

Methow Restoration Council

September 18, 2018

Participants:

Name	Organization/Affiliation
Chris Johnson	MSRF
Corrie Veenstra	BPA
Crystal Elliot	TU
Greer Maier	UCSRB
Hans Smith	Yakama Nation
Jeff Peterson	Reclamation
Jessica Goldberg	MSRF
John Crandall	MSRF
Katy Pfannenstein	USFWS
Kristen Kirkby	CCFEG
Maddie Eckmann	Yakama Nation
Paul Wagner	Colville Tribes
Robes Parrish	USFWS
Ryan Fortier	WDFW
Tara Gregg	MSRF

Meeting Notes:

Chris Johnson – Barkley Bear Update: The Barkley Bear Habitat project has been in development through the BPA/Reclamation/UCSRB targeted process. The first objective was to evaluate options to reconnect floodplain and then to look for side channel/off-channel opportunities. We are waiting for the Barkley Irrigation project to proceed with the habitat project. We plan to go to SEPA shortly for pre-permitting for shoreline permits. The County no longer does pre-implementation SEPA, so we will pick an element to initiate the process to begin identifying any community or social concerns before we reach 100% design. We are also looking at what portion of the project we can implement while they are still using the Barkley canal.

The challenge for us is to put a habitat project in the most heavily recreated section of the river. This limits the types of structures you can put in the channel; there is also a summer Chinook spawning area downstream that has high visibility in the community.

We plan on putting in a lot of wood, and we will do a lot of public outreach to stakeholders and river users. We've had a lot of conversations about how to work in a heavily recreated area, and we think this project strikes a good balance. We plan to finish plans and permits in the next year and be ready to implement next summer, but we are working with Barkley Canal Company (BCC) to explore options that don't hinder canal operation.

Once abandoned, we plan to use the canal as a way to engage the floodplain, at some point it may plug, but we want to open up as many pathways as possible.

We will roughen up the floodplain, do riparian plantings, and remove the riprap that is constraining natural process. We are trying to create opportunities for the river to move on the left, as there is no opportunity for movement on the right bank.

Post-fire, the BCC has dumped more than 10,000 cy of dredged sediment brought in from Bear Creek onto the neighbors' property. One of the design elements that comes with re-engaging streams post-fire is how to reconnect Bear Creek to time sediment delivery. We have completed hydraulic modeling, and the timing of the peaks for Bear Creek and the Methow are generally different. The area will

require some adaptive management, and is probably one of the more risky elements of the design. A goal is to stop the stranding of listed fish that is happening now. We have been working for three years to try to come up with the best design.

Greer Maier– I think it will be good to see how it develops over time. At the very least removing the diversion will be a big benefit. This was a really good team effort, with a lot of lessons learned to apply to other projects

Chris – we aren't building a bridge or a highway; we don't want things to stay exactly as they are. We want to maximize natural processes; we will use pile driven and placed wood to act like Velcro in the side channel. Project function and success will not be measured by whether things stay exactly where we put them; rather, whether things are functioning and did they fail in the way they were supposed to fail. We do tag our wood, so we know if a piece of wood is ours if it goes elsewhere.

Greer – it was interesting to see the fish bios wanting perennial side channels in the project, and when we saw what the engineers had to do to get that, it wasn't acceptable. We had to learn from that and know that we had to be okay with that.

Ryan Fortier – what are the late season flows in bear creek?

Chris – I'm not sure; probably somewhere under 4 cfs, it in multiple hundreds at the peak

John Crandall – at low flow it is maybe 1 cfs; it depends on what the golf course is doing. It's a couple cfs at most

Chris – during the high flows it is flashy

Discussion – floodplain scallop area, image doesn't show wood, but there will be a lot of plantings, wood, maybe piles, will try to have it as rough as possible

Robes Parrish – what is the right bank like opposite the scallop area?

Chris – it is very constrained, with a lot of houses. We are trying to take advantage of the deposition on the right bank and encourage the river to move leftward. This is also just upstream of the Whitefish Island project, and we're trying to use a meander bend that benefits that project as well

Robes – so with Bear Creek, a ton of material coming down, why not have a fan there?

