predicting the impacts of climate change on river fish distributions using a space-for-time substitution Daniel Gibson-Reinemer	Status and Conservation of Resident Redband Trout within the Western United States Clint C. Muhlfield
9:40	BREAK			
Session Name	Hydraulics and Habitat	Silver bullet or so much fertilizer? Synthesis and dialogue regarding the science and management of nutrient amendments as mitigation tools	New information regarding climate effects on aquatic resources in the western US: how do we use this stuff?	Rangewide Status Assessment for Interior Redband Trout
Moderator	Stephanie Hallock, Jeanne McFall	T.J. Ross, Colden Baxter	Dan Isaak	Dave Lentz
Room Name	WILLOWS	PINES	FIRS/COTTONWOODS	SALMON
10:00	Hydraulic Complexity and Linkages with Uncertainty, Variability, Habitat, and Climate Change Jeanne McFall	Three years of experimental carbon and nutrient additions in upper Salmon River Basin streams using salmon carcass analogs: what have we learned so far? Andre E. Kohler	Potential demographic responses to climate change in bull trout populations of different spatial configurations and life-history strategies Tracy Bowerman	National Forest Conservation of Redband Trout James Capurso
10:20	The Influence of Salmon Spawning on Grain Architecture, Critical Bed Shear Stress, and Bed Load Transport in Streams with Implications for Fisheries Restoration and Management Todd Buxton	Bioenergetic calculations evaluate changes to habitat quality for salmonid fishes in streams treated with salmon carcass analogs Ernest Keeley	Tipping points to local extinction: the interactive effects of climate change, land-use and invasive species on stream-rearing salmon David Lawrence	Public Lands and Managing Redband Habitat Scott Hoefer
10:40	How to use streambank soil bioengineering techniques to restore aquatic habitat? Chris Hoag	Integrating ecosystem science into fisheries-targeted nutrient enhancement programs aimed to mitigate for the loss of Pacific salmon Amy Marcarelli	Are Fish Distributions Changing as Predicted with Stream Warming in the Bitterroot River Basin, MT? Michael LeMoine	Conservation and Management of California's redband trout David Lentz
11:00	Partnering with beaver to restore natural hydrologic processes Bruce Kinkead	Periphyton and Pacific Salmon: Understanding the connection by modeling the linkages Ryan Bellmore/ Alex Fremier	Broad-scale, high-resolution assessments of aquatic taxa: need and opportunity Michael Young	Status of redband trout in the upper Snake River basin of Idaho Kevin Meyer
11:20	Sedimentation, scour and turbulence: potential pitfalls with vegetation as a restoration measure Elwyn Yager	Response of whole-stream metabolism to low densities of spawning Chinook salmon: the importance of environmental context versus marine-derived nutrients Joe Benjamin	Potential influences of climate change on population dynamics of nonnative brook trout and native Yellowstone cutthroat trout in headwater stream networks Bradley Shepard	Long-term assessment of redband trout populations in Southwest Idaho Joe Kozfkay
11:40	A cost-effective, low impact method for large wood replenishment in streams Jill Cobb	A detritus-based perspective on the effects of nutrient enrichment on food webs in headwater streams: insights from Appalachia. Wyatt Cross	The interactions of climate and biotic factors on life history characteristics and vital rates of Yellowstone cutthroat trout in a headwater basin Robert Al-Chokhachy	Status of Nevada's Redband Trout Gary Johnson
12:00 – 1:50	IDAHO CHAPTER BUSINESS LUNCHEON			

Session Name	Ocean	Advancing techniques for modeling salmonid life cycles and population production: considerations and case studies	Columbia & Snake Rivers Mainstem Passage: Past, Present, and Prospects	Advancements in co-management of anadromous fishes
Moderator	Don Whitney	Eric Knudsen	Russell Kiefer	Jay Hesse
Room Name	SNAKE	PAYETTE	SUMMIT	PERCH
8:00		Using an explanatory model to explore freshwater food webs and salmon carrying capacity Michael Newsom/ Eric Knudsen	Introduction Russ Kiefer	Setting the Stage for Fisheries Management in a Multi-Jurisdictional World Jay Hesse
8:20		Impacts of salmon spawner density and stream productivity on the ecology of stream-dwelling fishes in southwestern Alaska Kale Bentley	History of hydrosystem fish operations in the Columbia Basin Richie Graves	The role of the Technical Advisory Committee (TAC) for managing fisheries within the framework of the United States v. Oregon Management Agreement Alan Byrne
8:40	Finfish catches in tropical estuarine systems: How to manage multispecific fisheries? Felipe Amezcua	Determining where and what to fix for optimum stream restoration benefits Steven Cramer	Hydroturbine passage related barotrauma research in the Columbia River Basin: How far have we come? Rich Brown	A Tribal Perspective: The Role of Hatchery Mitigation Programs that Support Nez Perce Treaty Fisheries in the Snake Basin Joseph Oatman
9:00	How the hydrological changes associated to human activities impact mangroves and fisheries Felipe Amezcua	Modeling to predict habitat capacity and population dynamics of spring-run Chinook and steelhead: A Case Study for Reintroduction Planning in the Upper Yuba Basin, CA Jody B. Lando	Salmonid Smolt Mortality: At the Dam or in the Reservoir? Curt Dotson	SNAKE BASIN Hatchery and Harvest Co-Management: Samuel Sharr
9:20	Diagnosis and Treatment of the Bay Delta Ecosystem Jesse Schwartz	Modeling complex populations in their freshwater habitat: An example using Wenatchee spring Chinook salmon Andrew Murdoch	Using Acoustic Tagged Fish in the Design Process of a Fish Bypass at Wanapum and Priest Rapids Dams Curt Dotson	Counting the lost legions: steelhead run reconstruction in the Snake River basin Timothy Copeland
9:40	BREAK			
Session Name	Parentage Based Tagging: From conception to implementation	Aquatic vegetation management	Columbia & Snake Rivers Mainstem Passage: Past, Present, and Prospects	Advancements in co-management of anadromous fishes
Moderator	Matthew Campbell	Robert Hand	Russell Kiefer	Jay Hesse
Room Name	SNAKE	PAYETTE	SUMMIT	PERCH
10:00	Parentage Based Tagging: From Conception to Implementation Craig Steele	Aquatic Plant Issues in Idaho Thomas Woolf	Achieving juvenile and adult passage survival standards at the Rocky Reach Project: Success based on a unique juvenile bypass system and effective adult fishways Steve Hemstrom	Hatch: Moving towards seamless database protocols Alexander Fremier
10:20	Using RAD Sequencing to Develop a Panel of High-Resolution Markers for Chinook Salmon Wesley Larson	Tools to selectively control invasive aquatic weeds to improve water quality and fish habitat Terry McNabb	Long-term Compliance with Passage Survival Standards at a Mainstem Columbia River Dam Tom Kahler	The Pacific Marine and Estuarine Fish Habitat Partnership: Advancing Juvenile Fish Habitat in Estuaries and Nearshore Marine Environments Lisa DeBruyckere
10:40	Multistock PBT recoveries in Chinook salmon ocean fisheries off California: a case study on the analytical developments required to make PBT useful to fisheries managers Eric Anderson	Effects of the aquatic herbicide Endothall (Cascade®) on survival of salmon and steelhead smolts during seawater transition Ian Courter	Cumulative Survival of Juvenile Salmonids Passing Through the Lower Columbia River Hydrosystem Tim Elder	Nez Perce Tribe/ Forest Service Watershed Restoration Partnership Heidi McRoberts
11:00	Stratification and Allocation of Sampling Effort Using Parentage-Based Genetic Tagging to Estimate Steelhead Harvest Joshua McCormick	A Review of a Mechanical Control Project for Emergent Aquatic Vegetation Control in Coastal Southern California. Thomas Moorhouse	Avian Predation on the Columbia Plateau: A Synthesis of Research Results Allen Evans	Challenges and Successes of Joint Management at Dworshak National Fish Hatchery Kent Hills
11:20	Estimating the proportion of hatchery-origin spawners using parentage-based tagging Richard Hinrichsen	Integrating Submerged Aquatic Vegetation Mapping into Aquatic Vegetation Control Programs Thomas McNabb	Relationship between smolt condition and survival to adulthood in steelhead from the Columbia and Snake rivers: Do individual fish characteristics recorded at the time of out-migration matter? Allen Evans	
11:40	The Promise of Parentage Based Tagging for Evaluating Natural Fish Population Dynamics Scott Blankenship	Aquatic Herbicide Effects on Pacific Northwest Amphibians Amy Yahnke	Assessing freshwater and marine influences on life-cycle and life-stage specific survival rates of Snake River Chinook and steelhead Howard Schaller/ Charlie Petrosky	
12:00 – 1:50	IDAHO CHAPTER BUSINESS LUNCHEON			

