

Methow Restoration Council

June 19, 2018

Participants:

Name	Organization/Affiliation
Amy Martin	Okanogan Conservation District
Brian Fisher	MSRF
Chris Butler	Yakama Nation
Crystal Elliot	TU
Hans Smith	Yakama Nation
Jacqueline Wallace	TU
Jarred Johnson	Yakama Nation
Jessica Goldberg	MSRF
Joe Connor	Bonneville Power Administration
John Arterburn	Colville Tribes
John Crandall	MSRF
Lynda Hofmann	WDFW
Maddie Eckmann	Yakama Nation
Paul Wagner	Colville Tribes
Pete Teigen	UCSRB
Ryan Klett	Colville Tribes
Steve Kolk	Bureau of Reclamation
Tara Gregg	MSRF

PLEASE NOTE: *in this meeting, two talks were given that use “VSP” as an acronym. In Amy Martin’s talk, VSP means Voluntary Stewardship Program. In John Arterburn’s talk, VSP means Viable Salmonid Population. Our apologies for any confusion.*

Meeting Notes:

John Crandall – Monitoring Update: I want to bring to everyone’s attention the Geomorphic Assessment of the Methow Watershed, a CHaMP product, from February 2017. I think they also did assessments in the Entiat and Wenatchee, but not the Okanogan. It’s a classification based on a number of things like valley setting, floodplain connectivity, geomorphic units, channel type, etc. They did it to classify the watershed, based on the NHD 24K dataset, and I think they used the extent of anadromy, plus some other areas. Steve Fortney put it together, it’s really well done, and we can use it. So, know that it’s out there.

John Arterburn – is it based on river styles?

John C – yes. There were like 24 different flavors of geomorphic reach within our basin. The evaluation may have been somewhat qualitative; they used Entiat and Wenatchee as references, looked at geomorphic reach and its ability to adjust. I'm not sure if they brought in land use. Geomorphic indicators, good, medium, poor ratings. Steve is happy to talk to people about it. It's another piece of information that is out there – it was done for BPA. This assessment was broader than the Reclamation document. It covered the whole basin, done spatially plus a couple of dozen sites where they went out and gathered data on it.

Crystal Elliot– Suction Dredge Mining Update: many of you probably know that for the last five years I have been working on trying to improve the suction dredge mining regulations in WA state. WDFW is the agency that regulates suction dredge mining. These are not commercial operations; these are recreational folks with diving gear doing suction dredging in rivers. WDFW is going to be opening rule making starting next month. I have a video that provides good background [video – PBS news hour: <https://www.pbs.org/newshour/show/hunt-for-gold-in-washingtons-waterways-dredges-up-conflict>].

Crystal – WA is the last state around with Pacific salmon and steelhead that doesn't have good restrictions on suction dredge mining. TU submitted a petition to the Fish and Wildlife commission to open rule making, and when rule making opens, the agency has indicated that they only want to remove the suction dredging from the gold and fish pamphlet, end of story. We have argued that this isn't good enough, because, even though it's a good first step, they are not addressing ESA and CWA issues like other states have. There are also other forms of motorized mineral prospecting, like high banking where people dig up riparian zones and run them through the sluice, so we are also advocating for other forms of motorized mineral prospecting to be covered by the rules, and also to check for invasive species. We are also working with the Forest Service to ensure ESA compliance on the Forest.

I'm asking folks to engage in this process; we will have a document that has suggested talking points, and we're trying to get as many folks as we can to show up to the public meetings, which will be in Wenatchee, Spokane, Everett, and Olympia. I encourage people to show up, because the miners will be there in force. They are very vocal and dedicated, so we need to show that there are people on the other side. WDFW gets tons of pressure from the miners.

John C – has anyone done a quantitative published report on the negative effects?

Crystal – in OR and CA there have been extensive studies on impacts to water quality; it is hard to quantify specific effects to fish. The cumulative impacts of many dredges are the biggest issue, particularly on small streams at lower flows. WDFW commissioned a white paper that was done by Anchor in the 2000s, and I have a slew of documents on the issue, and did a summary with citations.

John C – getting that out would be great

Pete Teigen – how long does the rulemaking take?

Crystal – good question. They will hold four public meetings in July, then they will officially open rule making with the draft revisions to the current rule. There will be an official comment period, and then the final rule comes out. It will probably take 3-4 months.

