The Confluence

Newsletter of the Washington—British Columbia Chapter of the American Fisheries Society

Winter 2016

Inside this Issue

2016 AGM Chapter Announced

The Washington-British Columbia Chapter of the AFS announces its 2016 Annual General Meeting to be held in Lake Chelan, Washington, on March 28-31, 2016.

Special hotel room rates have been secured at the magnificent waterfront Campbell Resort in Lake Chelan, WA. Voted the #1 Resort in the Northwest by Evening Magazine and earning Trip Advisor's 2013 Certificate of Excellence, Campbell's Resort has been Washington state's favorite family friendly resort since 1901.

Campbell's Resort is located on the shores of Lake Chelan, where the east slopes of the Cascade Mountains meet the sun baked Columbia plateau.

Long renowned as a family vacation playground, the Lake Chelan area has recently become Washington state's most exciting new wine country. Occupying Chelan's best beach, our lake resort makes swimming and boating activities front and center to the resort experience. Campbell's Resort is also connected to Lake Chelan's trail and park systems and the pedestrian friendly small town shopping district.
There will be awards for Best Student Talk and Poster!

Apply to be an exhibitor at the Tradeshow or become a Sponsor and get a free registration.

Included with the meeting are Socials, a Poster Session, Trade Show, and a "Spawning Run."

AGM Quick Tip

For the latest AGM info: http://agm.wabc-afs.org/
Campbell's Resort info: http://www.campbellsresort.com

Report on ExCom Retreat & AGM 2016

- by Mark LaRiviere

WA-BC Chapter President Mark LaRiviere

WA-BC Chapter Executive Committee

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AFS-UW President
Joëlle Blais
AFS-UBC President
Katrina V. Cook

I would like to thank all the chapter members for their support, assistance and attendance at our 2015 annual general meeting (AGM) in Richmond, B.C. A special thanks to all the hard-working Canadian chapter members! Local cooperation and collaboration is highly beneficial to the chapter, to our Society, and for fostering cross-boundary relationships.

2015 ExCom annual retreat:
The chapter's annual ExCom retreat was held at the University of Victoria, British Columbia on Saturday, October 25th. This gathering of the chapter's officers is where a bulk of the chapter business is completed. We reviewed the 2015 budget status, voted on the 2016 budget, continued planning the 2016 AGM, responded to member's concerns, discussed the Western Division AFS requests for support and conducted other business as needed. Chapter members are encouraged to contact the officers and contribute their opinions, support, advice and recommendations for our chapter business. See 2015 ExCom members: http://wabc-afs.org/about-us/ex-com-minutes/2015-2016-excom-members/

2016 Annual General Meeting:
The 2016 annual general meeting is scheduled for March 28-31, 2016 at Campbell's Resort, Lake Chelan, Washington. Alix Blake, chapter President-Elect will be heading up the meeting. Please offer her your assistance, ideas and support for this meeting. Mark your calendars now, put in your travel requests and plan to attend this meeting! The strategic location in the upper Columbia River basin should be attractive to both Canadian and Washington members.

AFS Western Division news:
The Western Division (WD) executive committee has asked for our chapter's assistance with strengthening the WD Environmental Concerns Committee by providing committee members, recommending subject matter experts, and distributing the information to the appropriate audiences. The chapter ExCom will continue to seek ways of acting on this issue, perhaps by resurrecting our Chapter's dormant Environmental Affairs Committee. Any volunteers out there?

As always feel free to contact me regarding our Chapter, the Parent Society or just fish news in general! My door is always open - (when I'm not out to sea…)

- Mark LaRiviere,
President
WA-BC Chapter of AFS

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AGM Quick Tip

The rooms with the best views at Campbell's Resort fill up quickly! Reserve your room now under the reservation **310664** or **American Fisheries Society** to get a great rate!

Student Subunits: Reports and Activities

Joëlle Blais, President of the UW Student Subunit

UW President's Report

by Joëlle Blais
joelle.blais21@hotmail.com

AFS-UW website:
https://afsuw.wordpress.com/

This summer quarter, the AFS-UW Student Subunit had the opportunity to send School of Aquatic and Fishery Sciences graduate student, Emily Thornton, to the Annual American Fisheries Society Meeting in Portland, Oregon. She presented her work done in Tom Quinn's lab regarding salmon conservation in the Elwha River system post dam removal. These conferences serve as important tools for students to make connections and learn more about ongoing science in the greater fisheries community and we were happy to give the opportunity for a student to attend.

