

Christopher Estes

Slide 1

Title Slide

Slide 2

Similar to Garrett, I want to thank everyone that has contributed to and participated in this workshop to make it a success. This includes the workshop planning committee chairs and members, volunteer students, moderators, speakers, sponsors, exhibitors, and most important, attendees. I want to also give a special shout out to Tom Annear, the Workshop Planning General Chair, who couldn't be here this afternoon. I also want to acknowledge Del Lobb for his PowerPoint technical support and time keeping. Thanks to our sound contractor who is responsible for the audio recordings. So, many thanks to all of you. Let's give everyone a round of applause. None of this would be possible without all of your contributions and participation.

During this closing segment I will summarize what will happen post the workshop followed by highlights of the information presented, and at the end provide you all an opportunity to share your ideas for future workshop themes and improvements.

Slide 3

What happens post workshop? Some of you may not have been here for the opening background presented on Wednesday and I will summarize key points. The Instream Flow Council (IFC) experimented with posting all final versions of FLOW workshop materials beginning with FLOW 2015 (<https://www.instreamflowcouncil.org/conferences-flow-2015-workshop-materials/>). Based on the positive results, similar to FLOW 2015, we'll post all the final versions of the FLOW 2018 presentations and accompanying dialogue to each, including the questions and answers sessions. As a reminder, that's the reason we've been recording you and asking you to always identify yourselves. As also noted earlier, it is estimated it will take about four months to edit all the final products and post them.

FLOW 2008 and FLOW 2011 are also posted online, but limited to summaries: <https://www.instreamflowcouncil.org/flow-2011/> and <https://www.instreamflowcouncil.org/flow-2008/>.

Slide 4

Now I'm going to give you a quick overview of the last few days. I'll try to go through these slides quickly to provide more time for you to provide your thoughts on what you learned, what you would like to learn in future global workshops on instream flow and water level elements, and obtain ideas for improvements. Speakers covered the significance of the hydrologic cycle and how important and central it is to the water budget to define and tackle instream flows and water level related drought mitigation actions.

- Slides 5                   The significance of tackling hydro-illogical reactive cycles was identified as an Achilles' heel as to why we haven't been able to proactively get a hold or get a handle on how to conserve adequate amounts of water for fish and wildlife, especially during periods where there is less than normal precipitation. So, this has been a central theme for many, if not all of our participants in this workshop.
- Slide 6                   Speakers also pointed out that there's also the opposite, the flood hydrologic cycle, which also has to be taken in account.
- Slide 7                   Speakers identified various tools in the toolbox for dealing with the various hydrologic cycles, and how to do so proactively to mitigate the hydro-illogic cycles. From what presenters and the audience shared, it seems like fish and wildlife agencies and like-minded stakeholders aren't typically invited to participate in drought and other extreme hydrologic events stakeholders' water uses planning and decision making meetings. That was one of the reasons for this workshop in the first place – how to get a seat at the table to improve outcomes.
- Slides 8, 9               As in past IFC workshops, presenters also explained the importance of integrating legal, institutional, public involvement, and science challenges and tools. Although good science and technical information are essential, public involvement, laws and regulations seem to be among the Achilles' heels that are preventing instream flow and water level advocates from being more proactive and successful in breaking hydro-illogic cycles.
- Slide 10                 Speakers were proactive sharing ideas how to make lemonade out of lemons, and identified positive problem solving actions versus simply summarizing a list of problems and hurdles.
- Slide 11                 Complex and lengthy processes to achieve positive outcomes tend to frustrate stakeholders that already understand the value and significance of conserving adequate amounts of clean water for fish, wildlife, and habitat in addition to allocating water for other competing human water uses and demands.
- It was made clear, there are no silver bullets. And, speakers and the audience also emphasized there's no one-size-fits-all solution.