Chris – landowner constraints, and also the desire to get as much length as possible because of the elevation difference. We're trying to avoid a headcut and keep to landowner considerations as much as possible. There will be a lot of roughening features. Doug Knapp has been reviewing from the BPA perspective; his concern was about blowing out the turn, so there will be a fair amount of structure placed along the outside of the sharp bend; the objective is not to have it go straight downhill. Bear Creek is not gauged in any way, but we understand that it can fill the canal and make it go backwards.

John – Bear Creek is not like Beaver Creek

Greer – Phil Roni is doing some rapid assessment on the Middle Entiat project, goals are similar, not sure if there are any lessons learned, there may be some consistency in methodologies that we could use.

Discussion – survey data, LiDAR, river is changing a lot each year. DNR may fly it this fall.

Greer – I will send you the strategy for the Middle Entiat

Discussion – cost for green LiDAR, cost for a LiDAR camera for drone

Greer Maier – Implementation Schedule Update: each year we assemble an annual report on how we are working on the Recovery Plan. Ideally this is a planning exercise for the region, which is meant to show our upcoming priority projects, in the future if we have a prioritized list that may become more of a planning tool. This exercise walks through the last/previous year, gives background into the report, a little about adult annual returns, both hatchery and natural origin returns. 2017 was one of the worst return years since listing. We had steelhead in the 400s and chinook in the 500s. PHOS (percent hatchery origin) is also tracked, and the percentage of the total stayed essentially the same in most watersheds. We also had low returns for hatchery origin fish. The Entiat was one exception, it was not as bad, but across the board it was a very poor year. Still pretty low for this year. It was a fairly good

snowpack and cold winter, but dried out quickly and got hot in the summer. Higher spring flows and then lower low flows. We also had a higher winter peak.

Chris – have you looked at this dismal fish year in correlation with bed movement capable flows?

Greer – I think the effect of the ocean conditions is swamping everything. Poor ocean conditions that we saw until last year will persist for a while

Ryan – was last year as bad as 2016 and 2015 for hydro conditions?

Greer – we had a fairly good spring, and they spilled a lot, but they also had a high total dissolved gas levels because of the spills

Ryan – if hatchery releases are timed with the spills, are they looking at timing the hatchery fish with the wild fish

Discussion – potential causes of low returns, ocean conditions, spill regimes, low water/high temps in 2015

Greer – it might be helpful to look at all the things affecting the fish at the different cycles to help us predict and prepare for specific years

Chris – it would be helpful to help us respond to questions and comments

John – we are preparing our fish to help meet the challenges outside our basin, bigger stronger fish with a better probability of survival

Kristen Kirkby – does anyone have access to journal articles?

Greer – I have access to all the fisheries ones, and if there is something you want, ask me for it, and we can purchase access if necessary. Let me know

Discussion – it would benefit to everyone if we could find a way to set up access

Robes – I have access through our office

Chris – as partners it would be good to see if we can get access too

Robes – it would be good to have some kind of symbology or notation of where we are in el Nino, la Nina, and the Pacific Decadal Oscillation in the report; that will help folks see where we might be in terms of double whammies

Greer – good idea, adding to ocean, mainstem, and tributary habitat conditions

Robes – giving context for how the year fits into things would be useful

Greer – the report goes over habitat projects completed in 2017, this is information from HWS. Each year I ask project sponsors to close out their completed projects. 2017 was a light year in terms of number of projects completed, but due to MVID it was a heavy year in terms of money spent. We had some riparian, instream, assessment, design, and protections. The graphs show where projects were completed in terms of high priority areas. Right now priorities are driven by Biological Strategy that is in need of updating.

Chris – lower priority projects are often essential to getting to higher priority projects.

Greer – the habitat report goes into great detail into why we might work in lower priority areas. I can add it

Chris – I think it would help

Greer – this is good feedback, it evolves each year. I also provide a summary of each watershed and highlight a project, and for 2017 the Methow's highlighted project was MVID.

Discussion – cost of hatchery programs, hard to identify

Greer – If these are questions that you want our board to ask, then come to a board meeting and let them know; it needs to come from partners that are interested in it. We have a lot of partner participation. The report also covers hatchery releases, and Chief Joseph ramped up in 2017.