Session Name	Hydraulics and Habitat	Silver bullet or so much fertilizer? Synthesis and dialogue regarding the science and management of nutrient amendments as mitigation tools	New information regarding climate effects on aquatic resources in the western US: how do we use this stuff?	Rangewide Status Assessment for Interior Redband Trout	
Moderator	Stephanie Hallock, Jeanne McFall	T.J. Ross, Colden Baxter	Robert Al-Chokhachy	Dave Lentz	
Room Name	WILLOWS	PINES	FIRS/COTTONWOODS	SALMON	
2:00	Riparian roads reduce instream woody debris in the Columbia River Basin Christy Meredith	Nutrient restoration in Dworshak reservoir, Idaho: A bottom up approach enhancing a kokanee fishery Sean Wilson	Wildfire and the impacts of shifting stream temperature on salmonids Michael Beakes	Estimating abundance of redband trout in the Great Basin Michael Meeuwig	
2:20	Climate change and Chinook salmon habitat in high-mountain headwater streams in the Pacific Northwest Jeff Reeder	Nutrient enrichment as a fish habitat restoration tool for streams on Vancouver Island, British Columbia. Kevin Pellett	Climate Change Research on the Copper River Delta: The Emerging Effect of Local Variation Gordon Reeves	Status and Management of Interior Redband Trout in the Crooked River Watershed, Oregon. Tim Porter	
2:40	Predicting the undesirables: Novel use of hydraulic models to predict presence of the invertebrate host of the invertebrate host of the salmonid parasite ceratomyxa Julie Alexander	Effect of nutrient addition on benthic macroinvertebrates in an ultra-oligotrophic reach of the Kootenai River below a hydroelectric dam Gary Lester	Colorado River cutthroat trout habitat resistance and resilience to climate change Kate Olsen	Distribution Patterns in Washington State Charmane Ashbrook	
3:00	Newsome Creek Stream Habitat and Floodplain Restoration Stephanie Bransford	Biological assessment and nutrient restoration of a oligotrophic large river Charlie Holderman	Estimating Thermal Regimes of Bull Trout and Assessing the Potential Effects of Climate Warming on Critical Habitats Leslie Jones	Hydroturbine passage related barotrauma research in the Columbia River Basin: How far have we come? Richard Brown	
3:20	BREAK				
Session Name	Hydraulics and Habitat	Silver bullet or so much fertilizer? Synthesis and dialogue regarding the science and management of nutrient amendments as mitigation tools	New information regarding climate effects on aquatic resources in the western US: how do we use this stuff?	Rangewide Status Assessment for Interior Redband Trout	
Moderator	Stephanie Hallock, Jeanne McFall	T.J. Ross, Colden Baxter	Robert Al-Chokhachy	Dave Lentz	
Room Name	WILLOWS	PINES	FIRS/COTTONWOODS	SALMON	
3:40	Yankee Fork PS3 side channel habitat improvement project Steve Clayton	Panel Discussion	High Resolution Geospatial Stream Temperature Data for the Northwest U.S., A Users Guide for the NorWeST Regional Database and Model David Nagel	Status of Redband Trout in Lake Roosevelt, Washington Holly McLellan	
4:00	Restoration of the Lower Cle Elum River Valley, Washington: a successful example of using targeted wood placement to restore habitat and mitigate the impacts of regulated flows and channel incision downstream of dams Tim Abbe		Tools for Spatial Statistical Modeling On Stream Networks: STARS & the SSN Package Erin Peterson	Spawning migrations and overwintering of redband trout in the Sanpoil Subbasin, Lake Roosevelt, WA Ryan Klett	
4:20	Panel Discussion		A new demographic and genetic simulation framework for mapping population vulnerability of freshwater species in complex riverscapes Erin Landguth		
4:40					
5:00	POSTER SESSION				
6:00	BANQUET				