This fall quarter we have been concentrating on organizing our career development seminars and are planning our annual fish trivia that will be held this upcoming February. We plan on hosting a variety of speakers that have insight on the private sector of the fisheries industry as well as speakers who are able to give guidance in applying to graduate school.

In addition to our annual events, we hope to organize a tour of the Northwest Fisheries Science Center and the Seattle Aquarium to give students an opportunity to explore and ask questions about fisheries research in our local area. We are looking forward to a great and enlightening year!

Katrina Cook, President of the BC Student Subunit

BC Student Subunit President's Report

by Katrina Cook
katrina.vcook@gmail.com

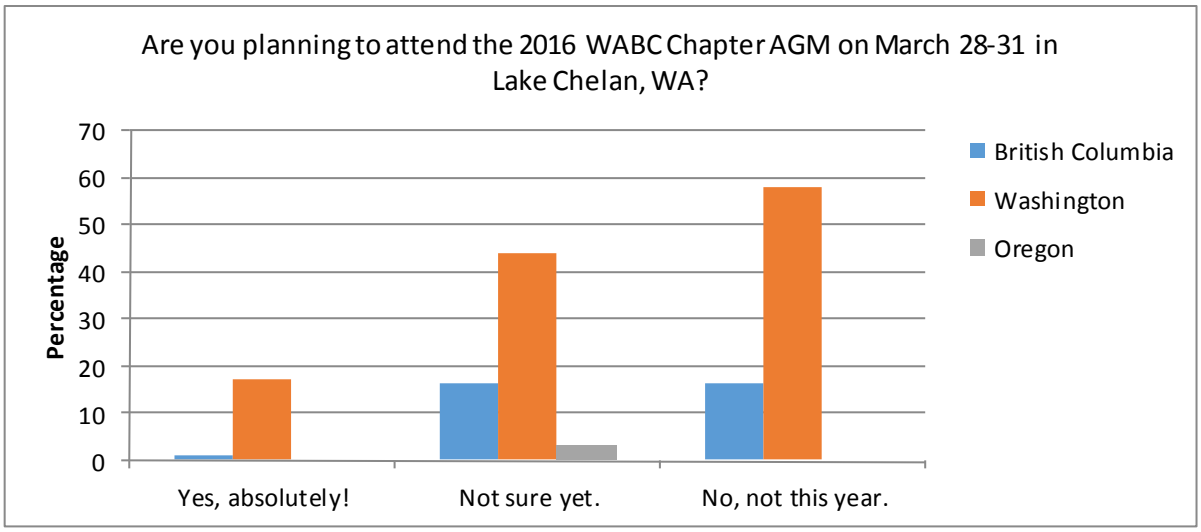
AFS-BC website: https://
bcstudentafs.wordpress.com/

Exciting things are happening for members of the BC student subunit this year as it expands through the province. After a recent election, we now have a larger-than-ever executive committee comprised of students from the University of British Columbia, University of Victoria, and Simon Fraser University. Sean Naman, a previous president and treasurer/secretary, is moving on from the ExCom life in pursuit of finishing his PhD thesis. Katrina is choosing to continue delaying wholly dedicating herself to that pesky thesis and will stay on as president for a second year. The end of Katrina's president days are near though as Sam Wilson, a subunit regular, has stepped into the president-elect position and will be leading the charge next year. Communications officer and social media guru, Vanessa Minke-Martin, is also leaving us and her hard work during the term left us feeling that the subunit could actually use two communication officers. We've decided on a few changes to accommodate a larger and more diverse multi-university ExCom. Most notably, our events are typically held on campus but we just had an off-campus Trivia event at a location very conveniently located between UBC and SFU, that also very conveniently had beer on tap (bonus!). I'm not sure if it was the location, the beer on tap, or our fabulous new ExCom, but the event was well attended by both UBC and SFU students. Things got particularly interesting and responses very creative when asked the question, "In 2015, expected returns of sockeye salmon were only a percentage of what DFO projected. Where did all the sockeye go?".

Needless to say this question was not resolved at trivia night, but perhaps we will continue the discussion at future meetings. We hope to host more events through the winter, perhaps even in Victoria, and we will have representatives at the upcoming AGM in Lake Chelan. As in previous years, we are currently busy soliciting donations for the silent auction and will be volunteering at the meeting. Be sure to keep an eye out for the new ExCom!

