

Methow Restoration Council
 EDT Presentation and Discussion
 June 24, 2015

Participants:

Name	Organization/Affiliation
Amy Martin	Okanogan Conservation District
Brandon Rogers	Yakama Nation
Brian Fisher	MSRF
Chip McConnaha	ICF International
Chuck Peven	RTT
Derek Van Marter	UCSRB
Eric Doyle	ICF International
Grace Peven	Reclamation
Hans Smith	Yakama Nation
Jennifer Molesworth	Reclamation
Jeri Timm	WWP-TU
Jessica Goldberg	MSRF
John Arterburn	Colville Tribes
John Crandall	MRC
Jude Trapani	Reclamation
Keith Kistler	Colville Tribes
Mark Peterschmidt	WA Department of Ecology
Matt Shales	CCFEG
Paul Wagner	Colville Tribes
Rosy Mazaika	BPA
Wes Tibbits	Colville Tribes

John Arterburn – Presentation on EDT in the Okanogan

Q&A

Brandon Rogers – for use in the Expert Panel, does it fill in limiting factor weights?

John A – that is still an open question, but could be used to populate the Expert Panel spreadsheets.

There is a limitation – the expert panel assumes that things will always go up, ours is based on real world data, so when you have a setback like a big fire, you can see the result

Chuck Peven– could it be used to prioritize the limiting factors?

John A– concerned that the expert panel is designed to count things, you may get results that don't play well with the rule set. Need to figure out how we work through that, could make it work. Our reporting cycle is every 4 years, and you need at least two reports to play the expert panel game. We are just getting there with the Okanogan this year. If we don't get the same jump start in the Methow, it will be years before we have useful results, and the expert panel is 3 years, so we have temporal alignment issues to work through.

Chip McConnaha– it was kind of built for to prioritize limiting factors, one of its highest and best uses.

Discussion – habitat response vs. fish response

Brian Fisher– if you were looking at it for the expert panel process, would shifting to a three year reporting cycle be a problem?

John A – with our budget for data collection, we need four years to collect the data. The model could be run every year, but change doesn't happen that quickly, have to consider the best use of funds. Four years also works better with fish lifecycles

Chuck – actually 5 years would be best; and we have the opportunity to address the timelines with the next BiOp

Discussion – timelines, opportunities to modify

Chuck – would you be able to take information from CHaMP and put it into the model?

John A – the Level II attribute document has all of the input relationships in the EDT model; to the extent that the CHaMP dataset will help us populate the model, we can use their data

Chuck – would they have to modify their information, or can use it as it currently exists?

John A – Don't know; haven't seen it

Eric Doyle – if it can be construed to representative of the reach scale, rather than site specific, then it could be used

Chip – one of the challenges is to adapt the data for the model

John Crandall – we have so much habitat monitoring here; we need to figure it out how to use it

Chip – we've developed protocols to take existing data and move it into the model; I am sure that you could use it for CHaMP.

Eric – from the beginning of sub-basin planning, there were places where there was no data, some places where it was a hodgepodge; the model was developed to take the data from a variety of sources and use it; assign a level of confidence with the data source and the translation.

John A – you use what you have to the extent that you can, and then you build a monitoring program that fills the gaps that you identify, and you don't make it redundant;

Derek Van Marter – the key is how do you get the information, how do you evaluate the information, so that you can use it to make decisions; you look across the framework to see what is missing and prioritize that so that it can help us make decisions

John A – the original thought was to do a scenario for 2015 with just the existing information with no gaps filled in, and then try to build a monitoring effort to fill the gaps.

Discussion – weighing the data, confidence in the data; how does this inform the management, how long until we can use this to inform decisions, reach assessments have been done in a lot of areas

John A – to the extent that the reach assessments have data, we will utilize that to populate the model.

There isn't bad data, it's just whether it fits the structure, and if it does we will use it

Jennifer Molesworth – could it be used to make addendums to the reach assessments?

John A – don't want to say that this replaces the reach assessments, but the costs can be prohibitive to do them everywhere, and so you can get coverage where there is no RA. Think that they are compatible, and you can use your level of confidence in the RA to know whether you look more closely at the model

Brandon – RAs are guided by the Biological Strategy, and if we are changing things like the limiting factors, then we need to come to some agreement on that

Chuck – we see the Biological Strategy as a living document, and whenever we have new information, we can update the Biological Strategy

Rosy Mazaika – we are looking at a framework for pulling this information in to guide changes in the expert panel

Jude Trapani – we are looking at making adjustments in the process, in the look back and the look forward is the opportunity to adjust things like the limiting factors; as we talk about how we create the next generation of ways that we talk about these factors, these products can be used to inform those changes

John A – envision that people will use them to inform; models are not always right, so there will always be a need to interpret the results

Chip – putting the thing together helps you learn about the system; process is where the value is

John A – an information source to help guide decisions, but not just applied

Jennifer – it can be rolled up to larger scale, so it can be used across the region

Chip – you can use the same rules to compare the different areas

John A – regional roll up is outside of the role of OBMEP, but you can link the tables for different areas on an interactive map to help you look at the ESU level, and then as you drill down you will get greater and greater detail. This is far out there scenario, because you need the baseline data, but it could be done and we are trying to show what is possible.