WEDNESDAY AFTERNOON Δ APRIL 17

Session Name	Parentage Based Tagging: From conception to implementation		Columbia & Snake Rivers Mainstem Passage: Past, Present, and Prospects	Challenges of invasive mollusks: threats, management tools and options
Moderator	Matthew Campbell		Russell Kiefer	Christine Moffitt
Room Name	SNAKE	PAYETTE	SUMMIT	PERCH
2:00	Parentage-based genetic mark recapture for estimation of naturally spawning salmon and steelhead spawner abundance Todd Seamons	VACANT	Design of a Columbia River main stem spill management experiment to evaluate improvements in life-cycle and life-stage specific survival rates for Snake River Chinook and steelhead Steve Haeseker/ Charlie Petrosky	Invasive mollusks: what are the risks and what can we do? Christine Moffitt
2:20	Comparison of reproductive patterns in <i>Oncorhynchus</i> species in California using parentage based tagging John Carlos Garza		Identifying fishway passage bottlenecks at large dams: a Pacific lamprey case study Matthew Keefer	Prevention and Management of Invasive Mollusks in Montana Allison Begley
2:40	Parentage Based Tagging of Endangered Snake River Sockeye Salmon Christine KozfKay		A review of adult salmon and steelhead straying in the Columbia River basin Christopher Caudill	Economic Risk Associated with the Establishment of James Ruff
3:00	Genetic Estimation of Stock Abundance and Run-timing of Interior Columbia River Steelhead Passing Bonneville Dam Jon Hess		Passage distributions and Federal Columbia River Power System survival for steelhead kelts tagged above and at Lower Granite Dam Alison Colotelo	Use of elevated pH as a disinfection tool against two invasive mollusks of concern Amber Barenberg
3:20	BREAK			
Session Name	Parentage Based Tagging: From conception to implementation		Columbia & Snake Rivers Mainstem Passage: Past, Present, and Prospects	Challenges of invasive mollusks: threats, management tools and options
Moderator	Matthew Campbell		Russell Kiefer	Christine Moffitt
Room Name	SNAKE	PAYETTE	SUMMIT	PERCH
3:40	Using PBT and GSI baselines to estimate the Snake River contribution to the harvest of Steelhead in Columbia River fisheries Alan Byrne	VACANT	Panel Discussion	Status of the Lake Huron ecosystem after the invasion of multiple exotic species Stephen Riley
4:00	Comparison of Parental Based Tags (PBT) to PIT tags and Coded Wire Tags (CWTs) for estimating escapement and harvest of hatchery-origin Chinook salmon in the Snake River basin Brian Leth			Protecting the Environment while Controlling Zebra and Quagga Mussels—Methods and Case Studies Kelly Stockton
4:20	Panel Discussion			Applied Management to Control <i>Dreissena</i> Mussels in Utah Larry Dalton
4:40				Panel Discussion Panelist: Pat Stone(Tahoe) Amy Ferriter (ID) Allison Begley (MT) Larry Dalton(UT) Bob Kibler (USFWS) Rich Boatner (OR)
5:00	POSTER SESSION			
6:00	BANQUET			

Session Name	Interactions of fish and hydropower operations in the west – an update on recent studies and trends in resource management in the FERC relicensing process	Pacific lamprey conservation and restoration: using data from the past, present, and future to better understand a complex critter	New information regarding climate effects on aquatic resources in the western US: how do we use this stuff?	PIT-Tag Technology: Progression from Novel to Standard Fisheries Tool
Moderator	Matthew Hutchinson	Brian McIlraith/ Chris Caudill	Dan Isaak	Steve Anglea
Room Name	WILLOWS	PINES	FIRS/COTTONWOODS	SALMON
8:00	The Future of Hydropower in a Dynamic US Energy Market John Burnett	Using High Throughput SNP Assays to Address Key Issues for the Conservation of Pacific Lamprey Jon Hess	Introduction Dan Isaak	Introduction Steve Anglea
8:20	The Lower Yuba River Accord, a paradigm for negotiated settlement and implementation of a flow regime and fisheries monitoring & evaluation program Tom Johnson	Relationships between the Abundance of Pacific Lamprey in the Columbia River and Their Common Hosts in the Marine Environment Josh Murauskas	Panel Discussion: Agency perspective on climate change and fisheries Panelists: Phil Mote (CSC) Virgil Moore (IDFG) Michelle McClure (NOAA) Jason Vogel/Jay Hesse (Tribal perspective) Sean Finn (GNLCC) Scott Spaulding (USFS) Joe Adamski (BLM) Jack Williams (TU) Peter Anderson (TU) Helen Harrington (IDWR; National)	"PIT Tags Don't Kill Fish, People Kill Fish" and Other Reasons to Assess and Address the Assumptions in Your Study Designs and Analyses Dave Marvin
8:40	Fish in Space –Chinook Salmon Spatial/Temporal Distributions in the Lower Yuba River, CA Duane Massa	Freshwater Migration and Spawning Activities of Adult Pacific Lamprey in the Willamette River Basin Lance Wyss		Read range, coverage, and architecture - lessons learned. Chris Beasley
9:00	Feather and Yuba River Chinook Salmon Interactions: Revisiting What We Thought We Knew About Yuba River Chinook Salmon	Larval lamprey distribution and habitat use in mid-coastal watersheds in Oregon Steve Starcevic		A Study of Migration Rate and Migration Behavior of Adult Spring/Summer Snake River Chinook Salmon Using Graphical Visualization of PIT-Tag Detections Brian Maschhoff
9:20		Habitat factors associated with the relative abundance and distribution of larval Pacific Lamprey in the Willamette River Basin Luke Schultz	Wrap-up Robert Al-Chokhachy/ Dan Isaak	Too much of a good thing? PIT scanning repatriated razorback sucker in Lake Mohave, AZ-NV Brian Kesner
9:40	BREAK			
Session Name	Interactions of fish and hydropower operations in the west – an update on recent studies and trends in resource management in the FERC relicensing process	Pacific lamprey conservation and restoration: using data from the past, present, and future to better understand a complex critter	New information regarding climate effects on aquatic resources in the western US: how do we use this stuff?	PIT-Tag Technology: Progression from Novel to Standard Fisheries Tool
Moderator	Matthew Hutchinson	Brian McIlraith/ Chris Caudill	Dan Isaak	Steve Anglea
Room Name	WILLOWS	PINES	FIRS/COTTONWOODS	SALMON
10:00	Instream flow studies and the FERC Licensing Process Jarvis Caldwell	Pacific lamprey passage at Columbia River dams: highlights from a 15-year data synthesis Christopher Caudill	Moving from climate change awareness to action: Case studies in vulnerability assessments and adaptation planning Jessi Kershner	Use of PIT Tags to Estimate Salmon and Steelhead Harvest in Columbia River Fisheries Dan Rawding
10:20	Ramping Rate Evaluation and Rainbow Trout Fry Stranding Study, Spokane River, Washington Tim Vore	Using the Juvenile Salmon Acoustic Telemetry (JSATS) system to evaluate adult Pacific lamprey movements and fate in Columbia River reservoirs. Christopher Noyes	Upper Salmon Climate Change Vulnerability Assessment John Chatel	Innovative Uses of PIT-tag Detection Technology: Examples from the Colorado River Basin Peter MacKinnon
10:40	Response of Fish Communities to Peaking Flows at the Toledo Bend Hydroelectric Project Stephen Arnold	Evaluation of Pacific lamprey behavior in fishway environments of two Columbia River dams using Dual-Frequency Identification Sonar (DIDSON) acoustic imaging Mark Kirk	Rangewide vulnerability assessment for bull trout Jason Dunham/ Dan Isaak	Using a PIT tag antenna array to identify movement strategies of fishes in a desert tributary stream network C. Nathan Cathcart
11:00	Lower Deschutes River Gravel Study: monitoring downstream effects of the Pelton Round Butte Hydroelectric Project on geomorphology and salmonid spawning habitat in Oregon's Deschutes River Bob Spateholts	Use of a recirculating culture system to investigate larval Pacific lamprey growth under four substrate treatments Mary Moser	Incorporating Hydrology and Climate Data into Streamflow Management for Grayling in the Big Hole River Basin, Montana. Mike Roberts	Use of PIT tags and PIT antennas to monitor coho populations in the Russian River, CA. Mariska Obedzinski
11:20	Fish Population Compositions in Nine Sierra Nevada Reservoirs Joel Passovoy	Reclamation's Piece of the Pacific Lamprey Puzzle, Analysis of Project Effects and Ongoing Activities Sue Camp	Improved grazing practices and stream reconnection restore riparian habitat and build trout resiliency in a Nevada watershed Helen Neville	Using PIT Tags to Estimate Stage-specific Survival of Anadromous Salmonids Gregg Horton
11:40	Operating your Powerhouse for Smolts Curtis Dotson	Adult Pacific Lamprey Translocation in the Snake Basin David Statler	Validation of the VIC model for streamflow metrics on western U.S. streams Charles Luce	The Use of PIT Tags As A Component To Evaluate Burbot Recovery In The Kootenai River, ID Ryan Hardy
12:00 – 12:50	LUNCH – BOX LUNCH PROVIDED			