Slides 12, 13, 14

Speakers and the audience outlined a variety of options and proactive actions for breaking the hydro-illogic cycle and mitigating negative drought impacts to fish, wildlife, and habitat. A subset of examples is summarized in this and the next 2 slides. For example, speakers and the audience talked about updating and developing drought and flood use plans, and other types of water basin plans, and the challenges to implement them. They emphasized the need to forward fund short- and long-term plans and actions in order to successfully implement them. What good is a plan if you don't have adequate funding to implement mitigation actions on a timely basis? And, if you will need to add infrastructure projects to effectively mitigate drought and flood conditions, you will have to construct them in advance of these extreme event cycles in the right places. As an example, Stafford identified tools California established to fish and wildlife mitigation tools for tackling droughts, including funding initiatives. The importance of taking proactive mitigation actions to prevent vs. restore and rehabilitate was a common theme as was taking actions to prevent water bodies with existing negative instream flow and water level impacts from becoming worse.

Presenters and the audience discussed non-regulatory and regulatory action solutions. It was clear that some in the audience appeared to be frustrated if one can't simply pass and implement a regulatory action, i.e. a silver bullet approach to achieve a positive solution. Speakers explained why combinations of non-regulatory and regulatory actions are both needed. Virgil talked about the voluntary National Fish Habitat Action Plan ([www.fishhabitat.org](http://www.fishhabitat.org)) as an example of a non-regulatory tool and funding source to conserve adequate amounts of clean water. It's based on local private, public partnerships, bottom-up, across the nation, in the United States.

It is important to monitor your outcomes and be ready to adapt and apply alternative mitigation solutions if original solutions and actions are not effective. Bridge the past, present, and future. Take snapshots in time, but don't just look at one period in time. As Virgil and others echoed, engage leadership. And that includes all stakeholder interests.

Regarding recommendations to engage leadership of fish and wildlife and water related organizations, I think IFC was successful. As just a few examples, among our moderators and speakers were Tony Willardson, Executive Director, Western States Water Council ([westernstateswater.org](http://westernstateswater.org)), Virgil Moore, President, Association of Fish and Wildlife Agencies, ([www.fishwildlife.org](http://www.fishwildlife.org)). Melinda Dalton, Acting Coordinator for the USGS Water Availability and Use Program, Roger Gorke, an Environmental Protection Agency (EPA) lead for implementation of the federal National Drought Action plan through the National Drought Resilience Partnership (NDRP), Stafford Lehr, Deputy Director, California Fish and Game, and Sue Lowry, Executive Director, Interstate Council on Water Policy ([www.icwp.org](http://www.icwp.org)). Examples of a few of the other international experts contributing to FLOW 2018 included Aaron Wolf, Brian Richter, LeRoy Poff, Rebecca Tharme, and Lara Fowler.

As such, I suggest attendees take advantage of the lessons offered or information shared, such as Virgil's suggestions how everyone can be more effective within each of their own organizations such as: make yourself visible, don't be afraid to engage, provide your ideas, and keep your ideas succinct and to the point. Other recommendations shared included: Network with the IFC representatives. The IFC members represent states, provinces, and territories in the United States and Canada. And they're a good timely resource to access and locate all water related information in each of their respective jurisdictions. They may not know all the answers, but they can tell you who to contact and how. Also, network with other experts. As noted, many of them are in this room. Network with all stakeholders that have an interest in water use and availability outcomes, regardless of their goals. Integrate water quantity and water quality where it makes sense and it's hydrologically possible to do so. Integrate surface water and groundwater sources where it makes sense to do so. Integrate rivers, lakes and reservoirs. Remember, it is important to conserve water levels in lakes and rivers, and not just instream flow regimes in rivers. Don't forget to integrate socioeconomic values and considerations into proposed actions.

Ultimately, all water conservation actions depend on defining the hydrologic cycle which depend on reliable long-term gaging data. So, I can't emphasize the importance of the need for gaging, gaging, and more gaging. It is not possible to manage water wisely if you don't know the size of the water pie at any given time. Knowing the size of the water pie and how it varies over time will define the number of pieces it can be divided. It will also help you monitor and enforce water uses that have been defined and agreed upon.

