STREAM Team Mid and North Coast Summit
“Habitat for Fish and Aquatic Life” Breakout Session Notes ~ February 28, 2018

Background:
Oregon’s Strategic Enterprise Approach to Monitoring (STREAM) Team is an inter-agency effort to facilitate collaborative and coordinated planning, monitoring and communication of water-related data and information among Oregon’s natural resource agencies. STREAM Team hosted a Water Monitoring Summit covering the Mid and North Coast on February 28-March 1st, 2018, convening state and federal natural resource agencies, tribes, watershed councils, municipalities, Soil and Water Conservation Districts (SWCDs), conservation and research groups, and others that collect water monitoring data throughout the region.

At the Summit, practitioners shared information about their water monitoring activities, building knowledge and identifying opportunities for further collaboration. Five breakout groups addressed Water Quality; Water Quantity; Habitat for Fish and Aquatic Life; Land Use and Streamside Habitat Conditions; and Nearshore/Estuary issues. Each breakout group identified priority issues impacting these themes; data needs; and opportunities to improve data sharing and collaboration. This document contains the information discussed by the “Habitat for Fish and Aquatic Life” breakout group on February 28th. Information from this document was summarized for discussion with all Summit participants on March 1st.

Monitoring Summit Breakout:
• Most important issues impacting “Habitat for Fish and Aquatic Life” throughout the Mid and North Coast:
  1. Temperature immediately comes to mind. Harvesting as well as loss of habitat in the riparian area and streams (impacts temperature). Also, grazing. Lack of cover in the riparian area. Impact from the lack of cover, and the lack of diversity in the stream because of the lack of large woody debris.
     Harvest: the impact of buffers. Trying to increase the buffer size (buffers are inadequate)
  2. From a restoration perspective, not even knowing what is going on in the habitat. Not having updated AQI surveys, and with budget cuts increasingly difficult to fill that gap. Lack of baseline data.
  3. We don’t accurately understand the impacts that humans have on this habitat. It’s an issue that is impacting, and is also a data gap. We don’t have a good way to classify these impacts. Difficulty in translating across temporal and spatial scales. We don’t have a good baseline of what we did to the landscape 5, 10, 20 years ago.
     a. Linking human impacts to instream conditions. Additional actions are already layered on top of actions that we haven’t classified.
     b. Scalability of information: useful locally and globally
     c. We can think about projections into the future at broad spatial scales, and that feels tangible, but when you get down to the scales that many here are working at that becomes very challenging.
4. Anchor habitat. Climate change is causing habitat that is adequate today to disappear. Need to protect refuges. Some we will have to write off, so let’s identify and then protect those areas that are more sustainable.

5. I’ve been thinking about hydrographs. Our system is mostly sandstone geology, bedrock. Our flows are mostly based on last season’s precipitation. The critical determinant of summer flow is how well we are storing last winter’s precipitation, and what the schedule is for how it is delivered into the stream. Downstream in urban areas we have stormflow management infrastructure. Moving upstream into agricultural areas, but those areas have been ditched, and in some cases tiled, with the purpose of getting the soil dry enough for cultivation or cattle. That does have implications. Then you get up into forested areas and there is a study (Perry and Jones, 2016) suggesting that in industrial timberlands the summer stream yield is about ½ that of older timberland. This is a modification of the “sponge” that stores winter precipitation. Think about forest practices to maximize that sponge.
   a. Opportunities for forest restoration to capture bed load and get the streams closer back up to the valley floor and slow depletion of that water store.

6. Fish interaction with thermal regime is more than just the summer maximum. Makes me think about hydrologic regime. Across the year how is water delivered to the system, and how do the actions that we take on the landscape influence that.

7. Importance of accepting alternate baselines. We can’t manage back to 1970. That is too low a bar. We are accepting a lot of modification before that. Could go further.