Lynda – because we are going to be requiring HPAs for all suction dredging, right now people are applying to get exemptions from the fish window; people may be trying to take advantage of this opening

Crystal – a good point, disappointing.

John C – has anyone been busted doing this?

Lynda – a couple, but the rules are so vague that enforcement has a hard time dealing with it; it's hard to get a conviction

Crystal – this is one of the reasons that TU got involved, because the agency is put in a very difficult position due to the drawbacks in the regulations that make it hard for WDFW to manage it well. With individual HPAs, they will need more funding, so we will need to back up WDFW for funding with the legislature in 2019. We specifically petitioned the commission for ESA and Clean Water Act compliance, we are asking for it to be broader than just pulling it from the gold and fish pamphlet. All stakeholders need to show up.

There is also a lawsuit on suction dredging Cascadia Wildlands against the state of WA, and oral arguments are on July 6 in Olympia

Amy Martin – Voluntary Stewardship Program – all counties in the state were tasked in 2011 with either updating their Critical Area Ordinances or opting into the Voluntary Stewardship Program, which is for agricultural operators to choose to participate in. Even if we don't get all ag operators to choose to participate, the hope is that we will get enough. OK County opted in, but there wasn't funding initially. Now they got funding and we started the process.

The VSP framework is to protect five critical areas:

- Wetlands
- Frequently flooded areas
- Critical aquifer recharge areas
- Geologically hazardous areas
- Fish and wildlife habitat conservation areas

Amy – protecting agriculture is also important

The 2016 VSP work plan funded by the state; the county is responsible for protecting critical areas through the success of VSP. Okanogan Conservation District was hired to write the plan for the county. We have a workgroup established by the county with technical assistance providers.

Statutory requirements – stakeholders, outreach and technical assistance, measurable benchmarks, designate agencies for technical assistance, incorporate plan into existing development regulations, establish baseline monitoring for participation activities, stewardship activities and effects on Critical Areas.

Work plan approval process is that the work group develops the plan, the state technical panel reviews it and approves or denies plan. The tech panel is WDFW, Ecology, WSDA, and the Conservation Commission. Get comments in during the formal review period. We have to submit the plan by June 28th, and have it approved by September. I will send out information about comment period

Okanogan VSP Work plan elements:

- Designate critical areas – we updated some information for agricultural areas because Critical areas is out of date
- County profile – agriculture and landscape
- Intersection of agriculture and critical areas
- Voluntary protection strategies
- Goals and benchmarks for protection
- Implementation
- Monitoring and adaptive management

Amy – some forest lands are also used for grazing, but we couldn't capture that; we summarized types of agriculture – dryland, irrigated, and rangeland.

For the workgroup, it was important to summarize the importance of public land for agricultural use – 842,000 acres of state and federal land are used for grazing, almost 6,000 acres irrigated land, and 750 acres for dryland agriculture.

Intersection of agriculture and critical areas

- Critical areas mapped using geospatial data

47% of ag lands overlapped with fish and wildlife HCAs (Habitat Conservation Areas), but includes game species like mule deer

Voluntary protection strategies – we inventoried practices implemented since 2011 to show ongoing protections for critical areas and functions/values, includes NRCS fence, critical area riparian buffers, etc.

We looked at what the benchmarks could be year to year. We had a lot of fire recovery projects, which skewed some things, so we pulled out a lot of them, but related how the conservation practice was related to the function – water quality, hydrology, soil health, habitat; the practice can be related to more than one function.

Goals and benchmarks for protections – protect critical areas through voluntary measures, enhance critical areas, maintain and enhance viability of agriculture.

Amy – in 5 years we want to implement at least 270 acres for soil management; we followed what a lot of other counties are doing. We did include conservation easements and protected water as enhancement tools. We will monitor participation and will need to monitor for effectiveness. OCD was selected as the lead technical provider, so we will be collecting information on producers participation, management types. For more information contact Amy (amy@okanogancd.org). A formal review period is coming up. If the plan is not approved, we will be seeing regulations; so far they have all been approved