Member Surveys

As many of you know, we sent a survey to our membership to get an idea of how many of you are planning to attend the 2016 Chapter AGM in Lake Chelan, Washington. Here are the results from 156 respondents (so far):



Our goal is to change all those maybes into yesses! The next few pages of the newsletter will present some great information about our plans for the conference. We have many exciting symposia and events planned— We hope to see you there!

We are also interested in knowing more about how we are serving your needs, including finding out what drives a member's decision to attend chapter conferences. The Executive Committee wants to make sure all members are engaged and interested in our local happenings. Please check out our next survey at the link below and tell us what you want to see more or less of in our chapter! The survey is completely anonymous and should only take 10-15 minutes of your time.

https://www.surveymonkey.com/r/wabc_member_feedback

Your feedback is very important to us!

AGM Quick Tip

Be sure to take a break from the conference to enjoy the beautiful views! What better way to explore Lake Chelan than by signing up for the Spawning Run? **Join us March 30 @ 7am**

2016 AGM Plenary Speaker

We are pleased to announce the first of three plenary speakers for the 2016 AGM. Dr. Hal Beecher is a leading habitat scientist at the Washington Department of Fish and Wildlife, and will have just retired at our March meeting. The title of his talk will be:

Adequate Water and Aquatic Habitat: An Essential Component of "Building A Future For Our Fishes"

Dr. Hal Beecher
Retired Instream Flow Biologist

halbeecher@comcast.net

Hal Beecher was born in Budapest, Hungary in 1948 to parents in the State Department, but was raised in the Seattle area. After finishing high school in San Diego, he graduated from Middlebury College (A.B., Biology, 1970), University of West Florida (M.S., Biology and Marine Science, 1973), and Florida State University (Ph.D., Biological Science [comparative ecology of carpsuckers in Gulf coast rivers], 1979). After working for The Nature Conservancy in Washington and Oregon in 1978-9, Hal began working for Washington Department of Game, now part of Fish and Wildlife (WDFW), in 1979. He was first hired to evaluate the relatively new Instream Flow Incremental Methodology (IFIM). His duties have included recommending and advocating instream flows as mitigation for hydropower and other water uses, conducting, reviewing, and evaluating instream flow studies, development of agency instream flow and water management policy, review of water legislation, review of water right applications, and supervising the Water Science Team. Other duties at WDFW have included running oil and toxic spill response program, coordinating agency response to hydroelectric projects, and writing part of an EIS on DNR's forest land management. He has conducted and published research on relationships among flow, fish, and habitat. In 1990, Hal published "Standards for Instream Flows" (Rivers 1 (2): 97-109), which was referenced by New Jersey and Florida for their instream flow programs. Hal became the WDFW representative to the Instream Flow Council (IFC: www.instreamflowcouncil.org) when it was formed in 1996. He was one of the authors of the IFC's books, *Instream Flows for Riverine Resource Stewardship* (2002, revised 2004) and *Integrated Approaches to Riverine Resource Stewardship – Case Studies, Science, Law, People, and Policy* (2008). He served as IFC regional director for western states, and served as IFC president from April 2006-October 2008. In 2015 the Instream Flow Council presented him its Lifetime Achievement Award. He retires at the end of January 2016.

Watch an interview with Dr. Beecher for a preview of his discussion on the importance of instream flow numbers.

More Plenary Speakers to come! Be sure to watch our Chapter and AGM websites for the latest information:

WABC Chapter Website

AGM Website

2016 AGM Symposia

We have several exciting symposia topics for the upcoming AGM that cover a broad range of topics all relating to our overall theme "Building a Future for Our Fishes".

Fish Passage - Larry Dominguez (WDFW), chair

Waging War: Case Studies in Combating Aquatic Invasive Species - Raquel Crosier (Invasive Species Council), chair

Restoring and Conserving Columbia River Sockeye Salmon - #Flagship Projects - Richard Bussanich (Okanagan Nation Alliance), chair

Hatchery Supplementation Performance and Methods - Todd Pearsons and Deanne Pavlik-Kunkel (Grant Co. PUD), co-chairs

Salmon Production in the Hanford Reach - Todd Pearsons (Grant Co. PUD), chair

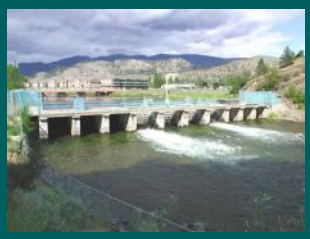
Estuarine Restoration - Chad Wiseman (HDR), chair

Native Fishes - chair TBD

Contributed Papers

Chinook salmon in fish ladder (photo: CA DFW)

Invasive African clawed frog (photo: Animal-Spot.net)



Okanagan River weir (photo: ourbc.com)

2016 Chapter Awards

This is a reminder to get those nominations in soon for the 2016 WA-BC Chapter Awards!