Slides 15, 16

The 2004 IFC book (<https://www.instreamflowcouncil.org/resources/ifc-publications/instream-flows-for-riverine-resource-stewardship/>) serves as the central theme of much of what has been presented in this and past IFC workshops.

Slide 17

Now, I want to switch gears and ask the members of the audience to share what you learned, your suggestions for future workshops, including themes and ideas for improvements. Please come to the front and share your ideas at the microphone. And remember to please identify yourself and your affiliation. We'll continue until the last comment, or until this closing session ends. Thank you.

Brian Marotz:

All right. I'm Brian Marotz. I am Hydropower Mitigation Coordinator for Montana Fish, Wildlife, and Parks. And one of the things I noticed during the last several days, this is a community of friendlies. And we really need to, and at this last panel was really good at that. We really need to get at the hearts and minds of the other people that we share the planet with, I mean. They have to have an emotional attachment to these resources. And that's difficult to achieve. One of the ways that we've been trying to address it is by showing people what we see, and especially under water, like the life that we enjoy. When you look at undersea programs, how effective people like Jacques Cousteau and Bob Ballard

have been, showing people what's underwater. A lot of it's been done looking at marine life. But there are a lot of really beautiful things, like darters and we were looking at shoal bass. We need, I think, to get underwater and film, through videography, of all of these really interesting creatures, like burbot and showing these things.

Christopher Estes: So, taking that idea, what would you like to see from the next workshop?

Brian Marotz: I'd like to see, at some segment, where we can share some of this underwater footage that we can then share with the rest of the populace-

Christopher Estes: Anybody else have other things they'd like to see in future workshops that you don't feel we've covered here, or we didn't cover adequately?

Gerrit Jobsis: Yeah, this is Gerrit Jobsis with the American Rivers. Christopher, I think one thing we should do is really have at least part of a session on communications: How do we take the work we're doing, the important issues we're working on, and communicate that with people that are not in this room? So elected officials, the general public, how do we raise the? Again, we were talking about this in the stakeholder process. But how do we actually communicate this information, using social media, using films, using other communication tools. Using the letters that Virgil talked about, that can be really effective to the right group. But it's not going to communicate with everybody. So, having some training that we can really get everyone to have better understanding of how to use those tools, as well as the scientific tools, to communicate the information you want to get across.

Christopher Estes: All right, I think that's a really good idea, too. That prompts me to add these workshops are open to all stakeholders. Whereas most in attendance already have water on the brain and share an existing goal or interest in making sure that water is managed wisely and fairly, IFC workshops are also open to stakeholders that don't always agree how and who should use the water, i.e., for other uses that compete with instream flow and water levels conservation such as diversions, withdrawals and impoundments. So, not only does IFC encourage the need for better tools and training to address public involvement we encourage a diverse representation of all water stakeholders. And so, I think that also fits in what you were suggesting Gerrit.

Andrew Hautzinger.: Christopher, Andrew Hautzinger with Fish and Wildlife. Thanks so much for getting me here. I'm here because you called me. Two things that I think is kind of a theme for what I've heard over the last several days is this kind of management of uncertainties. And I certainly think one of the major areas of uncertainties, it's one of the elephants in the room is, if stationarity's really dead, what good does historic data do us? And just making sure that, not only that we understand some of the technical components of how we do that, but also communicating that: Why gage data? Why historical gaged data is still apropos for moving forward. And how our predictive information based on that gaged data is still solid. So that's one thing. But also, I think, another important

theme that's been talked about is the disconnect, the gap between our science and our water law and water policy. And how do we better fill that gap in trying to catch up how we're administering water, and what our state-based and federal policies are in that arena?