Chris – we are going over our older 5-year projects and doing a report on how we met objectives, if site conditions were where we expected, etc. I'm curious about how to share that information and whether anyone else is doing that. I think it is something that needs to be reported across projects. We will do it on Whitefish Island, WDFW Floodplain, and Upper Beaver Creek

Greer – I can include a section on reporting on a past project; that could be a great addition

Chris – I would also love to have feedback on what we should look at. We will do a low budget approach, but I would love to develop it

Greer – it could also be an attachment in HWS. It could include follow ups, effectiveness monitoring

Chris – questions come up from landowners and other interested folks in the basin. They want to know looking back if their involvement meant anything

Greer – the board will approve the report, and then we will put it on our website

Greer Maier – SRFB updates: as you may know, federal PCSRF dollars come from NOAA and then are matched with state dollars. The state dollars can be used for more types of projects than the federal, and they were running out of the state dollars for assessments, so they have put in a project-level cap for the region. The cap will be \$200k; if you have one that is over we may be able to borrow from other regions, etc., so let us know early and we can work with them. The goal is not to run out of state funds for assessments. Monitoring also has to come out of the state and has a cap.

The RTT discussed a lot this month; Pete was asked to tier our monitoring projects. These have to go through a pretty rigorous process, they have to meet a regional data gap, lead to projects, and has to be tiered. So projects that scored between 0-10 will be lowest tier, 11-20 will be the medium tier, and projects scoring 21-30 will be highest tier. The other big thing was the RTT also decided that they will be adding a criteria that speaks to how well the monitoring will lead to projects. They will add that before next year.

Ryan – they have to lead to habitat restoration projects, not management actions?

Greer – yes, they are doing that for all the project categories including assessments, monitoring, outreach, all need to lead to projects

Chris – that is hard, because it is hard to know what it will lead to until we do the monitoring/assessment

Greer – if you can make the case that if we get the information it will lead to projects, then you will be okay. They also agreed on a draft tiering system for barriers, now that CCFEG has the barrier assessment in the Wenatchee. This will be reviewed by the whole RTT. They created a tough system of criteria to get a Tier 1 or 2. They did recognize that barriers can be rated for other reasons; this tiering is only for benefits to listed species recovery. They will also group barriers, suites of barriers may be a higher priority than individual barriers. Come to their next meeting if you are interested in this conversation.

Chris – with the court case on the barriers on culverts, is that an avenue for funding?

Greer – yes. You should be submitting projects through the fish barrier removal board coordinated pathway. Definitely put your barriers there first before coming to SRFB. The Watershed Pathway is separate, we focused on the Okanogan and Johnson Creek in particular, and they've been working on that, and it is almost finished, so in the next process we will come through a regional process to decide which watershed is our regional focus. It has to contribute to recovery of a population, spatial structure has to be limited in some way. Once we have the barrier assessment data we may have a better view of which watershed has some impairment. Stay tuned, we will likely start that conversation next year or the year after.

For this year's SRFB list, Burns Garrity was pulled by BPA, and that moved the funding line down.

Chris – we have also returned the Silver acquisition funds awarded from SRFB, and about \$470,000 is being transferred from that project to the Hancock Spring project. Between Burns Garrity and Hancock, this moves the funding line down to Wenatchee EDT project. The money got spread down the list in the order that the citizens ranked them, and instead of 3 projects being funded, around 11 projects are being funded.

Greer – much thanks to CCFEG, BPA, MC, MSRF, RCO, and staff that helped make this happen, it was a big win.

Robes – is there a time where you re-engage the CAC as a reflective? This was definitely an interesting year, a couple of very expensive projects were at the top of the list, and they wanted to spread the money further down the list, and they took 10% off the top of the more expensive projects. Spreading the costs among more funding entities increases administrative project costs.

Greer – Pete is working on getting the CAC at the annual SRFB debrief, and that is the forum. Stay tuned. Sponsors and the RTT are also interested in that question. The conversation with Tributary Committee is also happening, identified as one of the challenges that Pete is on top of.

Chris – we had a spirited conversation about that in the Methow; the strategy on the reduction in 10% is to send a strong message to the Trib Comm. For Hancock, we are looking at ways of bridging the 10%. This forces the WATs to look at finding ways of bridging the project costs. An opportunity to step up. I think it was the right thing to have urged the citizens to do.

Robes – I don't disagree, but it needs to be discussed in context. A worthwhile conversation to have.