John Arterburn – Methow EDT: Jessica sent out the link for EDT in the Methow (<https://ecosystems.azurewebsites.net/hstr-methow/>); it is live and it is a cloud based product. There is no paper report, and anyone who wants to can use it. We took a little extra time to do some extra QAQC at the end of the process, and I think we have streamlined information that is very functional. The map is the critical part of the interface. There are multiple views – including watershed, AU, and also reaches. It is hierarchal, but the data and information change depending on the view on the map, so you need to make sure you look for information at the right level. Keep in mind that the map interacts with the data, and you need to be in the right frame to understand the data. There are also pull down menus at the top; we have two species steelhead and spring Chinook. As we build out for more basins there will be more species, but they will not all be for all basins. Status and trend year is 2014 and 2004, modeled on the best available data we had at the time we did the model. The 2004 data is based on the subbasin plan version of EDT that was done. Trend comparison is to template and to 2004, this is what you are relating back to. Template condition is “pre-development.” There are all kinds of analyses that can be done based on drop down menus, but they all have a huge bearing on the results that you get. If you get something wonky, first make sure you know where you are. Default is 2014 and template for trend comparison. I caution people about the bar graph showing how good the information is. When we could, we updated the available information for the template condition.

Maddie Eckmann – what is the template condition based on?

John A – based on what we think the river was like before human modification of the landscape. It was challenging, but wherever we had current data we used it. For example, long-term climate data sets give good snapshots, and we didn't have that back in 2004 subbasin planning, so wherever we could find data to support change we did that. There are still vestiges from subbasin planning.

John C – is it cited where the information was used to change the template?

John A – not here, but we have that. The “fair” data is expert opinion, “good” is largely extrapolated data from an adjacent or similar site, “very good and best” data represent actual data on the ground we have to inform the model. So we see an improvement in the data, and these improvements shape results, so a good part of the improvements in results is due to an improvement in data rather than from something on the ground. The Population Performance Summary table is compelling for large scale conversations about restoration and recovery conversations. There is nuance and variability in the numbers, rather than precision. Observed values are from WDFW; 6 year geo-mean values. The numbers represent the ability for people to have a broad discussion about recovery thresholds that they couldn't have before. A lot of the thresholds were based on expert opinion and not data, so could enable a discussion.

VSP (Viable Salmonid Population) criteria summary – these are the criteria used by NOAA for recovery purposes, Habitat trends. There are 49 AUs in the Methow within EDT, 48 spawning populations (49th is Wells Pool). We have priority ranking for restoration, which looks at all VSP criteria across all fish (juvenile, adult, etc.); we also have “tornado” diagrams. For ranking, we ran a computer splice in the model that looked at all VSP criteria – we took an average slice across all indicators to come up with a combined rank, then looked current vs. template. We specifically focused on restoration actions, so it doesn't give protection priority, but the tornado diagram gives an idea of what would be lost if degraded.

John A – the Spring chinook habitat isn't doing nearly as well as steelhead habitat. I recommend looking at the top third of the list rather than 1 vs. 2 for prioritization. It doesn't mean that the bottom third has no value, just that the level of scrutiny and justification needed would go up for projects on the lower end of the scale.

Joe Connor – that is accurate

John C – the Biological Strategy and prioritization is being revised, how does that integrate with EDT and what do we do when they don't agree?

John A – on the RTT, the prioritization documents that I have reviewed say that where we have EDT we will use it. RTT hasn't made the update to the Biological Strategy, so you can't find that, but when we do finalize that they should align.

Joe – at the last IT meeting there was an update on prioritization; there they said they were up to 18 months out for completion

John A – if people wanted to see them aligned more quickly, we could possibly do an interim update to the biological strategy; it is a living document, and quick updates are possible, but they would need a motivation to do that.

Hans Smith– tornado diagrams?

John A – red bars are priorities for protection

Ryan Klett– there is a question mark icon in the corner that explains all of the views. The protection bar is scaled to a relative change in population abundance if the current condition degrades to zero. It shows where the greatest potential loss is, and this shows the greatest priority for protection.

John A – there is also tons of information at the reach scale. If you don't see it at the bigger picture, don't forget there is information at the smaller scale because we have a lot of information on a lot of tiny streams. A lot of information at this scale that would be useful for habitat practitioners. Can use the information to do quick evaluation without doing additional modeling, using "back of the envelope" calculations. Our model does not get down to prescription, but does tell you where to go and which limiting factors to address. We have a full crosswalk table between limiting factors and ecological concerns, we couldn't get to ecological concerns in terms of a modeling effort

Discussion – limiting factors vs. ecological concerns, ECs were used by expert panel, but not known where the expert panel is going

John A – we have the Methow Data Gaps document, and we lost the ongoing habitat monitoring from Champ and ISEMP, John's Temp data is ongoing, and USGS has a few flow stations. We will not be able to do this modeling in the future without a monitoring program on the ground in the Methow. We have talked about expanding the Okanogan monitoring into the Methow, but so far BPA is not supportive

Joe – BPA is interested in prioritization, and developing project lists in high priority actions in priority areas. We talked about doing a pilot effort in prioritizing areas.