Christopher Estes: Well, thank you for those ideas, Andrew. And I know this is your first workshop, and you may not be aware, but the IFC always attempts to integrate those topics, themes and disciplines that you identified. That's always been our goal to do that. So, thank you and we will continue to integrate those topics and fully support your thoughts there. And, in case you weren't aware, the FLOW 2015 workshop posted on the IFC website is a good related resource to review that may be of interest in addition to what is included in the IFC 2004 book. So, thank you and we will continue to cover those themes and topics.

What else do you and others in the audience want us to cover in the next workshop?

Dean Watts: Yeah, thanks. Dean Watts, DFO, [inaudible]. This crazy Canuck will add to the fray here. Yeah, it's not so much what I would like to see. But I think what I'd like to see, it's an observative, not a criticism. But I think what I'd like to see is maybe more diverse participating from the IFC and contributors. One of the young staff that I brought down, first thing that she noticed is the lack of women. That's kind of an interesting observation. And the other thing is, if we had a similar conference or workshop here back home right now, currently. And just information, probably about a third of the participants would be from indigenous communities. And I think they have an [inaudible] they're contributing immensely. There're reasons why you would see that.

Under the Canadian Constitution, in the Section 35, they have very clear rights and title, and they're actually acting upon that and participating, contributing to the issue and science of instream flow in particular. They have rights and title to land, but when they say land, it's also water. So really interesting contributions. And as one indigenous First Nation speaker just recently, my colleague and I, Lauren Weir, attended at DFO just a few weeks ago, actually, said, "The river has always been and will continue to be our constitution." So, they can speak to this issue, and I think it would probably reduce our frustration level, as Brian Richter alluded to in the afternoon session at lunch-

Christopher Estes: May I ask you a question, and excuse me if I am interrupting you. Are you recommending that we make sure that we have speakers that represent all stakeholder interests? Or, are you saying that you'd like to see more of them participating in the audience, and what is your solution for that?

Dean Watts: A little bit more, a little bit of both, right? I think it's just an observation, and it might be helpful for all of us, right, to-

Christopher Estes: And would you be willing to volunteer to help us to do that better?

Dean Watts: Yeah, well, I'm doing that back home.

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Christopher Estes: Well, I can assure you that's aligned with the goals of the IFC. So, IFC welcomes anybody, in addition to yourself, that has ideas like that to help us to try to further broaden and diversify stakeholder participation and representation at future workshops regarding all types of water use perspectives and governances, both as presenters and audience participants. And certainly, that includes all demographics.

Dean Watts: Yeah.

Christopher Estes: So, anybody who has ideas or solutions to do that, or will help us to make that happen, we certainly welcome that.

Dean Watts: Okay, thanks.

Christopher Estes: Thank you.

Dean Watts: Appreciate it.

Ben Emanuel: Appreciate those suggestions. Ben Emanuel with American Rivers. I enjoyed Steve Smutko's workshop on Tuesday, and I would suggest, I see room for perhaps even more training on cross-sector collaboration, even from a multi-disciplinary standpoint, training explicitly on cross-sector collaboration-

Christopher Estes: Thank you.

Ben Emanuel: Thanks.

Christopher Estes.: Any other ideas for training or other things you want to see?

Mac Kobza: Yes. Hi. So, my name is Mac Kobza with Boulder County Parks and Open Space. I just wanted to give a suggestion, and really appreciate the presentations here. As usual, there is a lot of federal representation and state representation. But remember, there's a lot of city folks and county folks that are interested in doing this work. And a lot of us are doing on-the-ground work with landowners, and recognizing, especially in Colorado, prior appropriation laws. It's very difficult to get instream flows. And so, whatever the Council can do to sort of encourage a toolkit or processes to help enable folks like me who are working on the group, to get commissioners and Council members to understand the need for instream flow, that would go a long way on the ground, for folks that work for local government organizations.

Christopher Estes: So, let me ask you a question.

Mac Kobza: Yeah.

