Methow Restoration Council
October 19, 2017

Participants:

Name	Organization/Affiliation
Aaron Rosenblum	Foster Creek Conservation District
Amy Martin	Okanogan Conservation District
Chris Butler	Yakama Nation
Chris Johnson	MSRF
Crystal Elliot	TU
Greer Maier	UCSRB
Greg Knott	Methow Watershed Council
Hans Smith	Yakama Nation
Jarred Johnson	Yakama Nation
Jennifer Molesworth	Bureau of Reclamation
Jessica Goldberg	MSRF
John Crandall	MSRF
Julie Grialou	Methow Conservancy
Ken Muir	Cascadia Conservation District
Kristen Kirkby	CCFEG
Lynda Hofmann	WDFW
Maddie Eckmann	Yakama Nation
Paul Wagner	Colville Tribes
Sandra Strieby	Local Citizen

Meeting Notes:
John Crandall – Monitoring Update: paper of the month: *Alteration of stream temperature by natural and artificial beaver dams* by Weber et al. It gets to the work on Bridge Creek off of the John Day, where they have steelhead in a very arid system. They have been using it as a test site for how beaver dam analogues (BDAs) can affect landscape-scale ecological parameters. It is one of the few places where they have shown population-level effects on fish. This study is on temperature. Very incised site, low gradient. There were beavers in there, and the number went from a handful of dams to more than 100. They believe that you need lots and lots of wood to get an effect. They had a big effect, sometimes the beavers came in. Pretty amazing what you can do. Nick Weber is lead author. Very tied into CHaMP.
Chris Johnson – another group did similar work, showing the temperature effects
John – there is also a lot about hyporheic info to learn as well; pretty cool stuff.
John – CTCR are continuing with EDT and the model run for the Methow; they need more input. We're trying to get a meeting together, looking at obstruction, fish distribution and use in the area, so looking for folks to provide input on that. If you are interested get ahold of me and the meeting will be in the next few weeks, maybe a half day meeting.
The last bit is that we are still working on the data gaps list for the Upper Columbia. Stalled due to field season, but I'm hoping to get a MaDMC meeting in November, and hoping to get a final list by the end of the year. We will likely circulate a draft, but it has been a long drawn out process, so may not entertain a lot of changes. A pretty comprehensive list; if anyone wants to see the draft list contact me.

Jarred Johnson – Yakama Nation Projects – Big Valley and Newby Creek: we had a big construction season this year. We also constructed a project up the Chewuch that Chris managed and Maddie

managed a project up the Twisp River. The Big Valley project is a partnership project with the DNR, they own a lot of the uplands as well as SOAL.

At Big Valley, a big part of the project was removing the cable car across the river. A large part was removing the concrete; there was a lot of 1-inch and ¾ inch rebar. We used an excavator mounted jackhammer to remove the concrete, broke it up into pieces, and then grabbed it with the excavator. The cable car and material is being donated to the city of Okanogan. The towers had some history; they were part of the ski lift system from the 1964 Squaw Valley Olympics. We also removed a derelict headgate. It used to run for irrigation, we connected the irrigation ditch where we now have a backwater refuge with minimal excavation. The spoils were used to fill the ditch on the south side of the ski trail so we wouldn't capture water and convey it to downstream landowners. The Methow Trails folks are really happy with the regrading in the area.
Upstream, about 1/3 of a mile, we used a helicopter to fly wood up onto a gravel bar where we used two excavators to install it. We flew in the wood in early July and constructed at low water in late July. We used vertical pilings and layers of logs. Kysar & Koistinen were the contractors for the work; they used vibratory pile driver to drive the piles, and they used sheet pile to coffer off the site. Vertical pilings stabilize the structure from moving laterally, and we filled in the lee side to create gravity ballast. They have a scour hole that will deform over time. Have three of these structures, one is very large – around 80 ft. wide, others are about 40 ft. We flew in 230 pieces of wood and it took about 4.5 hours. The structures take up a pretty significant part of the active channel. We expect to see active migration and wood retention. Hope to retain a lot more wood in the area and to get cottonwood establishment on the bar, form islands and interesting side channels.
John – are you expecting to see the river move left there?
Jarred – yes, on river left. Downstream we also did some piling stabilization in the side channel that the Bureau has been using as the control for Whitefish Island.
Chris J – any context for how much lateral migration is possible due to those structures?
Jarred – it depends on how much wood racks, how much water we will be able to push. DNR owns the uplands on both sides of the project, and the area where we did the work is SOAL, so there is not a lot of concern about infrastructure being affected by migration. We didn't use any fasteners in the project; no cable or all-thread, no boulder ballast, only native alluvium.
Chris J – is the wood tagged?
Jarred – no