THURSDAY MORNING Δ APRIL 18

Session Name	Aquatic Habitat Monitoring: What are we measuring, what trends are emerging, and how is the data being communicated?	Salmon and Steelhead Issues	Lake and reservoir fisheries management: food web-based approaches	Resident Fish Issues
Moderator	Sarah Holmen Kidd	Bruce Barnett	Andy Dux	Jake Hughes
Room Name	SNAKE	PAYETTE	HAWK	PERCH
8:00	Understanding Stream Habitat: Misperceptions, Dreams, and Nirvana Brett Roper	Salmon life history in an altered landscape: reconstructing juvenile migration using chemical and structural analysis Samuel Bourret	Implications of historic conditions, as determined through paleolimnological analysis, on fishery management decisions in Pend Oreille Lake, ID Darren Brandt	Basis of Design for the Kootenai Tribe of Idaho's proposed Twin Rivers Hatchery - Burbot Aquaculture Shawn Young
8:20	A Method for Assessing Status of Stream Habitat Conditions Accounting For Natural Variability on Federal Lands within the Interior Columbia River Basin Rebecca Scully	Survival of pre-smolt spring Chinook salmon migrants from the Middle Fork John Day River Chris James	Complex trophic interactions following nonnative species introductions to Flathead Lake, Montana Bonnie Ellis	Metadata Analysis of Wild Cutthroat Trout Trap Data from Utah Eric Wagner
8:40	Reconnecting Tributaries in the Lemhi River Sub-basin-Do Fish Respond? Mike Biggs	Adult Chinook salmon: we know they came back; does it matter when they left? David Venditti	Havoc at the base of the Lake Pend Oreille Food Web: the role of introduced <i>mysids</i> Frank Wilhelm	Estimating the Ages of Black Hills Mountain Sucker from Four Calcified Structures: Precision, Population Dynamics, and Management Implications Luke Schultz
9:00	Level of effort and prediction success, techniques for two dimensional hydrodynamic habitat modeling Justin Alvarez	The extent and strength of density dependent mortality in a juvenile steelhead population Brian Kennedy	The Arctic char <i>Salvelinus alpinus</i> of Dillon Reservoir, Colorado: an evaluation of their present status and future management possibilities Devin Olsen	Lake hypolimnetic oxygenation influence on a brook and rainbow trout fishery Benjamin Cross
9:20	Developing an improved understanding of sediment delivery from forest roads and effects on instream habitat in Northwest Montana Robert Al-Chokhachy	Patterns and processes of density-dependent growth in juvenile steelhead in Lapwai Creek, ID Knut Marius Myrvold	The effects of hypolimnetic oxygenation on the diets of Brook trout (<i>Salvelinus fontinalis</i>) and Rainbow trout (<i>Oncorhynchus mykiss</i>) in Twin Lakes, Washington Megan Skinner	An In Situ Egg Box Experiment to Assess Kokanee Shore-Spawning Incubation Success in Lake Pend Oreille, Idaho Steven Whitlock
9:40	BREAK			
Session Name	Aquatic Habitat Monitoring: What are we measuring, what trends are emerging, and how is the data being communicated?	Salmon and Steelhead Issues	Lake and reservoir fisheries management: food web-based approaches	Beyond Fish
Moderator	Sarah Holmen Kidd	Bruce Barnett	Andy Dux	Amber Barenberg
Room Name	SNAKE	PAYETTE	HAWK	PERCH
10:00	Innovative Visualization of Hydrologic and Fisheries Data Richard Koehler	Salmonid Smolt Management within the Bulkhead Slots at the Priest Rapids Hydroelectric Project, Columbia River Curt Dotson	The influence of food web dynamics on the growth and production of Lahontan cutthroat trout, in Pyramid Lake, NV. Nicholas Heredia	Fishing for scientists: engaging the next generation using fish in the classroom Dale Broder
10:20	Using Diatom Samples to Interpret Stream Impairment in Montana Streams Mark Teply	Anadromy and residency in steelhead and rainbow trout <i>Oncorhynchus mykiss</i> : a review of the processes and patterns Neala Kendall	Are Wallowa Lake kokanee showing signs of resilience following large size and low abundance? Jeff Yanke	Three common errors from using bioassessment methods to sample macroinvertebrate communities for non-bioassessment purposes Brett Marshall
10:40	A Classification System for Large U.S. Reservoirs and its Application to the West Patrick Sollberger	Reproductive Contributions from Migratory <i>Oncorhynchus mykiss</i> Colonizing a Natal Stream After Barrier Removal Dana Weigel	Zooplankton size structure as an indicator of productive stocking sites Elliott Reams	Effects of reservoir operations on aquatic macroinvertebrate community composition and production in the Deadwood River, Idaho Claire McGrath
11:00	Using habitat suitability criteria as a tool to understand distribution dilemmas for Apache Trout, a rare southwestern salmonid impacted by non-native crayfish Sally Petre	Colonization of Steelhead (<i>Oncorhynchus mykiss</i>) in a Natal Stream After Barrier Removal Dana Weigel	Exploring the potential for biological control of an explosive prey base by a suite of three predatory fishes in a high elevation, western reservoir Lisa Winters	River ice disturbance: effects on organic matter & feeding ecology of aquatic insects Ryan Blackadar
11:20	Panel Discussion	Histological assessment of selected tissues in maturing and post spawning Snake River steelhead Zachary Penney	Attempted manipulation of gerrard rainbow trout using unlimited and incentivized angler harvest in Lake Pend Oreille, Idaho Andrew Dux	Using Simulation Modeling to Inform Forest Practices Regulations in Idaho Mark Teply
11:40		Survival and Traits of Reconditioned Kelt Steelhead <i>Oncorhynchus mykiss</i> in the Yakima River, Washington Doug Hatch	Large-scale lake trout removal in Lake Pend Oreille, ID to benefit a kokanee fishery Nicholas Wahl	
12:00 – 12:50	LUNCH – BOX LUNCHES PROVIDED			