John A – the idea is to get a little more prescriptive in terms of some actions in these areas, give people some guidance, but this will require further development of the interface, a process we will work with BPA on.

John C – would that approach supersede BPA's recognition of Reach Assessments and the restoration strategies?

Joe – I think that you should use all of the tools, crosswalk them, and see how they align

John A – if you have RAs you can get those actions, but EDT covers the whole basin to identifies priorities and the RAs can help you dive in those reaches

Hans – at the RA level we still aren't tying things to abundance and productivity, but the priority is driven by what the EDT is telling you what the change can be for the fish numbers

John A – and EDT tells you which reaches and the RAs then tell you what to do there, then monitoring is part of an iterative cycle to help evaluate what we've done to inform the next round of modeling. If you have questions we can help you, and if we can't answer them then we can call Eric Doyle. We have a lot of data; all the underlying data that went into the model is on the website. The data that drives the model is here for every reach. A value of zero is not necessarily no data; if the level of proof says undefined that means that we don't have data. If we have no data there is no template either, so it doesn't hurt or hinder

John C – for each of the AUs, where the data availability or quality affect the rankings; how does that balance out

Ryan– the data quality doesn't change the rankings; the level of proof ranking tells you something about the supporting data, but you have to ask the question.

John A – it would be really valuable if we had a dedicated habitat monitoring program in the Methow going forward. Ryan is working on a users guide so that if people have questions we will be able to get

that out to people when it is finished. We are also going to try to do a quick executive summary of the report for big picture summary.

Pete Teigen – UCSRB Updates: Greer did a Habitat Work Schedule training yesterday; we need to get all of our project information updated for 2017 projects by the end of this month. If you have questions please call me or Greer. This is really important because the information goes into the state of the salmon report, and this is a funding cycle year, so there may be a lot of eyes looking at that.

Greer said that the updated spawning layer information will be on the website soon

We have a board meeting next week in Chelan

We have some new staff at UCSRB, Joy left and I have taken over the SRFB process. Sarah Walker joined our staff and also Tayna Russell. We also have a college intern for the summer.

We had all of the SRFB presentations last week, final proposals are due next Friday, then the RTT will score, and then CAC will do their rankings in July.

Hans Smith – Webmap Tool Update: I attended a meeting a week or two ago with WAT folks from the Wenatchee/Entiat. There has been a request to the RTT by practitioners to get a web-based application that has the same information online that is in the report that people could click through. YN volunteered to help develop that tool, and this is focused on the updated Biological Strategy, which will be awhile, so our Webmap won't exist until then. We had a mockup done by a YN employee in Toppenish; it uses the ArcGIS online platform, so at some point when the Biological Strategy gets updated we will make it available to sponsors for feedback and we will go from there.

John A – one word of caution with the ESRI online platforms – there are a lot of limitations with it; a lot of the cloud solutions are really economical

Hans – it will be a pretty simple tool

John A – if it doesn't include a lot of data should be okay

John C – so same information from Biological Strategy?

Hans – yes

Roundtable

John Crandall – Methow Monitoring: the Lower Methow Reach Assessment is trucking along; it should be done by next August. I gave a presentation to RTT on the LMRA this spring. Based on geomorphology, we are considering the whole 27 miles as one reach; the approach we have taken is that within that 27 miles there are a lot of places where the difference between the wetted width and the 100 year flood is only about a foot; some other areas where there is more difference we have identified as project areas. There is a lot of riprap. The strategy is to address 25 areas where we have floodplain development down there

Bull trout redd surveys are coming up in August, a whole cadre of folks working on it, and WDFW is heavily involved. In a number of sites we will do eDNA, areas with anadromy and resident populations.

A bunch of education stuff is going on. I'm working on a restoration booklet, and some new signage for river access points

Pete – when will the booklet be available?

John – end of the month, it will be pretty basic. There is also a new Methow Fish Guide for people to share; get copies from John

On Monday we are showing a movie at the Barnyard Cinema - The Watershed Movie at 6:30, and we will have a panel after

Jarred Johnson – YN: I'll put in a plug for the Twisp to Carlton recreation safety assessment, an online survey available on the MRC website that people can fill out. That will be open throughout the summer, and we're trying to get as many responses as possible

I'm working on a number of projects, still trying to complete Beaver Creek rm 2.6 project in partnership with DOT. Hoping to close on a property across the river from Twisp Avia; it closes the end of the month.