It's easy!

All you have to do is:

1) Review the list of awards

2) Write a brief rationale to support your nomination(s)

3) Submit your nomination(s) to Chapter Past-President Matt Klungle at Matthew.Klungle@dfw.wa.gov by **Feb. 15, 2016**

4) If you can, come to the business meeting held during the 2016 Chapter AGM (March 28-31 in Chelan, WA) to see the awards given out.

See list of awards and descriptions on the next page.

Haig-Brown Award: In honor of writer and conservationist Roderick Haig-Brown; this award was established in 1981 to recognize those who have produced outstanding, non-technical articles or publications on any aspect of fishery management, research, habitat protection, enhancement, or other related fields. The Haig-Brown Award is presented to an individual or agency who best exemplifies the journalistic spirit of Roderick's book, The Western Angler: "Hand in hand with preserving and improving the fishery must go the work of presenting it properly to the public."

Worthy Coelacanth Award: In honor of the "living fossil"; this award was established in 1984 to recognize a senior member (over 55 years young) of the WA-BC Chapter of AFS who has made an outstanding contribution to fisheries management and science.

Volunteer Organization: This award recognizes a volunteer organization that has made exemplary contributions to fisheries conservation, education, or science.

The Fish Gaffe: This award recognizes the most noteworthy faux pas by a Chapter member each year. [The first recipient was Jeff Cederholm for his outstanding collection of self-inflicted typos in a previous AGM agenda].

Certificate of Appreciation: This award recognizes a member, non-member, or organization who has significantly contributed to the betterment of the Chapter or its activities.

Certificate of Achievement: This award recognizes a Chapter member who has demonstrated significant professional achievement, consistent with AFS goals and policies.

Conservation Organization of the Year: This award recognizes an organization that has significantly contributed to a program or activity for conservation of fishery resources or habitats.

Meritorious Service: This award recognizes a Chapter member who has made substantial contributions to the success of the Chapter.

Tommy Brayshaw Junior Conservation Award: In honor of artist and conservationist Tommy Brayshaw; this award was established in 1995 to recognize someone 16 years old or younger who has meaningfully involved in some form of fish conservation work.

AGM Continuing Education

Workshop: "Bringing Science and Nature to the General Public."

This workshop, presented by Dr. Dennis Dauble, will inform fisheries scientists about how they can bring their experience to the general public via writing. Science writing for the public requires a new way of thinking beyond the traditional journal article or technical report. Opportunities include newsletters, newspapers, magazines, websites and books. Dr. Dauble will describe opportunities, writing styles and challenges based largely on his own experience. The workshop involves brief writing exercises, interactive discussion, and will ultimately result in each student developing an action plan or list of activities to accomplish around their personal goals.

Find out about Dr. Dauble's exciting 35+ year career on his website: www.dennisdauble.com

Contributed Writings

Chumthing fishy: The trials and tribulations of a commercial fishery study

by Maryann S. Watson[1], Sofia Jain-Schlaepfer[2], Justin Fleming[3], Katrina Cook[4]

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2 Department of Biology, Carleton University, 1125 Colonel By Dr. Ottawa, ON K1S 5B6, Canada
3 Department of Forest Sciences and Conservation, University of British Columbia, Vancouver, BC, V6T 1Z4, Canada
4 Pacific Salmon Ecology and Conservation Laboratory, Department of Forest Sciences and Conservation, University of British Columbia, Vancouver, BC, V6T 1Z4, Canada

Our crew: Maryann, Katrina, Sofia, and Justin with our trusty fish-tag holding buoy Edna.

There are few feelings comparable to that of watching your ties to civilization sail away, leaving you on a floating dock in the middle of the northern wilderness of British Columbia. The relentless damp pressing in and no clear idea of when a boat may return. This is where four of us, having only just met, found ourselves camping out for 25 days with 70 chum salmon. These fish were part of a holding study to evaluate the condition of chum following release from the commercial purse seine fishery targeting other species. Due to the unpredictable nature of these fishery openings, we were never sure when a boat would return for us.