Jarred – At Newby Narrows, were worked on property owned by YN. We constructed a side channel, look advantage of low spots in relic channels; with minimal excavation at the lower end, there is 1400 ft. of channel. For this project, we constructed a temporary 90 ft. free-spanning bridge, large enough to take 40 ton haul trucks across it. We again used K&K as the contractor for the project, and they fabricated the bridge, and it goes in and out in about a day each. They would likely want to use the bridge on other projects.
We constructed an ELJ on the bar in the Twisp River upstream and across the river from the side channel entrance. We ended up with a side channel that meanders through the riparian forest. We have a lot of channel spanners. Hard to photograph because the forest makes such shadows. Not a steep slope for the channel. We planted it immediately after construction. Beavers also moved in and built dams immediately after construction. This forced us to change plans to protect the plantings. We have deer exclusion fencing on the outside and beaver exclusion on the inside of the deer fencing.
Paul Wagner – what was the cost to install and remove the temporary bridge?
Jarred – I will get you that information
Kristen Kirkby – is the side channel perennial?

Jarred – yes. There is also a single log sill at the head of the channel to control grade; we don't expect the river to be captured
Hans Smith – the bridge was installed with excavators, not a crane

Greer Maier – UCSRB Updates: Some of you may have seen the call for abstracts for the January science conference. They are due November 12. If you have a particular talk that you have seen somewhere, please let me know, and I can also reach out to that person or group. One of the big parts we are trying to have is the ISAB is hoping to present the results of their spring Chinook review.
This Friday we are doing a tour of Wells, Rocky Reach, and Rock Island dam. If you are interested let me know today. Will be from about 10-4.
I sent a message out a while back, some people had talked about looking at the stability of structures in the spring flow. Potentially looking at having a discussion about that at the December IT meeting to talk about lessons learned.
All sponsors should have received the results from the State Review Panel for the state review process. We had a few POC and a few NMI Projects; those folks responded last week.
The Power Council is meeting tomorrow to discuss a monitoring strategy. They are developing their own strategy for the fish and wildlife program, focus on assessing limiting factors and ways to evaluate the benefits on the fish and wildlife program.
We have one job opening for a data analyst, to do the HWS, online data. Position is open until filled, and people can contact Melody for more information.
Jennifer Molesworth – any update on RTT and prioritization?
Greer – I missed the last RTT meeting, but the subgroup is working on meeting in November to describe next steps, and working on a document to describe the process. I think they are still talking through what process they are going to use.
Chris J – any update on RCO funding for next round?
Greer – no update; they may be waiting for state races to be determined in November. The IT meeting will be December 5th

Group Outreach Updates:
John – The sixth grade Salmon In and Out of the Classroom for this year has started. We did a day of snorkeling up at the sixth grade campout, each kid were out for about 15 minutes, which was no small feat. I went back a few weeks later and they all wanted to go snorkeling again. We went out and had each class do a field day of data collection where they compare two sites. Pebble counts, water quality, bugs, riparian habitat, then they do a comparison and decide where the best location to release their fish is. We do some classroom work on different topics. Next week we will do a big bug identification day. It culminates into a situation where we create a scenario for them, they have a big stakeholder meeting with role-playing. Public speaking, math, lots of components.
The Methow River Watershed sign is very close to being installed. A joint venture with MSRF, the Independent Learning Center, and the WSDOT. A student at the ILC was recommended who was interested in art and we worked with him as an independent study program. The signs are intended to let people know when they are entered the watershed. We connected the student with a local graphic artist. Student was involved in the CAD design, worked with WSDOT, and USFS. There are three signs, on the Loop, one at Washington Pass, and one on 153 upstream of Pateros. They should be installed any day now. It has been a really cool thing, and very important for the student.
Greg Knott – I want to compliment you on that. Just heard this morning that the ILC and the school just received a prestigious award, and a large part is the work that you do at the school
John – the other thing is the Methow Fish Guide is on the way to a second edition, I will add information on fires and flood. Also, it will have two new species – western brook lamprey, and a three spined