Steve Kolk – Reclamation: Jenn Bountry and crew will be out the last week of August to do field work for the sugar levee reach. Jennifer Molesworth is in Boise this week.

Lynda Hofmann – WDFW: I have gotten a few calls after the last high water to do bank protection in Twisp, this is a priority area for fish, so if anyone has any ideas with how to assist landowners with doing things other than riprap please contact Lynda

Maddie Eckmann – YN: we are looking to move into the Horseshoe project culvert construction soon. We just finished a geomorphic assessment in Twisp from the wastewater outfall down to Halterman's hole, looking at migration. There was a surprising amount of recent migration into the Red Shirt mine tailings site. We will continue to work with Crystal on possible clean up options along the bank. We are continuing development on the Alder Creek project, working with WDFW and DNR, mainstem large wood work and side channel/off channel habitat creation.

I walked out at the Beaver Ponds reach with Chris Johnson and Kristen Kirkby last month looking at opportunities there, looking at some survey work and groundwater research there.

Jacqueline Wallace – TU: Crystal is doing some BDA work with Paul. We just finished eliminating two diversions used by multiple landowners from the mainstem Methow and installed irrigation wells. The Barkley project continues to move forward; it's not clear if construction will start this fall or next spring.

I'm talking to landowners in Beaver Creek about water purchases.

I have discussions about trust water programs with landowners, and if people don't know about that program, please send them to me. We are in the process of updating the water rights handbook, so let me know if there is something that you think should be in there/changes

Paul Wagner – CTCR: my BPA contract period runs June 30 to July 1, so I'm just finishing one and starting another. We just worked with Jacqueline on the production well, and are working on buying pipe for Barkley. Also BDA projects and livestock fencing in Mission; working on instream projects and wood structures with MSRF, and public outreach/Rob Crandall to work with local school kids, and supporting the Methow Beaver Project.

Brian Fisher – MSRF: we are working on Barkley Bear, a habitat restoration follow up project to the Barkley Irrigation project. We are moving more towards a side channel and infrastructure removal project. Contingent on Barkley irrigation.

We are also working on Twisp River Floodplain Phase II, mostly a side channel recreation/reconnection project

Ryan Klett – CTCR: in EDT, use the information icons in the report cards and also the data gaps report and on the OBMEP website. Through the eyes of EDT on the status of the data, and there are a lot of citations in the data, a good place to start on the data

Hans Smith – YN: Chris Butler is initiating some additional work with USFS in July, extending the work we did last year, Chewuch RM 17-20, a lot of wood treatment, probably will use a helicopter. There was some natural wood recruitment in the Chewuch. We continue to be active throughout the basin. We have had a lot of discussion with the Corps and the County on the large levee up in Mazama, they did an emergency action this year and haven't assessed the effects of that yet. We have multiple acquisitions going on to support that.

We have been contacted multiple times by landowners in the Twisp area, a lot of bank movement in the last few years, and we hope that people can continue to hold back from putting riprap into the river. We're focused on that to the extent we can, but think it will be an issue going forward.

John C – for sure, it is going to be an issue going forward, people don't want to fund bank stabilization, but otherwise you will get riprap

Tara Gregg – MSRF: We did half a dozen drone flights during high water. There is a drone flight for this year and last year from the 1890s channel to just above where the Twisp River comes in, currently on YouTube under my name

John A – in the Okanogan Ecology did high water drone flights this year and that is also available

Tara – we can include a link <https://www.youtube.com/channel/UCimZ3iMNIATSUFooUjEDiw> [Link is to Tara's YouTube page; video is labeled Methow River @ Sugar Levee]

Pete Teigen – UCSRB: the Forest Service came out with a decision on Mission that was objected, and the FS had a mediation in Portland and has extended the comment period, but there may be a final decision later this summer. I'm not sure how the Forest will address the comments that were raised.