A humpback whale visits the dock camp.

In this remote section of BC's north coast, the options for sites to base our fieldwork were limited. In fact, we left Vancouver unsure of where the study would take place with packed supplies to deal with several scenarios. Luckily, scouting missions confirmed the presence of an abandoned floating dock, the size of a large convenience store parking lot, that was perfectly sized and situated for our work. The dock is located in a bay on the Northern tip of Princess Royal Island within the traditional territory of the Gitga'at First Nation, a ten hour run from the nearest commercial fishing port of Prince Rupert.

Our work focused on the large purse seining fishery that occurs in this area. Purse seining is one of the three commercial fishing methods for Pacific salmon, along with gillnetting and trolling. Seine nets are over half a kilometer long and over 50 meters deep. On the North coast, nets are set by tying one end to the shore – requiring a crew member (the "beach man") to sprint up steep rocky shores covered in algae and barnacles with the net line. The vessel sails away, unwinding the net and then it is towed for up to twenty minutes before the beach line is released and the whole net is drawn up and "pursed" closed using the 'purse strings'. Finally, the net is brought alongside the boat and fish are loaded onboard. During a fishery opening, a crew will repeat this process between 16-20 times in a day.

A purse seiner sets its net.

Management regulations aimed at conserving less abundant species which cannot sustain a commercial harvest dictate that fishers must sort their catch as it is brought on board and release all non-target species. In our study area, the abundant pink salmon often comprise the bulk of the commercial catch . Chum salmon, a species of conservation concern in this area, are also frequently encountered and must be released. There are concerns that the handling practices used to sort and release non-target fish exacerbate the stress associated with capture and result in a high post-release mortality rate.

Our study aims to quantify the condition of chum salmon following different handling and release methods immediately following capture by using holding studies to evaluate how condition and vitality changes over a period of 10 days. Fishing methods included different

lengths of time held in the net, air exposure time on deck, and the tightness of the net as it's held alongside boats during sorting. The ultimate goal our study is for the results to be used to inform fishers, industry and management of how to improve handling and thus the survival of released fish.

Fishing and fish aside, living on a dock is no easy task. The North coast is a place of stark and visceral beauty, but the remoteness that brings such awe also comes with both anticipated and surprising challenges. Waste management was a consistent and immediate challenge. With no way of easily getting to land and not wanting an unpleasant accumulation, we developed a system involving clearly labelled buckets and seaweed. Restlessness was counteracted with an exercise regime of jump rope and weight circuits using 12V batteries. Freshwater we found at a stream nearby. There was of course the trials of the famous 'wet coast' rain, which no amount of rain gear, tarps and ziplocks could overcome. All we could do was meet it with lightness and jest; one exceptionally wet evening was spent huddled under a tarp compiling a list of ways to describe wet weather (e.g. "mist sheets of biblical proportions"). On that rare occasion of dryness, it would begin as a crack of brilliant blue on a grey landscape. We would poise in readiness as the crack broke larger, bathing the steaming dock with sunlight, and then everything would come out to dry: the vials, the sleeping bags, the potatoes.

A mature chum salmon is assessed for reflex impairment in the sampling trough.

The greatest challenge, however, was that the huge run of pink salmon predicted for the area never arrived. With no boats actively fishing the area, we had to rely on those traveling through to conduct the test fishing or bring provisions. There were also the regular hurdles of commercial fishing: tangled and torn nets, beach lines snapping and coming dangerously close to crew, humpback whales in such abundance that fishing could be delayed for hours for fear of entanglement. Rogue sealions and river otters lurking beneath the dock, and dire warnings of algae growth sinking our net pens gave us nightmares of waking and finding our precious chum gone or torn to pieces. But somehow, against all odds, we woke each morning to find our fish still there, the dock still attached to the land, and most importantly, our dock mates still in good spirit and health. Steadily and successfully we collected the data we had come for. And after 25 days, it is also an inexplicable mix of feelings - accomplishment, sadness, and some relief - to be on the back deck of a purse seiner that now takes us back to civilization, watching our dock disappear into the horizon.