8. We need to explore some enhancement strategies that are compatible with working lands. I’m from Tillamook and I am all about reconnecting streams with floodplains, but in that area it is socially unacceptable. Cannot reconnect streams through farmland. We need some strategies and more buy-in from our side of the coin into techniques that can enhance instream habitats, but still protect the stream bank for the farmer that is worried about loss of farmland to urban areas. We tried to do a project and everyone who showed up on the review team said it was doing what it was supposed to do, and didn’t want to fund bank stabilization, but that isn’t compatible with the working land. We need to explore those techniques to work in working landscapes that allow us to improve the streams, but we won’t get them to look as we would want them to from an idealistic standpoint.
   a. Would a landowner be open to a conservation easement to compensate for revenue loss for more stream movement?
      i. In Tillamook a difficult sell.
         1. The economic climate is very dependent on the state’s decision about permitting new factory dairies in Hermiston. If the state is too relaxed about that then the economics of being a dairy farmer will change, and will transition to being owners of the creamery rather than the supplier of the creamery.
         ii. Our conservation easements aren’t enough. We offer far less than what they would get from the land now and into the future. I also think that something we can’t ignore is the cultural component. You won’t get past that, and as an environmental community we are doing ourselves a
disservice to not recognize that. These estuarine areas that have been modified, the conservation community doesn’t want to fund anything. We don’t want to work with farmers, and want to support full restoration. We are choosing to ignore key areas of our coastline by maintaining that perspective. I would like to challenge that; we have to give more than we currently are. These areas are critical for rearing, and we have to do something to make these habitats resilient.

9. From my perspective if you think about research we don’t know what functionality [? ] the fish have. They leave our monitoring basins and we have no idea where they go. There is probably good habitat, but we don’t know where it is. There is so little information that you can’t make decisions.
   a. That black hole makes it very difficult to talk with landowners about this.
   b. Project in the Coquille: we know what we think this will accomplish, and there is also an economic benefit.
   c. We are having a language barrier. We could be doing a better job communicating with industry.
      i. We have anecdotal information, but don’t have the data to support it. Because it is channelized ag we can’t get the data to support that.

• Information gaps
  1. I see a real need for better understanding of all of the coho lifecycle. What is the lifecycle of the coho that doesn’t stay in the same stream until they go into the estuary to smolt?
     a. We see the smolt moving downstream, and small immatures moving downstream, but how many survive? How many make it to the bottom? Opportunities to change the percent return if you change the downstream habitat. One particular thing is that we are wrestling with a discovery in the upper alsea basin. A number of tributaries have spawning in them. The valley floor is in ag, grazing, and Christmas trees. We find juvenile coho a mile or two up drainage ditches that are stranded after rain events. Those areas before ag probably were prairie (wet prairie, camas, seasonal swales), and that may have been important winter habitat. Are there ways we can restore that function as a winter use of that land? So, are there ways to make connections? A number of these areas now have drainage pipes below them. There may be opportunities to increase that wintering habitat and in ways that still leave it as an agricultural working landscape.

• Are the issues being adequately addressed with current monitoring?
  1. We are getting into this now. Developing a new protocol; using sonar to look at how fish might use main stem habitat. 30% of the fish come back, but are those fish being forced down there because of a loss of high quality habitat? Are they going up irrigation ditches because that is the only habitat available?
     a. The current Aquatic Habitat Inventory allows estimates of what Mill Creek restoration might have available, but does that model accurately predict what we expect it to predict?
b. The population can grow to the point where you can raise that plateau, but there will still be a plateau.
   i. If consistently there are fish being forced downstream, after a few generations the fish will be programmed to do that.
   ii. Early fry orientation in sockeye show that in this creek they know to go downstream, etc.

2. Monitoring question: Looking at streambed simulation. Lacking streamflow gages nearby which makes this challenging (this is a data gap). We don’t have funding to look at how this streambed simulation changes over time. Is that something that ODFW does?
   a. Prior to restoration monitoring being cut in 2014 we [ODFW] were trying to do that, but we no longer have the staff or resources to do that. Within the Oregon plan component we go back to these sites 3 years/6 years/annually, but that is only 300m stretch, not a basin.
   b. We see lots of areas where it isn’t necessary to build a simulated stream, but clearly the review team is sold on it. We’ve seen some epic failures from doing streambed simulation wrong (e.g streams going subsurface because of rock choice).
      i. I agree with you. It would be nice to have a protocol for deciding when it is beneficial, and when it is superfluous.