THURSDAY AFTERNOON ▴ APRIL 18

Session Name	Interactions of fish and hydropower operations in the west – an update on recent studies and trends in resource management in the FERC relicensing process	Sturgeon Management and Conservation: what have we learned and where are we headed	New information regarding climate effects on aquatic resources in the western US: how do we use this stuff?	PIT-Tag Technology: Progression from Novel to Standard Fisheries Tool
Moderator	Matthew Hutchinson	Ken Lepla	Dan Isaak	Steve Anglea
Room Name	WILLOWS	PINES	FIRS/COTTONWOODS	SALMON
1:00	A Design for Portable Floating Fish Collector Using Off-the-shelf Parts Mike McGowan	Determination of initial inflation of the swim bladder and vulnerability to barotrauma in white sturgeon Katrina Cook	River temperature and hydrology scenarios for the Pacific Northwest Guillaume Mauger	HD-PIT technology and the development of aids to adult Pacific lamprey passage at dams Mary Moser
1:20	Innovative Fish Passage: A Cost-Effective Solution for High-Head Hydro Kai Steimle	An investigation of metal ingestion in white sturgeon in the Hell's Canyon Reach of the Snake River, Idaho Brian Lanouette	The NorWeST Regional Stream Temperature Database and Model for High-Resolution Climate Vulnerability Assessments Dan Isaak	A case study of adult sockeye salmon passage under intensive trapping operations in the Wenatchee River, Washington Josh Murauskas
1:40	Thompson Falls Fish Ladder, novel solution for moving Bull Trout over a Montana Dam L. Brent Mabbott	Growth of white sturgeon and passage time of fishing tackle after implantation in the digestive system Tony Lamansky	Developing regionally consistent thermal niche definitions through integration of massive fish and stream temperature databases Seth Wenger	Effects of PIT tagging adult Columbia Basin sockeye salmon Jeff Fryer
2:00	Documentation of Spawning and Estimation of Reproductive Success for Bull Trout Transported Above Mainstem Clark Fork River Dams Shana Bernal	The long and short of it – White sturgeon juvenile growth differences among two Snake River reaches Phil Bates	NetMap and Climate Change: Assessing Vulnerability of Aquatic Ecosystems Gordon Reeves	Estimating Regurgitation Rates of Intragastic Radio Transmitters by Adult Summer Steelhead with the Use of Instream PIT-Arrays Chris Frederiksen
2:20	A river, and many fish, run through it: the removal of Condit Dam and other large-scale dam removals in the PNW Liz Gilliam	Improving Sturgeon Management and Conservation with Genetic Management Plans: Case Studies from Both Coasts Andrea Schreier	Incorporating Climate Change Vulnerability into a Regional Aquatic Restoration Priorities Decision Support Tool Jocelyn Tutak	Using PIT tags to partition resident and anadromous O. mykiss production in a highly sympatric population Gabriel Temple
2:40	Freshwater ecology of a glacially dominated stream under consideration hydropower production Heidi Weigner	Improving sturgeon management and aquaculture through next generation sequencing Daphne Gille	Panel Discussion	Tucannon River Steelhead Migration into the Snake River: Straying and Population Viability Joe Bumgarner
3:00	BREAK			
Session Name	Interactions of fish and hydropower operations in the west – an update on recent studies and trends in resource management in the FERC relicensing process	Sturgeon Management and Conservation: what have we learned and where are we headed		PIT-Tag Technology: Progression from Novel to Standard Fisheries Tool
Moderator	Matthew Hutchinson	Ken Lepla		Steve Anglea
Room Name	WILLOWS	PINES	FIRS/COTTONWOODS	SALMON
3:20	Restoration of Floodplain Lakes in the Lower Columbia River Estuary Chad Wiseman	Using Physical Habitat Mapping to Better Understand Spawning Requirements for White Sturgeon on the Kootenai River in Idaho Pete Rust	VACANT	Estimating Survival and Movement Rates of PIT-tagged Salmonids in the Cache la Poudre River, Colorado Eric Fetherman
3:40	A Twenty-Year History of the Upper Cowlitz River Basin Anadromous Fish Reintroduction Program and its Challenges Michael Kohn	Kootenai River Habitat Restoration Program: An evolving ecosystem-based approach to sturgeon recovery Susan Ireland		Quantifying adult natural steelhead at sub population and population scales in the Columbia and Snake river basins Jason Vogel
4:00		Basis of Design for the Kootenai Tribe of Idaho's proposed Twin Rivers Hatchery - White Sturgeon Aquaculture Shawn Young		Snake River Steelhead: To There and Back, a Tale of a 1,000 Tags. Rick Orme
4:20		Rocky Reach Reservoir White Sturgeon Supplementation Program: Status Update Josh Murauskas		Lessons Learned from Evaluating the Use of PIT Tags to Estimate Returns of Adult Hatchery Chinook Salmon and Steelhead in Idaho Carl Stiefel
5:00	AWARDS CEREMONY			

Session Name	Establishing Common Ground in Reproductive Success Studies	Wild Chinook Salmon in a Dynamic Wilderness Landscape	Lake and reservoir fisheries management: food web-based approaches	Use of Genetics in Fisheries
Moderator	Jay Hesse, Shaun Narum	Dave Burns	Andy Dux	Matt Corsi
Room Name	SNAKE	PAYETTE	HAWK	PERCH
1:00	Introduction Shawn Narum	Setting the stage: Introduction to the Middle Fork Salmon River (MFSR), its landscape, natural processes, and biological components Russell Thurow	Management strategies for multi-use recreational fisheries: coexistence of lake trout and kokanee in western waters Bill Pate	Association mapping of disease resistance traits in rainbow trout using RAD sequencing Nathan Campbell
1:20	Factors influencing the relative reproductive success of hatchery and natural spring Chinook salmon in the Wenatchee River Michael Ford	Climate, fire, and vegetation change provide primary controls on geomorphic response in the MFSR: Evidence from a 14,000 year record Kerry Riley	A <i>Lota lota</i> consumption: trophic effects and potential impacts of a novel and voracious predator in Flaming Gorge Reservoir, WY-UT Stephen Klobucar	Polymorphism or hybridization: verifying whether loci are diagnostic in a population John Powell
1:40	Reproductive success of reintroduced spring-run Chinook salmon in the Hood River, Oregon Maureen Hess	Disturbance cascade: fire and debris flows in the Salmon River Basin affect headwater linkages to main-stem habitats with consequences for salmonid fishes Hannah Harris	Seasonal Movement Dynamics by Burbot in Flaming Gorge Reservoir, UT-WY: An Invasive Fish Going the Distance. W. Carl Saunders	Microsatellite Study Clarifies Non-native threat to Lahontan Cutthroat Trout Reintroduction in Fallen Leaf Lake, California. Jason Smith
2:00	Can interbreeding of wild and artificially propagated animals be prevented by using broodstock selected for a divergent life history? Todd Seamons	Integrating genetic and demographic information to characterize MFSR salmon population structure and individual dispersal Helen Neville	Seasonal Distribution of Invasive Lake Trout (<i>Salvelinus namaycush</i>) in Yellowstone Lake Robert Gresswell	The phylogeography of westslope cutthroat trout based on whole-mitome sequences and nuclear SNP markers Michael Young
2:20	Diminished reproductive success of steelhead from a hatchery supplementation program (Little Sheep Creek, Imnaha Basin, Oregon) Ewann Berntson	Spatiotemporal variation in demography of MFSR Chinook Salmon Inferred from Redd Surveys Dan Isaak	Spawning Characteristics of Invasive Lake Trout <i>Salvelinus namaycush</i> in Yellowstone Lake Philip Sandstrom	Patterns of Genetic Variation in Lahontan cutthroat trout: a comparison of SNP and microsatellite loci Mary Peacock
2:40	Detecting introgressive hybridization between segregated hatchery and wild populations Kenneth Warheit	Application of MFSR spawning ground data to develop productivity estimates for threatened salmon populations Patrick Kennedy		Archival genetic analysis suggests recent immigration has altered a pristine population of Columbia River Chinook salmon Andrew Matala
3:00	BREAK			
Session Name	Establishing Common Ground in Reproductive Success Studies	Wild Chinook Salmon in a Dynamic Wilderness Landscape		Use of Genetics in Fisheries
Moderator	Jay Hesse, Shaun Narum	Dave Burns		Matt Corsi
Room Name	SNAKE	PAYETTE	HAWK	PERCH
3:20	Reproductive success of hatchery and naturally spawned Chinook salmon colonizing newly accessible habitat Joseph Anderson	Building a blueprint for salmon recovery Russell Thurow	VACANT	Review of environmental DNA (eDNA) methods for detection and enumeration of fish species and populations Matthew Laramie
3:40	Panel Discussion	Panel Discussion		Adaptive alleles useful for early detection of hybridization between rainbow and westslope cutthroat trout Gordon Luikart
4:00				
4:20				
5:00	AWARDS CEREMONY			