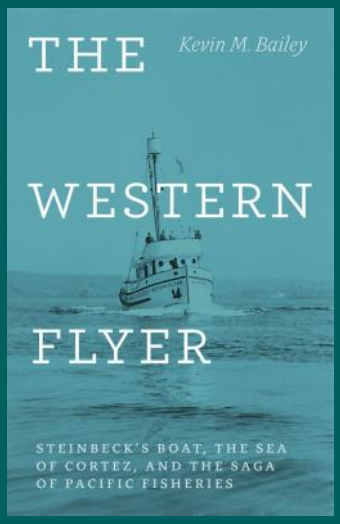
The Book Nook

A Review of Kevin Bailey's book **"The Western Flyer"** by Donald Gunderson, NOAA biologist, UW professor emeritus , and winner of the WABC Chapter's Worthy Coelacanth Award

The article was first published in the Carmel and Bob Finley's blog April 26, 2015 and is being reprinted with permission:

https://carmelfinley.wordpress.com/2015/04/26/the-western-flyer-steinbecks-boat-the-sea-of-cortez-and-the-saga-of-pacific-fisheries/

Donald Gunderson, Reviewer



The Western Flyer: Steinbeck's Boat, the Sea of Cortez, and the Saga of Pacific Fisheries

Kevin Bailey, Author

A rich blend of philosophy, ecology, history, and first-rate literature lies behind the unassuming title for The Western Flyer: Steinbeck's Boat, The Sea of Cortez, and the Saga of Pacific Fisheries. Writer and marine scientist Kevin Bailey uses the odyssey of the Western Flyer to illustrate the exuberance that accompanies the exploitation of a newly discovered fisheries resource, the all-too common depletion that ensues, and the ongoing struggle to exploit natural resources in a sustainable way.

And what an odyssey this was. From the Tacoma shipyard where she emerged "with colored streamers set high and snapping", to the Port Townsend dry dock where her worm-infested hulk lies in state, the Western Flyer was fated to participate in one poorly managed fishery after another. Sardines off California, Pacific ocean perch off Washington, and finally king crab off Kodiak. She ended her active days as a salmon tender in Puget Sound, and after a prolonged period of neglect she suffered two dockside sinkings.

Legendary skippers like the pioneering Dan Luketa and the fearsome Jackie Ray (who actually sported a hook at the end of one arm) ruled the Western Flyer's wheelhouse over the years, and she was manned by a colorful array of deck hands and hard working fishermen. Yet for a few brief interludes she saw service as a research vessel and scientists like Colin Levings and Ed Ricketts walked her decks. Levings participated in surveys that helped to save the halibut fishery from depletion. The iconoclastic Ricketts was a pioneering ecologist, and the model for "Doc" in Steinbeck's Cannery Row.

Four weeks in the spring of 1940, when John Steinbeck—an accomplished naturalist in his own right—chartered the Western Flyer for an expedition to the Sea of Cortez, would destine her for a permanent place in history. It was during this voyage that Steinbeck and Ricketts carefully documented the fauna of the Sea of Cortez, and elaborated their philosophy of the unity of mankind with the universe in general, and the earth's ecosystems in particular. Steinbeck's Log from the Sea of Cortez was the most notable product of this collaboration, and Bailey correctly orients it as a pioneering work in the canon of ecological holism, together with those of John Muir and Aldo Leopold. "It is advisable to look from the tidepool to the stars and then back to the tidepool again." wrote Steinbeck and Ricketts.

In Log from the Sea of Cortez, Steinbeck wrote "The true biologist deals with life, with teeming boisterous life, and learns something from it." And so he did—in collaboration with Ed Ricketts.

Steinbeck observed that fish schools "turned as a unit and dived as a unit. In their millions they followed a pattern minute as to direction and depth and speed. There must be some fallacy in our thinking of these fish as individuals." "And this larger animal, the school, seems to have a nature and drive and ends of its own accord. It is more than different from the sum of its units," and seemed to be "directed by a school intelligence".

For Steinbeck, this provided insight into human behavior. "A man in a group isn't himself at all…I want to watch these group-men, for they seem to me to be a new individual, not at all like single men."

Ricketts showed similar insight. "With their many and their very large boats, with their industry and efficiency, but most of all by their intense energy, the Japanese very

obviously will soon clean out the shrimp resources of Guaymus…But there again is the conflict of nations, of ideologies, of two conflicting organisms. And the units in those organisms are themselves good people, people you'd like to know."

In Bailey's words, the Japanese fishermen "…knew what they were doing was wrong, but they did it for the sake of the superorganism, the industrial company." Fishermen, fishing vessels like the Western Flyer, corporations, resource management agencies and even economies can be viewed as nested superorganisms existing within the ecosystems that support them. Each of these groupings can thrive only if those ecosystems do. Yet the record of successfully sustaining those ecosystems is a checkered one, with many natural resources suffering the same fate as those exploited by the Western Flyer.