Next MRC July 17

Definitions of Commonly used Acronyms	
AEM	Action Effectiveness Monitoring
ANS	Aquatic Nuisance Species
AREMP	Aquatic and Riparian Effectiveness Monitoring Program
AU	Assessment Unit
BACI	Before, After, Control, Impact (study design type)
BDA	Beaver Dam Analogue
BEF	Bonneville Environmental Foundation
BO/BiOp	Biological Opinion
BPA	Bonneville Power Administration
CAC	Citizens Advisory Committee (for SRFB funding applications)
CAO	Critical Areas Ordinance
CBFWA	Columbia Basin Fish and Wildlife Authority (pronounced “cubfwah”)
CCFEG	Columbia Cascade Fisheries Enhancement Group
CCT	Colville Confederated Tribes (newer acronym is CTCR – see below)
CTCR	Confederated Tribes of the Colville Reservation (older acronym is CCT – see above)
CHaMP	Columbia Habitat Monitoring Program
CMZ	Channel Migration Zone
CREP	Conservation Reserve Enhancement Program
CSF	Community Salmon Fund
DEM	Digital Elevation Model
EDT	Ecosystem Diagnosis and Treatment
EQIP	Environmental Quality Incentives Program
ESA	Endangered Species Act
FCRPS	Federal Columbia River Power System
FFFPP	Family Forest Fish Passage Program
FIA	Forest Inventory and Analysis program (USFS)
Four “H”s	The four factors affecting salmon recovery: Hatchery, Hydro, Habitat, Harvest
HACCP	Hazard Analysis and Critical Control Point
HGMP	Hatchery Genetic Management Plan
HPA	Hydraulic Project Approval
HSRG	Hatchery Scientific Review Group
HWS	Habitat Work Schedule
IMW	Intensively Monitored Watershed
IS	Implementation Schedule
ISAB	Independent Science Advisory Board
ISEMP	Integrated Status and Effectiveness Monitoring Project
ISRP	Independent Scientific Review Panel (reviews BPA projects)
IT	Implementation Team
LW/LWD	Large Wood/Large Woody Debris
M2	Middle Methow (a project area defined as the reach between Winthrop and Twisp)
MaDMC	Monitoring and Data Management Committee (pronounced “madmac”)
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MRC	Methow Restoration Council
MSRF	Methow Salmon Recovery Foundation (pronounced “em-surf”)
MVRD	Methow Valley Ranger District
MWC	Methow Watershed Council
NFF	National Forest Foundation

NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NPCC	Northwest Power and Conservation Council
OCD	Okanogan Conservation District
OBMEP	Okanogan Basin Monitoring and Evaluation Program
OWL	Okanogan Wilderness League
PCSRF	Pacific Coastal Salmon Recovery Fund (pronounced "Pacsurf")
PHABSIM	Physical Habitat Simulation
PIBO	PACFISH/INFISH* Biological Opinion
PNAMP	Pacific Northwest Aquatic Monitoring Partnership
PUD	Public Utility District
QAQC	Quality Assurance, Quality Control
RA	Reach Assessment
RCO	(Washington State) Recreation and Conservation Office
REI	Reach-based Ecosystem Indicators (used in Reach Assessments)
RFEG	Regional Fisheries Enhancement Group
RFP	Request for Proposals
RM	River Mile
RPA	Reasonable and Prudent Alternative(s)
RTT	Regional Technical Team
SEPA	State Environmental Policy Act
SMP	Shoreline Management Plan
Snerd	Fish Capture-Snorkel Herding
SOAL	State Owned Aquatic Lands
SOW	Statement of Work
SPIF	Specific Project Information Form (used with the Corps ESA programmatic)
SRFB	(Washington State) Salmon Recovery Funding Board (pronounced "surfboard")
SRP	State Review Panel (for SRFB funding applications)
STEM Database	Status, Trend and Effectiveness Monitoring database at NOAA's Northwest Fisheries Science Center
UCSRB	Upper Columbia Salmon Recovery Board
TRT	Technical Recovery Team (NOAA)
USFS	US Forest Service
USGS	US Geological Survey
VSP	Viable Salmonid Population
WAT	Watershed Action Team (the MRC is our WAT)
WDFW	Washington Department of Fish and Wildlife
WDNR	Washington Department of Natural Resources
WNFH	Winthrop National Fish Hatchery
WWP-TU	Washington Water Project of Trout Unlimited
YN	Yakama Nation

*PACFISH/INFISH The PACFISH/INFISH Biological Opinion (PIBO) Effectiveness Monitoring Program was initiated in 1998 to provide a consistent framework for monitoring aquatic and riparian resources on most Forest Service and Bureau of Land Management lands within the Upper Columbia River Basin.