Poster Session



Poster Topics and Numbers	Poster Title	Author
Anadromous Fish Management		
1	Lower Snake River Dams and the Conservation of Salmon, Steelhead, Pacific Lamprey and White Sturgeon	Bert Bowler
2	Survival and Migration Characteristics in the Lower Columbia River of Post-spawn Steelhead (<i>Oncorhynchus mykiss</i>) Kelts Transported from the Mid-Columbia and Snake Rivers and Released below Bonneville Dam	Ryan Branstetter
Aquaculture		
3	Advancements in Aquaculture and Supplementation of Imperiled Burbot in the Kootenai River	Neil Ashton
4	Effects of Three Starter Diets on Bonneville Cutthroat Trout Fry	Eric Pankau
Aquatic Habitat Restoration		
5	Coeur d'Alene Basin Restoration: Planning Restoration of Natural Resources Injured by Mine Waste Contamination	Kajsa Stromberg
6	Emulating Riverine Landscape Controls of Beaver in Stream Restoration	Angelo Vitale
Biotic Response To Environmental Factors		
7	Determining the Effects of Road Construction on Stream Macroinvertebrates in the Páramo of Ecuador	Mikaela Campbell
8	Effects of Impoundments on Brown Trout Source-sink Dynamics in the Logan River, Utah: Conservation Implications for Endemic Bonneville Cutthroat Trout	Konrad Hafen
9	Effects of Stocking History and Barriers to Movement on the Pattern of Hybridization in Cutthroat Trout Populations	Janet Loxterman
10	A Multi-Trophic Level Investigation Sheds Light on Long Term Responses of Stream Ecosystems to Wildfire	Matthew Lyon
11	Smolt Behavior in the Sacramento River at a Levee Repair Site	Philip Sandstrom
12	Jumping the Falls? Interactions Between Resident and Anadromous <i>O. mykiss</i> Populations at a Putative Natural Barrier, Big Bear Falls, Pottlatch River, Idaho	Thea Vanderwey
13	Fluvial Westslope Cutthroat Trout Movements and Restoration of Habitat in the Nevada Spring Creek Complex	Tracy Wendt
14	Musselshell Tunnel Realignment	Marcie Carter
Climate Change		
15	Climate Velocity in Streams: What Does it Mean for Fish?	Dan Isaak
16	Resolving Discrepancies Between Air and Stream Temperature Warming Rates due to Climate Change in Mountain Basins using Dense Sensor Arrays and Air Microclimate Models	Dan Isaak
Fish Management		
17	As the World Turns: Shoshone Bannock Tribes Subsistence Fishing for the Future	Skyler Smith
Fish Passage		
18	Alternative Downstream Passage Design for the Main Street Fishway	Lauren Stocker
19	Lamprey Passage at Migration Barriers: Fishway Design Criteria and Biological Insights	Hattie Zobott
Fish Reintroductions		
20	Developing a Naturalized Chinook Salmon Population in the Yankee Fork Salmon River using Adult and Juvenile Releases	Carlos Lopez
21	Reintroduction of Chinook Salmon into the Walla Walla River	Joelle Olsen
Genetics and Fisheries Research		
22	Seven Millennia of Change: Comparisons of Modern and Ancient DNA from Chinook Salmon	Bobbi Adams
23	Development and Evaluation of Powerful DNA Tests for Early Detection of Invasive Zebra Mussels	Stephen Amish
24	Development and Testing of New Variable SNPs, Sex id, and Species-diagnostic Loci for Bull Trout from RAD Sequence Data	Stephen Amish
25	A Genetic Estimator of the Number of Breeders (Nb) per Year: Applications to Bull Trout using SNPs	Gordon Luikart
26	Hybrids Lost: Fading Introgression in Two Freshwater Sculpin Populations	Grace Malato
27	Overlapping Paired-end RAD Sequencing for Conservation Genomics	Tamara Max



