

Institutional Facilitated Discussion – non-IFC members

- Tony Willardson: Great, thanks Mindy, everyone. Questions for the panel?
- Ian Chisholm: Ian Chisholm, Minnesota DNR. My question's a simple one for Mindy. You showed towards the end there that you're developing in channel sediment with some of these models. What's the scale of that?
- Mindy Dalton: So, what I will say is that this is a very early, we're very early in the process. I actually had to ask permission to even talk about it and was told to keep it very high level, because we're so early in the planning process. But the long term goal is, since it's going to be developed with the national water model, would be at each of the forecasting points for the national water model
- Ian: So is that a HUC 10?
- Mindy: Likely smaller than a HUC 10.
- Ian: Really?
- Mindy: Yes
- Ian: I hope that along with that there's some air bars and everything.
- Mindy: Yes.
- Ian: Oh yeah, sure thanks.
- Paul: Hi, Paul [De Vreeshar 00:02:07]. This goes more to Darion, but also a talk earlier today on riparian. Your round valley example, it brought to mind a case, and it becomes more, I hear it more during drought eras, and you might have a stream like that, and you'll restore flows and you'll have a certain fish flow for it. Then a riparian zone then starts getting established and the complaint that I've heard is, "Well we put all this water down for the fish, and now I've got this riparian zone with the EET and it's sucking up more, and we got to put more water down than we bargained for." Have you run into that in your WaterSMART program??
- Darion Mayhorn: That's a good question. So, I guess so far, no. We haven't heard anyone come back and say that it was ineffective or that it required more water than they felt like they'd be able to put towards it. What we do is encourage for almost all of these projects is that they have done a good deal of planning or they've ideally thought that through. [crosstalk 00:03:12] No, I know. But ideally thinking through "do we have the water available to see this project through to fruition and for it to be successful?"

Gerrit Jobsis: Good afternoon, thank you all for the very good presentations. My name is Gerrit Jobsis, I'm with the American Rivers, I work in the rivers of Southern Appalachia in the Carolinas and Mindy I was especially interested in your presentation. Some of the local studies you're doing and the one specifically on the coastal Carolina, the Pee Dee, Keowee Rivers where we work. Can you tell me a little bit more about how far that is along in progress and who perhaps are the best contacts to find out more about what's going on?

Mindy: That project is well along and it's going to wrap up next year. Chad Wagner, in Raleigh, in our office in Raleigh, North Carolina, is the lead for that project.

Gerrit: Okay, great. Thank you very much.

Ben: Hi, Ben Emmanuel, also with American Rivers but in our Atlanta office. Hi Mindy, nice to see you. Question for you Mindy, which I think is pretty straight forward. The Landsat work on ET was news to me and very exciting, and it may be that I'm ignorant about the existing, I think you said monthly time-step data, but as you move towards daily, I'm just curious about information dissemination, can it be tied in with the drought monitor or NIDIS or things like that? But very exciting to see that, I assume I can go to your website and find it too but thinking about people's approach to drought and some of the information sources getting combined these days, just popped into my head.

Mindy: Yeah, and that's an interesting thought. Right now, that data is being served out of our EROS office in South Dakota, the gentlemen that does the ET work, his name is Gabrielle Senay, and he does a lot of work internationally, mostly in Africa looking at the impacts of drought, ET specific impact of drought. We provide our data through our website and we fully participate in the open water data initiative and make our data available and I think that if it would be useful, to have it available through something like NIDIS, we can definitely start talking with those folks and seeing about the potential.

Ben: Thank you.

Tony Willardson: If I could make a comment on Landsat, I think that's been something that council has been particularly interested in, the thermal infrared imagery. In fact, we worked very hard to make sure that that was included in the Landsat eight satellite and will be included in Landsat nine. How we're going to continue to do that with Landsat 10 with NASA is still an open question and they're addressing that. Mindy mentioned that one of the holes that we have is consumptive use, and when it comes to western water law, your right is based on your consumptive use. So if we're looking at markets to meet future needs, we have to know what that consumptive use is.

In the Landsat thermal imagery can actually tell you how much water is being consumed on a crop circle. I'm not a scientist but it didn't take me long to figure out that as a water manager and a good sheriff of the water in the west is used

for irrigation, that if we can keep that one tool that's going to be critical and we nearly lost it. But we do have that, and the other thing that it can be used for is delineating wetlands, as well, and some water quality work that's being done with Argo Blooms and others, so it's a tremendous tool. Please next.