Christopher Estes: So how did you learn about this workshop, and why are you attending?

Mac Kobza: No. Well, I am a wildlife biologist. I'm tied into a lot of notifications of meetings. But we're working on instream flow, we're trying to work on instream flow programs as part of stream management planning possibly, in some of our front-range watersheds. So, in having knowledge of instream flow programs, how they work on a local scale, and having toolkits to help implement those things, collaboratively with other landowners and other community, I don't know, we have City Council and County Commissioners. It's a little different animal than a federal planning process [inaudible]-

Christopher Estes: And what is it that you're suggesting we do to ensure that more people like yourself participate?

Mac Kobza: Maybe a workshop session that really focuses on local government issues, local planning issues, that enables stuff at local levels to better communicate, perhaps, I'm saying communication, perhaps, as a toolkit, to get the information across to landowners, but also City Council and folks that really implement these things.

Christopher Estes: Okay. So, I understand that, and have a suggestion. Every one of the state jurisdictions in the U.S. and territories and provinces in Canada has an Instream Flow Council representative. And if you contact your state representative, he or she may be able to provide assistance or should be able to identify others that can help. I am assuming much of what you want to accomplish is dictated by your state laws.

Mac Kobza: Absolutely-

Christopher Estes: But, based on the large number of local versus state, territorial, provincial, and other governmental jurisdictions, it would probably be difficult to host an international workshop similar to the scale of FLOW 2018 that is tailored to a local government level topic and address the diverse needs of such a broad audience.

Mac Kobza: Sure-

Christopher Estes: But, IFC representatives can organize state, provincial, territorial, regional based special meetings that could potentially assist at a local smaller scale. Also, the 2004 IFC book displayed earlier in my PowerPoint is essentially a toolkit and a good starting point. So, I suggest you acquire and review the book, if you haven't. And, I suggest you reach out to your Instream Flow Council representative. Your IFC representative should also be able to recommend other folks and organizations that can assist. It's a great question. Thank you.

Christopher Estes: Next, does anybody else have a question or another idea they want to suggest for future workshops ?

Kirstin Neff: Hi, there, I'm Kirstin Neff with National Fish and Wildlife Foundation. One thing that I know that our organization is really focused on that I'd like to hear about more experiences on the ground about is, that adaptive management aspect. Right? I think that came up in a lot of presentations that, we want to learn when we apply these principles that we're modeling or theorizing, that, by doing this, we will have these results. The adaptive management model says that we then learn from that first application and adapt our management accordingly. So, I would love to see a workshop or some sessions looking at, "How can we measure the effectiveness of the actions we took?" And I think, in particular, if we're talking about going to state legislatures or county-level, municipal level, and talking about instream flow legislation or programs, then if we can come to them and say, "Here are some examples of situations there we made water available instream, or we protected water instream, and this was the end result. And why we want to make these programs or included where they aren't already included."

Christopher Estes: Thank you. Anybody else have a recommendation?

Michael Lilly: Hello, Christopher. Michael Lilly with GW Scientific. I have two. One is the intersection of groundwater and surface water. You all talk about how limitations of the laws and the regulations make it a very big challenge to manage as a single resource. So, pulling people together in, so that as the science continues to evolve, it will help people understand how to move the laws and regulations to allow those two to be managed as a single resource in the future. Pulling in experts and having some starting dialogue on this topic is a recommendation.

The second is to continue to improve upon the case studies and the examples that people showed in the last few days of different ways they're finding to improve instream flow and water level uses, and quality that avoid litigation. These case studies are really important. The more that we can fund data, the more that we can put money in the ground that avoids putting it into litigation, the whole community will be further ahead.

Christopher Estes: Thank you.