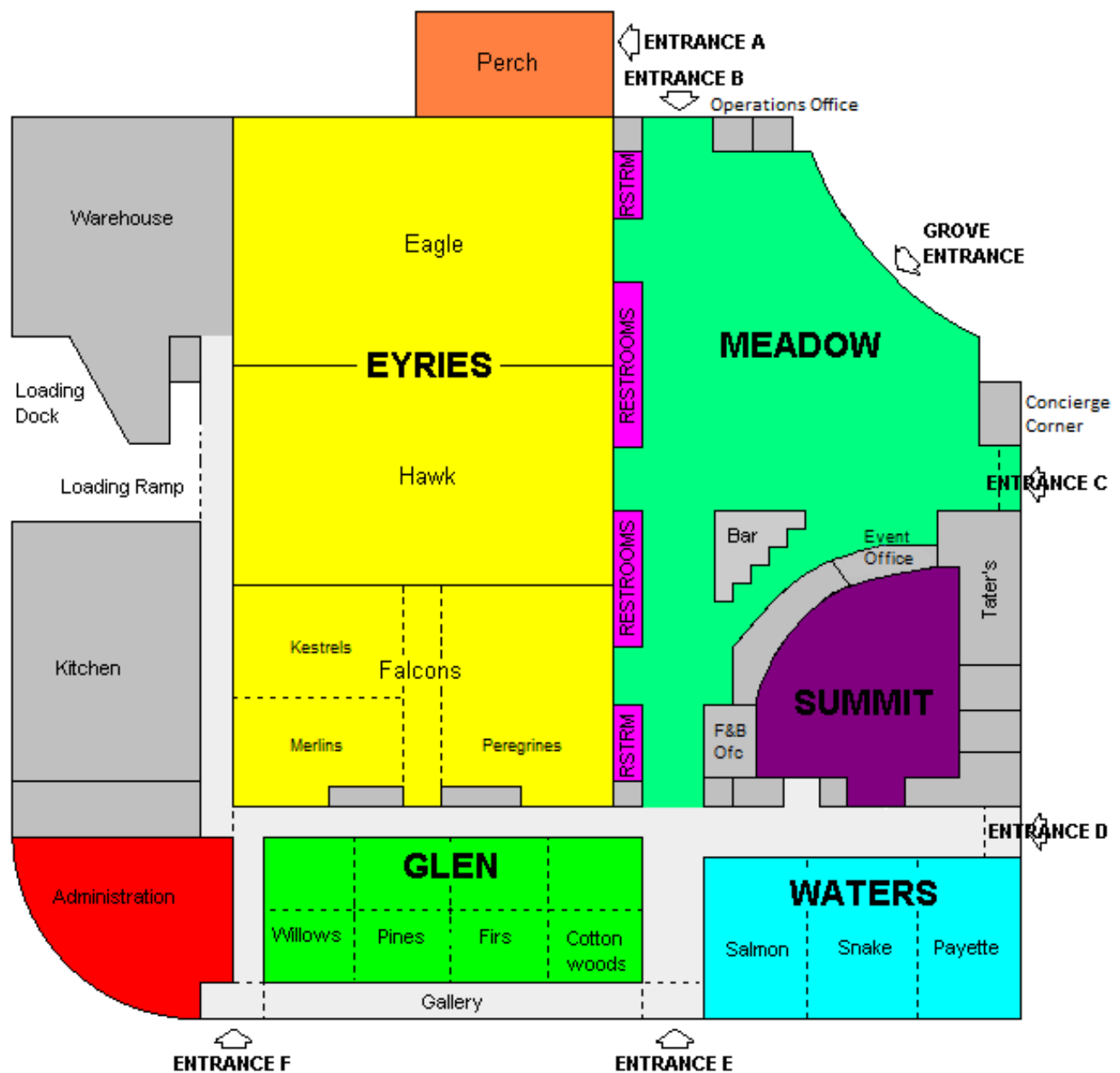
Poster Session

Poster Topics and Numbers	Poster Title	Author
28	Genetic Monitoring of Threatened Chinook Salmon Populations: Estimating Introgression of Non-native Hatchery Stocks and Temporal Genetic Changes	Donald Van Doornik
Methods, Tools, and Techniques		
29	The Pacific Northwest Salmon Habitat Project Database	Monica Diaz
30	Modeling Processes that Change the Availability, Connectivity and Diversity of Aquatic Habitat at Landscape Scales	Rebecca Flitcroft
31	Experiments in the use of Video to Monitor Outmigrating Columbia River Juvenile Salmonids at Bonneville and McNary Dams in 2011	Jeffrey Fryer
32	Using Geology to Determine the Rearing Location of Juvenile Salmon: Application and Limitations of 87Sr/86Sr Prediction From Bedrock Geologic Maps	Jens Hegg
33	Modeling the Influence of Surface-subsurface Exchange on Periphyton Dynamics	Francine Mejia
34	Design, Use, and Applications of a Cost Effective Hydrographic Station	Tony Parra
35	fisherieststandardsampling.org: Comparing Standard North American Freshwater Fish Data using a Simple Online Tool.	Sally Petre
36	A Morphometric Determination of Gape Limit for Six Fish Predators in Three Western USA Waters	Bryce Roholt
37	Detection Efficiency and Habitat use to Inform Inventory and Monitoring Efforts: Juvenile Coho Salmon in the Knik River Basin, Alaska	Suresh Sethi
38	Utilization of Visible Implant Elastomer Tags (VIE) to Determine the Distribution and Abundance of Marine Catfish Species in the SE Gulf of California	Francisco Vazquez-Melchor
39	Evaluation of Calcified Structures for Estimating Age of Common Carp	Jarrod Yates
40	BioData: An Aquatic BioAssessment Database for the Nation	Dorene MacCoy
Monitoring, Evaluation, and Management		
41	Bull Trout Age Structure Estimation Based on Mark-recapture History in the East Fork Salmon River, Idaho	Brian Ayers
42	Assessing Fish-Habitat Relationships at Multiple Spatial Scales	Monica Blanchard
43	Size- and Density-Dependent Outmigration of Juvenile <i>O. mykiss</i>	Jeff Caisman
44	An Assessment of Coastal and Anadromous Brook Trout in New England	Daniel Dauwalter
45	Spatial and Temporal Variation of the Fish Assemblage in a Subtropical Estuarine System in the SE Gulf of California	Nahyeali Gómez
46	Heritability of Male Age at Maturity in Wild and Hatchery Origin Chinook Salmon	Benjamin Hecht
47	Of Olives and Carp: Potential Facilitation Between Invasive Species and Consequences for Stream Nutrient Dynamics	Kaleb Heinrich
48	Scale Resorption in Migrating and Spawning Steelhead	Kala Hernandez
49	Trophic Transfer of Cd and Pb in a Subtropical Coastal Lagoon Associated to an Agricultural Basin	Jesús Quintero
50	Where are Long-toed Salamanders found in a Game of Hide-and-Seek with Trout?	Erin Kenison
51	Modeling Restoration Trajectories of Oligohaline Tidal Wetland Ecosystem Services in the Pacific Northwest: A Study of Young's Bay Tidal Reconnection Projects	Sarah Kidd
52	Reproductive Biology of the Panama Grunt (<i>Pomadasys panamensis</i>) from SE Gulf of California	Raul Lara-Mendoza
53	Looking Beyond Marine-Derived Nutrients: Physical and Biological Drivers of Isotopic Variation in the Aquatic Biota of a Wilderness Watershed	Liza Mitchell
54	Is Bear Valley Creek, Idaho Bare Naked? Chinook Salmon tend to Disagree!	Brock Moss
55	An Overview of the Yuba Accord Monitoring and Evaluation Program: Where did we start, what have we done, and where are we going?	Adrian Pitts
56	Length-weight Relationship and Initial Biomass of the Grunt <i>Haemulopsis elongatus</i> in the SE Gulf of California	Alberto Rodríguez
57	Fish Assemblage Structure in Side Channels of the Kootenai River, Idaho	Carson Watkins
Outreach and Education		
58	The Boulder Creek Study: Increasing Outreach through Adventure Learning	Deirdre Bingaman
59	Clearwater Salmon Camp 2012	Tim Cochnauer
60	The Caldera Symposium: A Scientific and Angling Exploration of the Henry's Fork	James DeRito
61	Lower Salmon River Science and Stewardship Learning Strategies: Combining Science and Outdoor Adventure	Leslie Freeman
62	Jump Creek Canyon Field Experience	Andrea Koenig