stickleback. It will be done by March. If anyone has really great pictures, please share with me. If you have any great images, fish, also habitat restoration, wood, side channel, floodplain, send them to me. I'm trying to keep the photos local.

Kristen – we've now accumulated a large locker room of snorkel gear with UCSRB, Ecology, and Kiwanis funding. In partnership with USFS, we got a grant to cover our time to work with kids, working on salmon ecology, id, and out in the streams looking at fish. A few weeks ago I took a group of ILC students out to Silver, and we looked at water quality and macroinvertebrates, and we did some snorkeling and fish id. Repeated with North Cascades Institute grads the next day. I would love to do something more solid on a citizen science project.
Rob and I have been working with teachers in Pascal Sherman, Okanogan HS, Omak HS, and Pateros middle and HS, and we're working on more contacts to get kids out in the field. Have CTCR and UCSRB funding. We did some effectiveness monitoring out at the WDFW site/Cottonwood Trail. We talk about ecology, the kids take a bunch of data, and we will be going back into the classroom to help them analyze the data.
I work mostly with high schoolers and would love to get involved with middle schoolers as well.

Paul – CTCR provided funding for the Cottonwood trail loop trail for the sign boards.
Chris J – a number of the sign posts are in place, with temporary signs while they are being printed. The mainline pipe for the irrigation at the site was used for the stanchions. A good use of the site
Kristen – it's a good site because it is close to the school, so we can get people out for brief periods
John – the plantings are doing really well too.

John – I have been working with the Bush school at the NC Basecamp to do biomonitoring on bugs.

Greg – the Watershed Council is sponsoring a series of presentations, and the next one is Amy Snover from the UW climate group. We are asking her to drill down to the model predictions for this area. The presentation is called "Wetter, drier and hotter. What's in store for Methow waters?" and it will be on November 21 from 6-8 pm at the Community Center.
Jennifer – you should send her the Burns Garrity data that TSC did on the Chewuch
Greg – we also have other series on water that will be of interest to folks.
Chris J – Amy Snover has been involved with the Beaver project on the water effects

Chris J – the annual kids' art/watershed calendar is nearly ready to print; the design is done in-house this year. Also, in conjunction with Methow Arts, MSRF has done a number of art installations that may need some maintenance. I would also like to have a list of signs, interpretive, etc., and would like to have a way-finding project. If you have any ideas send them to Jessica.
Chris J – also, the Beaver Project has been moving away from working only on the forest, and have a lot of interactions with landowners post-fire to get some of the habitat benefits restored on the properties, a good opportunity to work in the anadromous zone.

Roundtable
Aaron Rosenblum – Foster Creek Conservation District: our staff and our board decided to focus on and ramp up restoration in the Foster Creek drainage; we have one on Deep Creek, which is a tributary to E. Foster Creek – it's a riparian restoration project currently in implementation nearing completion. Another project is on West Foster Creek where we fenced off 20+ acres to cattle, installed 40,000 square feet of weed fabric. There will be herbicide applications to come to control reed canary and Canada thistle. 6000 riparian trees and shrubs will also be installed. On Lower East Foster Creek, we are in the

planning stage, grant calls for 13,000 trees and shrubs to be installed. We have a grant application submitted for two more projects: one on West Foster about 1 mile upstream of the above project, and one is a pilot BDA project to see how well BDAs work in the Foster Creek system specifically targeting ground water storage and temperature issues. If successful they will be used as a tool moving forward. These projects are above anadromous fish use, but we would also like to look at the lower mile. I would like to talk to folks about possible funding sources and projects in the anadromous section of Foster Creek. If you are interested, please contact me at 509-423-5990 or arosenblum@fostercreekcd.org.
Chris J – how are you combating reed canary?
Aaron –weed barrier, and we will do some herbicide; it will be a long project.
Chris J – the UW center for urban horticulture did some plot studies on reed canary
John – also UC Davis and the Nature Conservancy did some work on that, John Randall