David McKinney: Christopher, this has been a great meeting. It's David McKinney, Tennessee Wildlife Resources Agency. We are seeing in Tennessee, and I know elsewhere in the state and in the country also, decades of work in protecting streams, good riparian zones, good non-point source, good point source controls, instream habitat being torn completely apart in a matter of years by the loss of pervious surface function in rapidly developing areas. And you lose the base flow, you get all this flashiness. I know the engineering is there to go in and retrofit some of these areas, but just the laws of pervious surface function would be a good topic for this group, I believe. Personally, I would like to see a "no net loss of pervious

surface function," as a corollary to the "no net loss of wetlands," but that's a stretch right now. But I-

Christopher Estes: So, looking at other elements of the hydrologic cycle to ensure that you have the right runoff and that isn't polluted?

David McKinney: Absolutely.

John Faustini: Hi. John Faustini, Fish and Wildlife Service, Southeast Region. Just to follow up on that, I was thinking along similar lines. And what we heard earlier today about the idea of treating runoff as a resource, stormwater water as a resource, rather than squandering it, basically. And I think that ties in with the challenge that Brian Richter put down today, about bending that demand curve down. We just really use water really wastefully, and so, we don't have enough left over for the fish and wildlife we care about. So, can we get at changing that paradigm a bit? And we can approach it both from treating the water with more respect and using it more efficiently. And then, so we can reduce our demand side, while augmenting the supply?

Christopher Estes: So, if I understand that, taking the themes that Brian was sharing with us over the lunch hour and expanding upon that as a workshop?

John Faustini: Yeah, I think that would.

Christopher Estes: Okay.

John Faustini: Be great. Yeah, and again, the idea of treating that runoff [inaudible] as a resource rather than as something, dumping it out with the garbage, as a problem to be dealt with. It's a resource we should value.

Christopher Estes: Thank you. Anybody else?

Shaun Donovan: I'm Shaun Donovan with the San Antonio River Authority. And to kind of piggyback on one of the comments earlier is, we recently got instream flows recommendations created for our basin, and so, we're now working on developing a long-term monitoring plan. So, it could be interesting to hear, I'd imagine, how a lot of different regional, local, state organizations are going through the same process: What the typical long-term monitoring plan is after recommendations have been made? Are they shown to support ecological function? So, I think a long-term monitoring discussion would be an interesting theme to have.

Christopher Estes: Thank you. Anybody else?

Slide 18 Well, thank you all very much. And we, the Instream Flow Council, really appreciate all of the contributions from everybody who has participated in this, from the presenters to the audience, including those that planned.

Slide 19

As noted earlier we'll let you know when the PowerPoint, dialogue and other presentations are posted. And if any of you have other ideas and thoughts you want to share after you leave, please write them down so you can share them when we send you a post workshop survey. Or, you can email them to me, our President, Dave Weedman, Tom Annear, Program Chair, or anybody else you happen to know on the Council. And we'll certainly consider them as we plan for the future.

As a reminder, state, provincial and territorial Instream Flow Council representatives are all listed on IFC the website under the About tab (<https://www.instreamflowcouncil.org/about/executive-committee-officers-and-structure/> and <https://www.instreamflowcouncil.org/ifc-membership/>)

Also, please be on the lookout for a post workshop survey email and a list of attendees.

And, remember, you don't have to wait for a global IFC workshop to request assistance from IFC members or to recommend interim regional or local focused workshops and training that is tailored to meet your immediate needs. Of course, the ability to follow-up will also depend on whether the Instream Flow Council member or members has or have the time and there's the resources to follow through. Or alternatively, if you're in another organization, you could invite IFC representatives to provide a talk, training, or direct you to other resources, and ideas if you select to host your own workshop. So, those are just some of the thoughts you might want to take with you.

I don't know if our outgoing President, Eric Nagid, has any additional closing comments to share.

Eric Nagid

No.

Christopher Estes

Okay, anybody else that's from the Instream Flow Council want to share any last thoughts?

Okay, this concludes FLOW 2018. Thank you all for your time and contributions.

Let's give everyone a round of applause and then you're all free to go.