Bailey uses the Western Flyer's current condition as a metaphor for the hulk that the once prosperous Pacific Salmon resource has become—so badly damaged that the costs of repairing her may be prohibitive. While Alaska salmon have been managed properly and continue to support vibrant commercial fisheries, the costs of rebuilding salmon resources in Washington, Oregon, and California will be enormous and we may not know how to accomplish this. Will future generations simply write them off?

The final pages of this book are lyrical prose at its finest, and almost seem to channel Steinbeck. The Salinas valley that Steinbeck loved so deeply seems to become a living, breathing organism. Bailey suggests that it is perhaps here that the Western Flyer should spend its final days—an icon high on Mount Toro, "witness to the fog drifting in and out of the valley", a ghost ship with her ribs "sounding out in the wind".

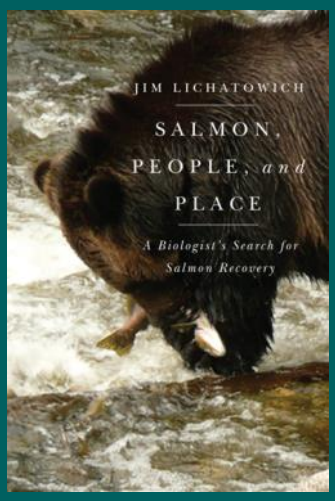
How appropriate. The Western Flyer testifying to lost resources, lost opportunities, and mankind's conflicting roles as both exploiter and shepherd of the earth's natural resources. Bailey has found poetry in this.

A review of Jim Lichatowich's book **Salmon, People, and Place: A biologist's search for salmon recovery**, by Dr. Fred Utter. The book was published by Oregon State University Press, Corvallis, 2013.

Augmenting his 2001 book "Salmon without Rivers", Jim Lichatowich has revisited the failure to reverse the decline of wild native runs to the Pacific Northwest. Written with an evangelistic passion, the author iteratively presents still-persisting obstacles to recovery despite the billions of dollars that have been spent towards this elusive goal. A challenging but achievable alternative vision is presented to guide future efforts.

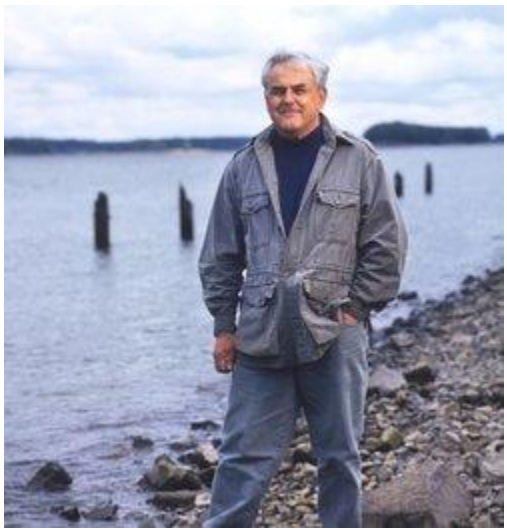
Underlying the present trend towards the extinction of native populations and the destruction of ecosystems is an industrial paradigm, still deeply imbedded in fishery management. With a focus on short-term price over intrinsic value, hatcheries ("fish factories") are the manufacturers of the "product" produced to compensate for lost habitats and over-harvests of remnant native wild fish. Each year class is an independent entity, which is not commonly evaluated even on its number of adult returns (9/51 programs in a recent survey). Evaluations themselves are hampered by shifting baselines for "success", with such "new normalcy" based on recently-established and shrinking goals rather on long-term historical data. Factory programs in particular, adversely affect wild native runs through over-harvests, displacements and homogenizations. The factory metaphor effectively evades historical ecological processes, including the return of marine-derived nutrients to fresh-water ecosystems.

Such weaknesses, despite their emphasis by independent review processes, have failed to unseat the industrial model. As an example, even with the enlightened removal of the Elwha River dams, a $16 million hatchery was still mandated in the recovery efforts. Part of the problem is differing visions of field biologists (towards ecological principles) and managers (towards the status quo); critics have tended to be viewed as pariahs and their careers jeopardized. Fragmented jurisdictions without coordination (e.g., "the habitat is not our concern") have stymied effective progress toward change. Despite efforts of informed visionaries (including former Oregon Governor Kitzhaber), the industrial model and its fish factories remains in place.