Amy Martin – Okanogan Conservation District: we have a few projects to be implemented around Okanogan in the spring, mostly planting projects. The district has been hired to help write the voluntary stewardship program work plan that is due in June, so we hope to have a draft in the spring. Goal is to help agricultural lands protect critical areas.

Greer Maier – UCSRB: it sounds like the NEPA scoping period for the withdrawal of the mineral rights for the Methow Headwaters, looking for comments, so the comment period is through November 6th. Katherine Corbett has a similar position to mine down in the Estuary, and on October 24th there is a meeting on all of the research going on in the estuary.

Ken Muir – Cascadia Conservation District: we are having two tours down in the Wenatchee area; Wenatchee tomorrow and Entiat on Thursday. Is the Methow was planning a project tour this year?
Hans – we hadn't planned on one, but we could think about it
Discussion – it is a little late for this year, but we could plan one for the spring.

Jarred Johnson – Yakama Nation: the Beaver Creek RA is being reviewed by the RTT. We will present to them in November, incorporate their comments, and then publish.

John Crandall – Methow Monitoring: the Lower Methow RA kicked off in late August, and we've completed some 1D modeling of the 28 miles, we have digital elevation models (DEMs) from the CHaMP sites, and I have done some exploratory snorkeling because we have little data. It is vastly different in terms of the fish community from more upstream areas. Full of very different fish, but every time we go in we see Chinook parr. The process is moving along. We will be working on putting on the geomorphology, etc. this winter. We are working with Reclamation, BPA, and MSRF. Very little data there, even the Bureau geomorphic assessment stopped at Carlton. A lot to learn, and we may be missing on some of the biological information. The RA will stop at the pool in Pateros, at the bottom end of the Miller Hole, at the end of the inundated zone, but not much.
We have begun sampling for the Methow Bull Trout eDNA sampling program. We have done a number of samples, and hope to do more if we get the grant through the SRFB. We are also working with BEF to support more of the sampling. We are trying to get a study on cold water refugia and how it may change over time. We are looking to add brook trout, cutthroat trout, and redband to the sample analysis for the eDNA; will learn more about fish distribution from these samples. Many are in areas where we have scant information. We have a number of folks being trained in how to collect samples, so if you are interested in being trained and helping, let me know.

Jennifer Molesworth – Bureau of Reclamation: we are working on an agreement with WDFW (Cram) for a fish tracking study in the Methow. Very small radio tags in juvenile spring Chinook to track them as they move through the Methow. Wherever they go there will be an intensive snorkel effort to see how they are using the habitat. It will kick off in 2018 and run for 5 years. It will complement the Lower Methow RA to help understand how the fish use the habitat.
The draft Methow IMW report is coming out; it includes the work that has been done, monitoring, papers that have been written. It pulls all the work together and summarizes, with analysis. We hired InterFluve and Tracy Hillman to work on that. It's almost done; we will do one more year of sampling in 2018 that will update the report. The aim is to consolidate and summarize the work that has gone one and try to draw some conclusions.
Last week USGS and Ryan Bellmore presented their Aquatic Trophic Productivity model to the RTT. It is a very different approach to life cycle modeling than the others. The presentation was good, able to show how that kind of model can help show what kind of work would be more beneficial in which areas. Could be useful to evaluate across the watershed what kind of changes it would take to get an increase in fish productivity.
We are working on Barkley Bear Habitat (2019) and Twisp River Floodplain, also Barkley irrigation with TU, Burns Garrity with CCFEG and also the Twisp to Carlton reach with CCFEG, MSRF, and CTCR.
We are working with Colin Forsyth to try to put together a simple monitoring plan for the out-years. We're trying to put together a toolbox for project sponsors to use to monitor from a physical and biological standpoint, more scaled to actual work than what we have been doing.