Greer Maier – EDT Update: EDT was funded in the Wenatchee this year, which pushes the conversation at RTT about how the EDT will be incorporated into the prioritization. They will do a few things. When EDT was completed in the Okanogan they updated the Biological Strategy, and now they will update the Methow part of the Biological Strategy with the Methow Results. I will be helping John Arterburn with that. The model spits out Assessment Unit rankings and limiting factors that are not perfectly cross-walked to Ecological Concerns. We need local expertise to identify what that means to link the appropriate EC to the AU. I would like to do that after the next meeting with a sub group of MRC folks. So if you are scoring well with EDT, it should also align with the Biological Strategy. John and I will take a closer look at providing the RTT information on how EDT ranks AUs to see how they are the same and different to help them identify how to incorporate it into their new ranking in the update for the Biological Strategy. Ultimately, from the region having EDT results we need to speak to how it's informing our current Biological Strategy decisions. Tracy gave three options for how to incorporate EDT: directly use it, use it but add some other metrics to EDT to create a new ranking, and the third option is to dovetail inputs and outputs into the existing prioritization strategy. You can help us understand how well the EDT model is ranking the assessment units.

Chris – we were intrigued with the EDT prioritization for the Methow

Greer – it's not a surprise that it is different; I think the RTT will have a lively conversation about how to use it

Chris – it would be good to have it as a tool, but it is good to use caution and know that it isn't the only way

Greer – it does a good job of informing the strategy, but we need to recognize that it isn't the only thing. I think the RTT will proceed cautiously. The fact that you have it in the Methow; you should be thankful; there are not a lot of alternative sources of information.

Greer – Other UCSRB Updates: The Targeted Solicitation for 2019 is going to come out in about a month, and in the Methow EDT will be used for prioritization, with the Biological Strategy as updated by EDT

Discussion – who needs to be available to help Greer and John A to review EDT; no MRC in October but a subgroup can meet

Greer – Chinook Project Requests/Orca Task Force: orcas in Puget Sound are starving to death, and they are looking at people working in salmon recovery to help them out, one thing they are looking at increasing funding to implement habitat protections for spring and summer Chinook. Other regions are

quickly coming up with capital budget requests, so we want to be ready so that if there is a capital budget request we are ready with a project list. Ultimately I would like it if they would add money to the SRFB process and expand it to include summer Chinook. So if you know of a spring or summer Chinook project that will benefit the species in 3-5 years let me know

We are focusing on recommendations for hatchery harvest programs also. Their draft report is coming out in a few weeks and I want to be ready. If you have projects in HWS I will tell you how to add the orca tag, and if you have summer chinook projects add them and I will tell you how to add the tag. Need to be within 3-5 years. Projects in the lower mainstem river that are hard to get through SRFB may qualify, so this is an opportunity

Chris – who can look at it and say that it is a good project?

Greer – ask John Crandall. The best projects will benefit both spring and summer Chinook. If you don't have time for HWS, send me a list and we will do it

John – if we crank out fish that get eaten, do we lose credit?

Greer – that's why I want to focus on summer chinook. The process will happen really fast, and I want to be ready. If you have any inclination to add the tag, add it. We have to show the need.

Chris Johnson – Town of Twisp Erosion Concerns: this project was in the MV News recently; we had a meeting with the Town of Twisp, landowners, and agencies. The project is in the M2 reach, the Sugar Levee area, which is also referred to as the Methow Levee by the Corps. Okanogan County and the Corps have a cost sharing agreement for maintenance of the levee, and they maintained it a few years back with additional rock. There has been subsequent erosion downstream (near the Covenant Church in Twisp) of 85 ft in 5 years, an indication that something is out of balance. We are starting a process at the Sugar Levee with Bureau of Reclamation and Denver Technical Services Center will be here doing data collection in early October, and it will be modeled. Our process is out of sequence with what the landowners would like to see in the short-term to protect their infrastructure. They have asked for assistance. If people feel like we should go out and remove some of the wood that is blocking off the floodplain areas we could do that, but we will not do it unilaterally. We have an opportunity to work with a number of partners, and there may be more than one action, necessary.