Potential Methow Applications

- Substantial data already exists
 - John Crandall spreadsheet
 - CHaMP, PIBO, AREMP
 - Reach assessments both BOR and YN
- Linkage to 2004 Subbasin Planning EDT modeling
 - Provides historic template values
 - Provides time period one habitat results “2004” for change scenario
- Use new existing data
 - To provide a 2015 status check in for habitat data
 - Revised life history models
 - Revised reach structure
- Produce Okanogan Basin like habitat status and trend report

John A – the Colville tribes and ICF have prepared a preliminary scope for bringing this to the Methow; nothing is set in stone, and there is no funding mechanism yet

John C – the Methow Monitoring spreadsheet is newly revised from our last monitoring meeting, so it is up to date and should be on the UCSRB website. The information contact information for each of the various monitoring programs is on the spreadsheet

John A – the sub-basin planning EDT exists, and we don’t have to recreate it. I recommend that we don’t change the historic template values, as it is based on opinion and was done with a large group, take the existing values where you can and only change where you have a good reason for doing so. For the 2004, we will change what we know is wrong and leave the rest. Then we compile the interim data that was taken since 2004. ICF does a preliminary look and we check the data through a QAQC process. Then we need to revise life history models; have spring Chinook, steelhead, summer Chinook, and coho. Chip – there are also a set of rules in EDT for bull trout, not as refined as those for salmon.

Chuck – lamprey?

Chip – there is the potential to use the same data structure and apply rules to rate the habitat for lamprey; would be a different type of a model

John A – you can do as many species as you want, but each is a model run and effort each unto itself.

Thought is that we should first focus on spring Chinook and steelhead

Chip – once you have the information in, you can run it for any species you have a rule set for

John A – we have changed things since 2004, so would need to revise the reach structure; final deliverable would be steelhead and spring Chinook reports for the Methow

Brian – would you have to rerun the 2004 data once you revise the reach structure and life history?

John A – yes

Discussion – change as little as possible, but would need to migrate the data to the new reach structure; set up to analyze places where restoration has already happened.

John A – latest model version, EDT 3, is much more robust and transparent, easier to update, there is a process to move the older information into the new architecture

Jude – we have Michael Newsom’s trophic model, and Jennifer could help to see if incorporating any of that could be helpful, coordinating with Ryan Bellmore at USGS.

Jennifer – think that they will come do a presentation for RTT in September; they are collecting a lot of data

John C – biological and physical

Jennifer – Michael is retired now, but Ryan Bellmore and Joseph Benjamin are the new contacts

John C – what about flow?

Eric – we do use flow, if you have flow modeling that could be useful for places that aren’t gaged, we can use that

Chip – we can use HECRAS

John C – we have topo data from CHaMP sites

Chip – may be at a finer scale, so have to see if it is compatible

John C – we also have LiDAR and FLIR

Eric – that would be great

Jennifer – there will be a new LiDAR this year

John C – we have bathometric surveys for some reaches as well

John A – we have been working with USGS to get flow data, may be able to get flow data in the Methow from modeling

Discussion – gages in the Methow, may need to model smaller tributaries, some time series for smaller tributaries

Eric – it’s important to get flow patterns in the areas that you think would be useful and representative. EDT looks at flow in a variety of ways; the most important way is habitat capacity – related to width, also temperature. Model will look at the parameters collectively to say that in a specific reach whether flow is an issue, or temperature, but will need to look at the results with professional judgment

Brian – would flow and temperature be separate runs?

Eric – they will be constructed separately, but one model run looks at everything together

John A – the 12 digit HUCs, subwatershed HUCs came out about a year and a half ago. Sub-basin planning version of the model had 148 reaches. Now, the Methow will have between 200 and 250 reaches. Will be based on professional judgment on how to divide the habitat in a way that is meaningful in the model. Reach lengths should not be much longer than 4 km to avoid size bias, mean length should be 3 km, most should be between 2-4 km, some might be as big as 5 or as short as 1 km, but most fall in the 2-4 km range. The reaches are the smallest unit.