Patrick McCarthy: Thank you. I'm Patrick McCarthy, I'm with the Nature Conservancy's Colorado River program. Thanks to all of you on the panel for really interesting presentations. I have a related question actually, about remotely sensed data. I was recently at a workshop organized by NASA's new western water assessment office, out of the JPL in California, and they were assessing needs, and also sharing with us information, about ongoing or new projects including the open ET project and the grace follow on project, that gravity recovery and climate experiment whose results were so shocking, and they seemed very promising with respect to filling some of the data gaps, big data gaps in the west, having to do with ground water on the one hand and also ET. So, my question for you Mindy is about the extent to which the Geological survey is coordinating with NASA and collaborating on at least these, perhaps these, two projects or projects like them.

Mindy: I would say that in my experience with the folks that I've worked with in regards to remote sensing, we are collaborating. Not just with the folks at JPL but with Ames and other NASA offices. They're very collaborative efforts. Gabrielle works very closely with several folks out of NASA, we have a new branch in our water mission area called the Remote Sensing Branch and the chief of that branch spends quite a bit of time interacting with our NASA colleagues and just recently, I couldn't tell you how many people from NASA that we worked on with this last set of ROSES proposals.

Patrick: Great, just a quick follow on, and that is, as far as the ground water data, the remotely sensed ground water data, based on gravity, the gravity data. Clearly they've got the time step down pretty well but what do you think about spatial resolution, what are the chances, what's the likelihood that they'll be able to reduce the spatial resolution to a level that's really useful for on the ground, ground water managers?

Mindy: I'm not sure, really a question for NASA.

Patrick: Alright, thank you.

Tony Willardson: Barney Austin's here somewhere. Barney used to work for the Austin Texas Development Board and one of his successors, Dr. Robert Maise, he's talked about that issues specifically and it is nowhere near the resolution that we could use it for ground water management and water rights administration. So it's nice to see on a spatial scale but the resolution is just not there. And Christopher, before you ask a question, I will explain a little bit more, the NASA group we've worked with, and I just want to mention something with the council and coordination with the agencies, including Reclamation and USGS, at the request of the western governors we've created what we call our western

federal agency support team. And it's a decade old now, so we've had it around 10 years.

We have 12 different federal agencies named a point of contact to work with us on some of the issues identified as priorities by the governors, when it comes to water resources. So Andrew Houdtsinger here from New Mexico, represents the US Fish and Wildlife Service, you'll hear tomorrow from Roger Gorky, if he's in the room, who is with the Environmental Protection Agency and also works with the National Drought Resiliency partnership. They have a federal liaison in our office in Salt Lake City, currently is with NOAA, The National Weather Service, Roger Pierce. So that is an area too, where is a resource to us but also to all of you, when it comes to water issues. Since I still have the mic I am going to ask one more question of Mindy, before Christopher gets up. And that is sort of a leading question about how you're incorporating state data on water use.

Mindy:

Yeah, I neglected to mention, one of our new programs that we have in water use, is actually another program that we were authorized to operate under the secure water act and that's something we call our water use data and research program, and it essentially is money that's made available to state water resource agencies to improve their water use data reporting. We put out a RFP every year, and that RFP usually has a few things that we look to focus on.

Before we started operating the program we had a series of stake holder meetings with each of the states. We had three of them across the country and the one thing that we heard pretty consistently was they need help improving their databases and their reporting systems, so that's always included as part of RFP. The goal of the program, really is to get more and better data, and so a number of states are proposing different methods to estimate categories of water use that are of importance locally for them. The program currently is only authorized for 12 and a half million dollars and it limits every state to \$250,000 total over the life of the program, so generally they get two or three, depending upon how their proposals are set up, they get two or three awards over the life of the program to help them improve their water use data collection and reporting.

Tony Willardson:

And if I could add to that, we've been working closely with USGS and Mindy. The council, about six years ago, created what we call our water data ex- Well I know if I give Christopher the mic, we all know. I might not get to finish. The council has been working on what we call a water data exchange, and right now we have 14 states that in the database, where you can look up the water rights, all of the water rights, by basin. You can look at any planning studies that they have, any information that the states provide we're trying to make that available on a constant or a consistent platform. In Utah, we've been testing that, where the USGS could actually access that information and take it directly into their water use studies. We intend to do that with all of our states. I think the only states we're missing at the current time is North Dakota, Montana and Alaska and we're working on getting their information out there as well. Thank you, Christopher.