Lynda Hofmann – WDFW: I have been continuing to work with flood issues. This year I was out at most of the same places that I was out at in 2006, and wrote emergency HPAs for the same places.
Chris J – would be good to have a map showing repeat emergency permits
Lynda – I'm trying to change the way we are looking at this, working on helping landowners with expedited HPAs.
Discussion – Baer report, will be interesting to see what happens, a good time to work now, because there is no water, in anticipation of the spring

Greg Knott – Methow Watershed Council: the MWC has been nibbling around the edges at participating in the beaver work. We are also working with the USGS on a groundwater/hyporheic flow study. Writing a proposal that will probably direct us to a trib, and we hope to get that in a month or so. We also started the Water 2066 program. We want to go out to a broad stakeholder group asking what is the water supply for fish and humans and what do we want it to look like in 2066. The assumption is that people will keep moving here and the hydrograph will keep changing. The output will be a list that can be passed along to groups and agencies. One of the things that came up is the number of septic systems that are going in and what that means for water quality. So we will be looking at the supply side and the return side. Right now we are reaching out to key stakeholders like tribes and agencies, to ask what are key concerns, and then will go to a broader group. We've learned that at some point some point the instream flows in the Methow Rule will have to be looked at again. May need an IFIM (Instream Flow Incremental Methodology – not a model, it is a discussion) type study, and need to decide what science will inform it. It's very important that we get it right so we can have an informed discussion. The other thing we know is that we need to focus on the small, closed tributaries to help inform the discussion. Will be a good discussion.
John – there is a lot of new data on DEMs for the stream
Greg – the good thing is that we have so much data. Our website has been updated, methowwatershed.com; we have attempted to put our information on there, have scanned documents, an encyclopedia of water data for the Methow

Chris J – in 2066, how is the watershed looking at rules?
Greg – the Hurst decision makes everything more complicated. I think we will try to do parallel tracks, if we try to wrap rule revision into the planning process it will take it over.

Chris Butler – Yakama Nation: we went to construction this year on Chewuch RM 15.5 – 20 phase I (to RM 17), next year will be 17-20. We had close to a 50 year event on the Chewuch this year, so we ended up not doing some of the jams because nature did it for us. Big project, but managed to complete in the work window. River Camp kids came canoeing through a few times. We saw an immediate response when we opened up the channel, fish, amphibians, beavers. Took about an hour for it fully connect when we removed the coffer. Hoping for another high flow to do some work. We had to change plans because of the fires, had to move the fill to Leroy pit, and then we are moving it to the boulder creek pit. Phase II will be next year.
We hired InterFluve and Natural Systems Design for design of two projects.
NSD was also awarded contract for Upper Chewuch RA from Twentymile to Andrews Creek, and will do Andrews Creek, Lake Creek, Twentymile Creek, and Boulder Creek will be included.
Discussion – up to barriers on the tributaries

Maddie Eckmann – Yakama Nation: we finished up Phase I construction on Horseshoe side channel, had a permit issue with a culvert, so we're writing a standalone BA because we couldn't make it fit under the HIP III, so that will be Phase II. Downstream landowner was skeptical, and now he is excited about how it turned out. A busy fall of surveys, Wolf Creek in Biddles pond area, TetraTech finished surveys from Twisp outflow to Red Shirt Mill, and we're planning surveys from Silver Side Channel about a mile down encompassing Alder Creek area.
Chris J – what parameters are you looking at?
Maddie – topo to inform 2D modeling
Chris J – will that be available to other groups?
Maddie – Yes, I think so

Sandra Strieby – I'm hear to listen and learn. I have been involved in planning and flood management since the 90s.