3. A good half of what we talked about was not so much related to monitoring the fish or the habitat, but having the information and tools to work with landowners to make improvements. In thinking about the adequacy of information, how do you see overcoming those lack of tools and information?
   a. In the lower Columbia we’re running into BPA requirements to share your monitoring data in their data exchange system, but nobody does it. Nobody has the resources, but you are supposed to for all BPA funded restoration in the lower Columbia. CREST has the resources to do this, but others don’t, so we have to go collect the data directly.
      i. This is a common problem; lots of information, but kept in many places, and all sorts of crazy excel spreadsheets.
      ii. Metrics aren’t consistent.
      iii. Need a better list of where things are
         1. What exists and where it is
            a. We’re working on that [PNAMP]. We do metadata sharing. We work on BPA funds, and our tools are required to be used by people who get BPA resources. Not required to be used by others. We have started to build ways and tools to store methods and tools associated with data collection actions. Also building a monitoring explorer map, which is just data points (where information is being collected) that is connected back to the methods and protocols. In growing pains; we’ve
built a structure and trying to streamline, but we don’t have enough data in to support everyone’s needs. Need to know who is doing what, where, and how. Built based on USGS and USFWS definition of a protocol.

i. There is a difference of scale. BPA is working at the large basin-wide scale, and haven’t fully reconciled the scale issues.

ii. What has been the experience working outside the Columbia?
   1. We are working with BLM AIM program; they are doing aquatic habitat survey and terrestrial work around sage-grouse. Have interest from them.
   2. Also interest in non-aquatic monitoring (Supporting North American bat monitoring program; GRITS design across North America. Coordinated sample design with partners. Can roll up to multiple levels (to continental scale)

b. Minimal impact way to address data findability issues: Clearinghouse of links (ODFW projects, DEQ database, where to look for temp data, etc.). We would like to get to the utopian future, but in the meantime a tool like that might be helpful. At ODFW we are no stranger to thousands of excel spreadsheets. Our website pretty much directs people to our data; we need to know where to go for USFS and BLM data.

c. Question of what habitat inventory protocol to use: becomes entrenched and can’t get away from it.

d. Even from a monitoring perspective in Sand Lake basin, efforts were being redone because we didn’t know that data existed. Time and money are wasted.

e. You need to set up an intensively monitored project for some of these, and not try to replicate that in multiple areas. Make sure everyone knows about the results. You will never have perfect information, but could have good information from somewhere on the coast. (e.g. Middle Fork of John Day IMW, as an example)
   i. LCM sites are the closest thing (Tenmile)
   ii. There were a couple in California
   iii. In the IMW world, they run the gamut of small scale to the Middle Fork of the John Day that are really big and take a whole lot of coordination.
iv. Tenmile more directed towards steelhead; issue with that one is that after the incredible amount of monitoring, they still had trouble coming up with hard conclusions because it wasn’t long enough.

v. Need funding sources that will give a guaranteed long term investment. Might spend millions of dollars, but don’t have a long term guarantee.
   1. Have to be savvy about where to start these IMW projects (need baseline data).
   2. Hard to keep interest of funders

vi. Tenmile creek had 5 years of monitoring before action. No one is talking about that anymore (having that many years of monitoring before action). No one has the resources to do that. Nobody can make that kind of commitment.

vii. Is there any funds for [? Missed what project this is about…] allocated towards monitoring? Do you have to spend a portion on monitoring?
   1. Just to meet OWEB monitoring requirement, which isn’t much (effectiveness monitoring).
   2. One of the more promising long term investments is multi-year, but even that is only 6 years. Could potentially re-up, but we need to be talking decades.
   3. We’re asking OWEB to pay for a lot of this work, but where is ODA? We’re working on agricultural lands, so it seems like ODA should be a financial partner, but we know all state agencies are hurting for cash. We need a more diverse funding stream for this kind of work. Others besides OWEB needs to kick in. These projects have diverse interests, and many are not financial stakeholders. How to share the pain?

f. Adaptive management for large wood placement: do a better job of training practitioners. If you want to backwater a side channel, or accumulate bed load, maybe you need to use a different size of logs etc. There is a need to look at design of individual structures for particular purposes. With Mill Creek, the person that was going to design that placements moved away, and the person who actually decided where to put logs was the fourth person in that role, and without much prior experience.
   1. Desire for a workshop for practitioners around the NW about how to improve effectiveness of these kinds of projects.
   2. We learn so much over time, and we put out reports, but how do we share that “boots in the stream” level information?
g. All boils down to $. Every budget cycle we have less money. Need to have more funders, and more diverse funders.

h. Find ways to leverage things that help salmon, but also help the land in the best way we can.