The Boise Centre

THE BOISE CENTRE FLOOR PLAN





Restaurants and Local Attractions

Breakfast	Lunch & Dinner		
Big City Coffee and Bakery 1416 Grove St 208-345-3145 www.bigcitycoffeeld.com	Bardenay Restaurant and Distillery 610 W Grove St 208- 426-0538 www.bardenay.com	Piper Pub and Grill 150 N 8th St 208-343-2444 www.thepiperpub.com	Mai Thai 750 W Idaho Street (208) 344-8424 www.maitaigroup.com
Le Café de Paris 204 N Capitol Blvd 208-336-0889 www.lecafede-paris.com	P.F. Chang's China Bistro 391 S 8th St 208-342-8100 http://www.pfchangs.com/Locations/LocationDetail.aspx?sid=9980	Guido's New York Style Pizza 235 N 5th St 208-345-9011 www.guidosdowntown.com	Old Chicago 730 W Idaho St 208-363-0037 www.oldchicago.com/downtown-boise
Goldy's Breakfast Bistro 108 S Capitol Blvd 208-345-4100 www.goldysbreakfastbistro.com	Bittercreek Ale House 246 North 8th Street 208-345-1813 www.bcrfl.com/bittercreek/	Reef 105 S 6th St 208-287-9200 www.reefboise.com	The Old Spaghetti Factory 610 W Idaho St 208-336-2900 www.osf.com
Moon's Kitchen Café 712 W Idaho Street 208-385-0472 www.moonskitchen.com	Pie Hole Pizzeria 205 N 8th St 208-344-7783 www.pieholeusa.com	Ha Penny Irish Pub 855 Broad St 208-343-5568 www.hapennybridgepub.com	Yoi Tomo Sushi and Grill 405 S Captiol Blvd (208) 344-3375 www.yoitomo.us
	Flatbread Community Oven 615 W Main St 208-287-4757 www.flatbreadpizza.com	TableRock Brewpub and Grill 705 Fulton Street 208-342-0944 www.tablerockbrewpub.com	The Falcon Tavern 705 W Bannock St (208) 947-3111 www.falcontavern.com
	Mongolian Grill and Bar 801 Bannock Street 208-433-9334 www.mongolianbbqgrill.com	Happy Fish Sushi 855 W Broad St 208-343-4810 www.happyfishsushi.com	

Restaurants and Local Attractions



Museums	Parks and Hiking	Other Attractions
Discovery Center of Idaho 131 West Myrtle Street 208-343-9895 Hours: 9:30-5:30 Admission \$18 adults/\$14 youth Distance from Grove Hotel: 0.5 miles www.scidaho.org	Boise Greenbelt Distance from Grove Hotel: 4 blocks Features: Walking, jogging, biking parks.cityofboise.org/parks-locations/parks/greenbelt/	Morrison-Knudsen Nature Center 600 South Walnut Street 208-332-2225 Hours: Gift shop 9:00-5:00, grounds open daylight hours Admission: Free Distance from Grove Hotel: 1.5 miles
Boise Art Museum 670 Julia Davis Drive 208-345-8330 Hours: 10:00-5:00, closed Mondays Admission: \$5 adults/\$3 students/\$1 children Distance from Grove Hotel: 4 blocks	Julia Davis Park Distance from Grove Hotel: 4 blocks Features: Large park with greenbelt access parks.cityofboise.org/parks-locations/parks/julia-davis-park/	Zoo Boise 355 Julia Davis Drive 208-384-4260 Hours: 10:00-5:00 Admission: \$7 adults/\$4.25 children Distance from Grove Hotel: 0.5 miles
Idaho State Historical Museum 610 Julia Davis Drive 208-334-2120 Hours: 9:00-5:00 Tue-Fri, 11:00-5:00 Saturday Admission: \$5 adults/\$3 children Distance from Grove Hotel: 4 blocks	Ann Morrison Park Distance from Grove Hotel: 0.5 miles Features: Large park, greenbelt access, disc golf parks.cityofboise.org/parks-locations/parks/ann-morrison-park/	Idaho Botanical Garden 2355 Old Penitentiary Road 208-343-8649 Hours: 9:00-5:00 M-F, 10:00-6:00 Sat and Sun Admission: \$5 adults/\$3 seniors and children Distance from Grove Hotel: 2 miles
Basque Museum and Cultural Center 611 West Grove Street 208-343-2671 Hours: 10:00-4:00 Tue-Fri, closed Sun, Mon Admission: \$5 adults/\$3 children Distance from Grove Hotel: 1 block	Camel's Back Park 1200 W Heron Street Features: Foothill trails access parks.cityofboise.org/parks-locations/parks/camel's-back-park/	World Center for Birds of Prey 5668 W Flying Hawk Lane 208-362-8687 Hours: 9:00-5:00 Admission: \$7 adults/\$5 children Distance from Grove Hotel: 12 miles



Restaurants and Local Attractions

Breweries and Wineries

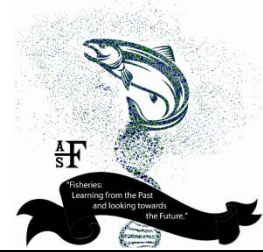
Sockeye Grill and Brewery	Bittercreek Ale House	Highlands Hollow Brewpub and Grill
3019 North Cole Road	246 North 8th Street	2455 Harrison Hollow Lane
208-658-1533	208-345-1813	208-343-6820
Hours: 11:00-9:00	Hours: 11:00-10:00	Hours 11:00-close
Beer and full menu	Beer and full menu	Beer and full menu
Distance from Grove Hotel: 6 miles	Distance from Grove Hotel: 3 blocks	Distance from Grove Hotel: 2.5 miles
www.sockeyebrew.com	www.bcrfl.com/bittercreek/	www.highlandshollow.com
TableRock Brewpub and Grill	Snake River Winery Tasting Room	Payette Brewing Company
705 Fulton Street	786 W Broad Street	111 West 33rd Street
208-342-0944	208-345-WINE	208-344-0011
Hours: 11:00-midnight	Hours: 12:00-7:30 Tue-Sat, closed Monday	Hours vary, call for info
Beer and full menu	Just wine, no food	Just beer, no food
Distance from Grove Hotel: 3 blocks	Distance from Grove Hotel: 2 blocks	Distance from Grove Hotel: 2.5 miles
www.tablerockbrewpub.com	www.snakeriverwinery.com/tasting.html	www.payettebrewing.com
Crooked Fence Brewing		The RAM Restaurant and Brewery
5242 W Chinden Boulevard		709 East Park Boulevard
208-890-4120		208-345-2929
Hours: 4:00-10:00 Th-Sat		Hours: 11:00-close
Just beer, no food		Beer and full menu
Distance from Grove Hotel: 4.5 miles		Distance from Grove Hotel: 1 mile
www.cfbrewing.blogspot.com		www.theram.com/idaho/boise.html

The Western Division of the American Fisheries Society and the Idaho Chapter of the American Fisheries Society gratefully thank the following sponsors of this meeting



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Western Division



Boise, Idaho
April 15 – 18 2013