Salmon, People, and Place: A biologist's search for salmon recovery

Dr. Fred Utter, Reviewer



Jim Litachowich, Author
(Photo credit Oregon State University Press)

An extrapolation of the industrial model to the year 2150 (Side Channel 4) imagined a grim vision of the Columbia and Willamette rivers as half their former sizes. Privatizations have lead to non-local ownership of now-toll roads and of resources such as water. The author and Charlie – a young descendant of that era – are outside of Portland in a run-down area, near what used to be a tributary stream. It is now one of numerous trans-nationally or foreign-owned regional water centers where water is collected from local streams and sold to such bidders as California. Salmon are extinct, but Charlie catches a few expensive trout specially planted for him in a short, and artificial, stream.

An alternate vision for salmon recovery focuses on place as the dynamic interactive relationship between an ecosystem and its inhabitants. Lichatowich emphasizes that "places" don't exist, they happen. Pre-European human interactions with salmon reflected place through evolving strong feedback loops where sustainable returns of salmon were celebrated as great ecological, spiritual and economic events. These relationships perpetuated the temporal, ecological and genetic diversity required for adaptations to ever-shifting conditions over millennia of coexistence. Proper stewardship requires both continued historical insights and assimilation of new information for place-based management. Thus the failed industrial paradigm – which ignores history, erodes diversity, and views water as a commodity rather than a river's soul – is placeless.

More than an abstraction, place-based management is occurring in, for instance, the Okanagan River sockeye salmon returning to Lake Osoyoos. Contrasted with returns averaging 58,000 between 1973-2007, a dramatic increase started with the 2008 run of about 170,000; this increase continues through the present where 330,000 Okanagan sockeye were projected to reach the Columbia River in 2015 (Osoyoos Times, April 8th 2015). Predominantly wild fish (90%), this surge relates both to increased oceanic survival and to management changes. The latter included revising escapements upward to allow more wild spawners, a controlled water flow to reduce egg and fry mortality, and regulating oxygen levels and temperatures in juvenile rearing habitats. Such ecologically-oriented stewardship has permitted introduction of commercial and recreational fisheries on this surged population (ibid, Osoyoos Times).

The author and Charlie return to 2150 to visit the Tillamook Salmon Refuge (Side Channel 5), one of numerous regional natural culture systems where human activities and economies are part of the refuge. Each of these bioregions supports natural salmon runs at about 50% historical capacity, contrasted with 5% in year 2000. Hatcheries have been excluded through failure to fulfill criteria established for their operation. These runs are sustained by strong protection of critical habitats and spawning stream reaches. Primary harvests are by small commercial fisheries and sport fisheries for locals. Neither of the visitors qualify for limited fisheries available to outsiders by lottery. However enhanced by historical insights imbued in their culture, they take pleasure in observing the abundant fish as components of the healthy ecosystem that sustains them.

The contrasting parables of the author and Charlie are worth reexamining as the essence of the author's frustrations and hopes. The machine myth and its placeless hatchery product has been thoroughly falsified as a management paradigm and yet through, for instance, fragmented authority, and the absence of accountability, remains entrenched. The quotation of John Kenneth Galbraith in the introduction "—It is a far, far better thing to have a firm anchor in nonsense than to put out on the troubled seas of thought—" is amply fulfilled in subsequent text. Despite the dual management obligations of supplying salmon for fisheries and ensuring their ecological health through effective stewardship, the machine myth through absence of effective monitoring and evaluation ("—why waste money on studying and monitoring apparent success?..") has ignored the stewardship component and precipitous declines continue.

The challenges to adopting a place-based co-evolutionary management vision are daunting but doable. The final chapters focus on this transition. Management should be treated as an endless experiment, guided by a clear understanding of the past, and buffered by diversity of the present to fuel adaptations in an uncertain future. Details for accountability are clearly spelled out and extend from management to elected officials, and beyond to a more enlightened public who understand and support their place in restoring and perpetuating wild native salmon runs. Accordingly, this book should be widely studied by all concerned parties towards an ecologically-based future as our descendants successfully integrate into, rather than fail at, controlling timeless natural processes. Thank you, Jim Lichatowich.

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The mission of the Chapter is to:
1) advance the conservation and intelligent management of aquatic resources within a context of sound ecological principles,
2) gather and disseminate information pertaining to aquatic science and fisheries management, and
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