Kristen Kirkby – Cacade Columbia Fisheries Enhancement Group: I have been working a lot on education as discussed earlier. We got out a few weeks ago to talk to landowners in the Beaver Pond area, working with Bureau on technical assistance.
Burns Garrity had a landowner change, and the new owners are so far supportive, so we are starting to move forward with the design process.
Jarred – are you still planning a coordination meeting for people planning to work in Twisp to Carlton?
Kristen – Hans, Chris J, and Jason are coordinating

Paul Wagner – Colville Tribes: my BPA contract cycle runs through June 30, so my new contract started July 1. Doing several projects: doing Mission livestock exclusion fencing and BDAs on Libby and Buttermilk, Silver/Twisp to Carlton Reach ELJs with MSRF, DeVaney/Right Elbow side channel reconnection and instream structures with MSRF, Barkley Irrigation Improvements with TU, Funding the Beaver Project data assessment, putting a production well on the Runyon property to replace a surface withdrawal. I will also be doing a Contract Change Request to re-obligate carryover funds to add in to current projects or potential new projects.
Last summer we released adult lamprey in or near Methow, also in Similkameen, and near the mouth of the Okanogan; we worked with the Yakama Nation and Grant and Douglas PUDs on that.

A few weeks ago I participated in an aquatics invasive species response activity in Wenatchee. It was run using incident command procedures similar to an oil spill. If you want any details on that, I have the slide show from that, run by WDFW. I'm hoping to get out with John to collect eDNA samples.
Discussion – lamprey returns, Wells number was high but likely a typo
John – two adult lamprey seen this year and one redd seen on the Chewuch, first ever seen, and maybe another one. Post-release we are seeing the age class of the ammocoetes seen has been totally reset. Last year was the first we say young of the year, and we saw that again this year. We are finding a lot more larvae. We are doing genetics on a lot of the fish we are catching to figure out who the parents were. Samples are done during low water.
Kristen – I have a contact of someone who is interested in projects that consider lamprey
Lynda – what about in beaver dams?
John – I would expect to see lamprey in there, but I haven't gone in to look; MacPherson would be a good place to look, they want flow, but I have heard of them in the dams in other places. It may be site specific.
Paul – RD Nelle sent out a population table on lamprey for John and I to review
John – we did a status review a few years ago and this is an update for that

Chris Johnson – Methow Salmon Recovery Foundation: we have finally almost achieved the 30% for the Barkley Bear project, we are working with a group of private landowners, public agencies. A cumbersome process, also a high recreational use reach. Stay tuned, we will be looking for input on that.
TRFP Phase II we are working with folks to evaluate additional work and the effects of the initial levee removal
Upper Beaver Creek –looking at the effects of upstream washout on the project, we are working with more closely with Okanogan county Public Works and the commissioners to look at other areas where we can help them with long and short term actions we can help them with. We're helping them look at the Lost River Bridge, which is at the bottom of the chute. There will be some interesting discussions.
We are working with the Bureau at the Sugar Levee and also at 3R.
We are working with CTCR on Fawn Creek, Upper Beaver Creek, and TRFP acquisitions. We are working on two smaller acquisitions on the Sugar Levee, and still working on Silver.
We are also putting in a bridge starting on Wednesday on Frazer Creek. Also working with another landowner whose culvert failed and took out their front yard to potentially purchase the property.
We continue working with landowners on surface diversions on Frazer Creek
We are also getting ready to take on removal of the cross-levee at the WDFW floodplain project. Levee will come out and livestock fencing will replace it. A small project with benefits

Crystal Eliot – Trout Unlimited: I'm working on the mission project with the FS and CTCR and also with USFWS and the Beaver Project. We're looking at Beaver Dam analogs and beaver relocations, livestock exclusion and fencing, no decision, so everything is all pre-planning and design phase.
Did some adaptive management on the Triple Creek BDA project with OHA and USFWS
Still working on Red Shirt; we had some good legislative site visits, but it needs funding. I have been working with YN trying to leverage some tribal resources and getting state action
Still working on suction drudging, more movement in neighboring states, WA is the last holdout. Still working on getting legislators on board.

Next MRC November 21

Definitions of Commonly used Acronyms	
AEM	Action Effectiveness Monitoring
ANS	Aquatic Nuisance Species
AREMP	Aquatic and Riparian Effectiveness Monitoring Program
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.