Discussion – options for the landowner, costs, do we want to advocate for something else, fraught Hans Smith– we've looked at it; we're concerned with the outlet of the 1890s, and our partners. The likelihood that the building will go in the water soon if the erosion rate continues is high. The issue of bank protection structures is also risks to boaters, and the erosion is likely accelerating. Our sense is that riprap is probably the most effective treatment for protecting infrastructure, and the landowners are seriously looking at it. Homes downstream of the church are closer than the church itself on the rivers trajectory. Likely the best option is a small riprap that protects the infrastructure, but it wouldn't be a habitat project. Anything bigger and I would have concerns

Chris – there are a lot of potential options, WDFW is being aggressive about requiring an HPA for installing the rock in an area where the river may go in the future.

Discussion – history of the levee, in its current location since the 1970s, reinforced around 2011 or 2012 and they extended it and made a hook on the end, there is a large log jam now at the end blocking the side channel and focusing flows in the main channel

Chris – we could mobilize the log jam to allow the river to access the side channels, but I'm not comfortable taking the action unilaterally.

Discussion – what river process/ habitat values could be lost if they riprap, directions the river could go, concerns about foreclosing future options

Ryan – what landowners are being protected by the levee that are being affected downstream?

Chris – they are the same landowners plus some a little higher. We need to maintain close contact as we move forward.

Roundtable

John Crandall – MSRF: I have a few updates. the Lower Methow Reach Assessment is moving along, we've crossed the 1-year anniversary. We're working to have a draft to RTT in April, shooting for a final by August next year. We've completed fish surveys, habitat survey, and all that info is being collected and mapped and distributed, we are populating the fish periodicity table to understand fish use. TetraTech will be doing the restoration strategy component. A 1D hydro model was completed by Sean Welch at BPA, and we're using that as our hydrology template. It has been super helpful to have BPA's participation. It's a very confined reach, and in a lot of places there is very little difference at 100 year floodplain and low flow; we looked at difference in stream width at the high/low flow. We identified around 25 project "nodes", and those will be given to Tetrattech to come up with potential actions. Will also look at other areas. A lot of riprap, roads, orchards, and bridges. All of that will lead to the development of the Restoration Strategy. HSI will be run on the entire reach, history, geology sections. Tricia Gross is the project lead for TetraTech. We have a CMZ layer as well.

From last year's UCSRB grant we have the *Habitat Restoration Guide* worked on by CCFEG and MSRF, there will be an accompanying video. The target audience is landowners and letting them know the where, why, and what of Habitat Restoration.

Hans Smith – YN: we're doing a project on Beaver Creek RM 2.6 working with WSDOT on a bridge, revetment, adding wood complexity, pools, removing floodplain fill, and floodplain grading to reconnect a low surface. We will be done mid-October for construction elements. That is a partnership with DOT where they provide a part of the funding.

We have been doing an assessment on the Chewuch River from Twentymile Creek to Andrews Creek. That will be done this winter, a lot of the data collected last fall and this spring and summer. Will include Boulder Creek, Lake Creek, Andrews Creek, and Twentymile Creek.

Greer – we need to talk about how project opportunities in the RAs turn into prioritized projects in HWS at a future date; that would be a nice final step.

Hans – the Chewuch had a bumper spring flow year. We installed a large bar apex structure and it opened an inlet to a side channel system but we didn't excavate the whole thing (around 4000 ft). At the beginning of the spring flow some trees came down at the inlet, they floated into the wood elements and the apex, and they focused all the current of the Chewuch into the wood structure. This created a larger than predicted scour pool that deposited downstream in the main channel and aggraded the main channel, as flows dropped, the main river low flow path went down the side at low flow. It was intended to be a perennial channel. We removed the large tree that was creating a bridge for river safety. At future flows it is hard to know what will happen. Mainstem will activate pretty quickly as flow comes up

Jeff Peterson – this speaks to not doing too many model runs

Ryan – was there spring chinook spawning in the now dry reach?

Hans – I'm not sure; I think it transitioned

John – It's pretty big substrate, but I think WDFW thinks there was spawning that in the past there was spawning there, but not this year

Maddie Eckmann – YN: The Horseshoe project is done, landowners are happy, and there are already steelhead and chinook in there

At Alder Creek we have a permitting plan set, and we're ready to present to WDFW for our next MOU meeting. This is not planned for implementation until 2020 or later.