Christopher Estes: More than happy to defer with those great questions. This is Christopher Estes and Mindy, with the every latter part you were talking about some potential activity that's based on NHD+ High Resolution, how are you planning to ensure so that's nationwide that you'll actually have the coverage to do that.

Mindy: Well it again is, as I mentioned early stages, but it is also part the water mission area's response to part of a larger charge that we've had at the bureau level, which is something that we are right now calling Earth Map, which is a modeling framework that includes all of our mission areas and that includes core science systems and NHD activities. Right now it's all in a very early stages of planning, but I would say that the way that we're going to work to ensure that it happens is that, these planning activities include every mission area in the bureau so that it's not just one mission area out on its own, trying to accomplish something for the nation. It is all the mission areas and the bureau working together and of course we that includes Alaska and Hawaii.

Jonathan Kohr: Jonathan Kohr, Washington Department of Fish and Wildlife. For Dorian, the 22000 feet of piping, do you have an estimated cost on that? We have a tough enough time 1000 feet of pipe and it gets into the millions of dollars. Also with that, maybe I'll also find out who actually did the project, there's probably somebody in this room that helped out with it, but how much water savings was there, and is there a mechanism to keep it in trust? How do we assure that that's actually what's left in stream and not taken for other uses?

Darion: Yeah that's a good question. So overall it's about a \$1.4 million project. Reclamation is contributing \$90,000. It's like a drop in the bucket compared to the overall cost, but anyway, we can talk.

Tony Willardson: Well I'll give you an easier question Darian, Can you talk about, as far as your drought planning authority, some of your Reclamation's drought authorities are permanent, others are only temporary, and I believe your planning authority extends beyond Reclamation?

Darian: So within the drought act, there's Title I and Title II. Well and Title III, but Title III is just appropriations. Title I and Title III, they have to be reauthorized. And so Title I says, "Reclamation, you can provide financial assistance for the development of drought contingency plans." We actually just got that reauthorized until 2020. The permanent authority that we have is just for Reclamation to be involved in general with drought contingency planning.

So we have the authority to develop our own drought plans, so an entity could work with us to develop a drought plan and not go through the financial assistance realm. We typically don't go that route because we have the financial assistance authority. It also tells us, "Reclamation, you have the authority to provide technical assistance across the United States." So we could go out to Virginia or South Carolina, which again is rare for Reclamation, pretty much everything we do is in the Western United States, but this is one of the few acts that says you have this national authority to go assist in drought planning and

preparedness. One of the ways that we do that is working with NIDIS and our other Federal drought partners to see where there are opportunities for us to work on these larger products that benefits everybody in a way. Primarily it's focused on the West, but benefits everyone.

Tony Willardson: We've got to be out here soon but I want to make sure Patrick gets a question. So Patrick, you talked a bit about stacking beneficial uses and some of those opportunities. Do you have, maybe an example?

Patrick Byorth: I've tried this a number of different ways in Montana but it's not that it does not have precedence in the [inaudible 00:21:00] in the Silver Bow creek Area, it was just devastated by mining and literally lay dead for a century There's been a lot of efforts to clean that up and restore aquatic life, literally restore aquatic life to this 100 miles of river. In the process of that remediation, the Department of Environmental Quality actually acquired some historic irrigation rights and those rights had irrigation, they had mining, and gravel washing as three different beneficial uses and I thought well, "DEQ, can do it why can't we?" So the idea would be that you can't exceed your historic use of the water right, you can't expand consumption of the water right, but one should have multiple beneficial uses. There's a hesitation to participate in drought planning as I alluded to in Montana and many places in the west, because if you don't use your water right then you're at risk of an abandonment. So why couldn't you add a beneficial use of in stream flow alongside an irrigation right, so that when you came into a split season arrangement, you get your cutting of barley and then you don't wet down the field in the fall, but you leave that water in stream. You wouldn't be concerned about non-use but so far we haven't pulled that off and I don't think many states other than California might have done that.

Tony Willardson: Well let's thank the panel. One quick announcement for those of you who are participating tomorrow afternoon in the public involvement session, would you please meet with your moderator out in the break area, here outside. And then, are there any other housekeeping issues other than we need to clear the room quickly so that they can start setting up? Thank you all and have a good evening. We'll see you back.