We just finished the Beaver Ponds survey, TetraTech surveyed the ponds themselves (the other areas were covered by LiDAR); that data will be interesting for any project development that happens in that area

At the Red Shirt Project, we have surveyed bank erosion of over 20 ft since 2015. We've engaged with DNR and Ecology, and they have a plan to collect core samples to verify the contamination. We're working with TU to try to leverage some funding for that

Chris – we had a good site walk at the Alder Site with the Methow Beaver crew and Maddie, and released a beaver there.

Crystal Elliot – TU: I've been coordinating with Hans and Maddie on Red Shirt; met with Senator Hawkins last week. We're hoping to implement Mission BDAs before snow flies if we can get approval from the USFS.

Still working on suction dredge reform, and have been meeting with WDFW this summer.

The water project folks are still working on the Barkley Irrigation. Johnson Creek is moving forward with Jacqueline.

Kristen Kirkby – CCFEG: Burns Garrity got Tributary and BPA funding, and we're almost at 60% design for construction in 2019. The barrier crew has been out surveying all summer. They've been doing mostly public lands and some private lands. That work will continue next summer to complete all of the basin. I've also been working on outreach to schools in Methow, Pateros, Bridgeport, and Okanogan with Rob and the Colville Tribes

At Silver Side Channel, we would like to put in more wood; we've seen lots of fish use, mostly Chinook Discussion – which fish, type of use, beaver dam at site, hunting use at the site, balancing needs

Ryan Fortier – WDFW: state summer chinook was all over the place this year, new management. In general we had a typical harvest from what we expected. We didn't get the big numbers expected of the Chief Joseph returns, and steelhead season unlikely due to really bad returns (everything above Priest Rapids)

Paul Wagner – CTCR: we got BPA approval to fund 8 projects in the valley with TU, CCFEG, and MSRF. Mission BDAs, Silver Reach [Twisp to Carlton] projects, well conversions, habitat projects, outreach, etc. I have also been helping out with lamprey translocation in the Okanogan.

Chris – we're looking at designing wood structures in the Twisp to Carlton reach to identify 3 sites for habitat restoration with CTCR; we're working with TetraTech once we get a notice to proceed from CTCR

Jeff Peterson – Reclamation: some of you may have heard that Jude Trapani is leaving Reclamation as of this Friday. Our people are out today with Mitch working on monitoring protocols for our projects. Chris – Brian is out with Mitch as well; we're looking at what Bureau is test driving to see how we can work together on that

John – we are trying to develop a site visit evaluation form, and trying to be consistent across sites. It will also be customizable, very easy to do but having it will help with record keeping

Chris Johnson – MSRF: after multiple years, we finally removed the last part of the WDFW floodplain levee (across the river from the airport). The area fed by that was from upstream where there was a loss of a natural logjam and erosion. The floodplain is now reconnected.

Barkley and MVID are moving forward working with the airport (for planned work at the MVID East diversion); unfortunately, one of the people on the team from WSDOT Aviation died in a plane crash this weekend, so we are giving them a little time. There has been an 18 month delay on that project.

On Frazer Creek, at Lazy K will have a 60 ft steel bridge; this is the last bridge on Frazer. We're working on adaptive at two other sites.

At Twisp River Floodplain Phase II we are at 30% with Cardno, and at Barkley Bear we are 80%. For the Upper Beaver Creek feasibility that will be funded through this year's SRFB we will be putting together a value engineering process to look at opportunities.

Jessica Goldberg – MRC: Next month UCSRB has scheduled the 401/404 workshop in Wenatchee on our regularly scheduled MRC day (October 16) because that was the only day they could get folks out from Olympia. Our options are to have the MRC that day anyway and people can choose which meeting to attend, move the MRC to a different day, or to cancel MRC for October.

Discussion – nobody objects to cancelling October MRC, some people will try to meet with Greer separately to go over how to incorporate Methow EDT into Biological Strategy.

Jessica – so no MRC in October; next MRC meeting will be in November.

Next MRC Meeting: November 20

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
EC	Ecological Concern
EDT	Ecosystem Diagnosis and Treatment
EQIP	Environmental Quality Incentives Program
ESA	Endangered Species Act
FCRPS	Federal Columbia River Power System
FFFP	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