John C – can you define your universe in a way that eliminates areas where you are pretty sure you don’t want to work?

John A – I don’t recommend leaving out habitat; you don’t know where you might want to work in the future

Eric – the model can surprise you – it challenges assumptions; caution against blacking out areas of anadromy

John A – current scope is anadromous fish habitat, so we would need that boundary data

Brian – are you looking at absolute barriers, anthropogenic, stream size, natural falls, etc.?

John A – we want the absolute barriers like the falls or stream size, we would want to know about the anthropogenic barriers that we might be able to do something about. You can expand later; things change and use your best judgment and use a longer-term lens, 20 years may be appropriate

Discussion – assumptions can change like areas with big dams that won’t come out now, but could possibly in the future

John C – we don’t have any of those big dams here

Discussion – attributes, carcass dumps, hatchery outputs are in the model; there are other models that look at hatchery effects; model interaction to look at other questions; need collective information for the whole reach, side channel data only without complementary main channel data is limited in value
John C – we have good stream inventory data for most of the Methow above Twisp, the Chewuch, and Twisp Rivers

Jennifer – the area where we have gaps is south of Twisp

Eric – the model is not prescriptive, you have to understand what it does and use judgment

John A – there is a life history model that informs the model; primary focus is spring Chinook and steelhead. We would start with the existing sub-basin plan version of the spring Chinook, and may use the Okanogan steelhead version, depending on which version needs more adjustment. A lot of PIT tag data to use, EDT 3 is better at adjusting the life history data. Data focused on life history observed, timing, location, and movement between areas; PIT tags give us a good look at this. Expect that we will have substantial changes to the life history models based on that new data, will be used in both the 2004 and 2015 version. Life histories are independent of habitat

John C – if we use current data to develop the life histories for 2004, aren't we assuming that the work done since then hasn't changed the life histories?

John A – we will use expert opinion to modify that

Eric – the model helps you zero in on the nature of the limitations that the different life histories are facing; the work we've done isn't used in the model that way

John A – if you can define the change, then you can put that in the model

Eric – you are getting more representations of what was historically possible than you would in 2004; the new version of EDT can represent life histories in a more complex way

Chip – life history can get really complicated, but it is an itinerary for how you can assess the habitat/sample the environment. The life histories are not trying to get nuanced behavior

John A – the last thing is the habitat attributes; there are various attributes within the model; we use 40 in the Okanogan that we think are worth populating. We will need to compile the existing data, fill in gaps that we identify. We need to select a QAQC lead. The lead needs to know the entire Methow Basin, know how to use the level II attributes and how to make it work. The lead needs to be able to make the calls when data are lacking; 40 attributes for 250 reaches, and they must all be validated. This is what John A does in the Okanogan. The person looks at the data that ICF enters and asks "do I believe these values?" If there is a blank because there is no data, then they need to put that data in. It will take roughly 2 months. It would take about 40 full day shifts; maybe 400 hours. We've come up with a budget in our scope for this. Would like to have this decided once we get funding. The lead is a very important person in the process; needs to be someone that people trust; will provide guidance. Seems like the Methow, perhaps the MRC, needs to decide who that would be

Chuck – so the big question is funding

John A – there are no definitive answers to the funding question yet. We've been talking to BPA, we would like to see it expand beyond the Okanogan, and people agreed that the Methow would be the next place.

There is a group of people that have indicated interest in supporting, but not clear how much any one entity would contribute. It would be ideal if one entity could fund the whole thing.

Initial set up cost is around \$268,000 – this includes the template and 2004 condition update, and current conditions scenario. Some discussion about whether to have the current condition be pre-fire or include post-fire.

Looking for recommendation on the QAQC lead and for support in pursuing the funding. The contract would be through ICF and the QAQC lead would be a subcontract to them. The longer term monitoring and funding is a longer term project that we are looking at.

[Note: Important OBMEP references can be found by googling "cctobmep"]

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)
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
CHaMP	Columbia Habitat Monitoring Program
CMZ	Channel Migration Zone
CREP	Conservation Reserve Enhancement Program
CSF	Community Salmon Fund
EDT	Ecosystem Diagnosis and Treatment
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
ISEMP	Integrated Status and Effectiveness Monitoring Project
ISRP	Independent Scientific Review Panel
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
MYAP	Multi-year Action Plan (also sometimes called the 3-year workplan)
NFF	National Forest Foundation
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration

NPCC	Northwest Power and Conservation Council
OBMEP	Okanogan Basin Monitoring and Evaluation Program
OWL	Okanogan Wilderness League
PCSRF	Pacific Coastal Salmon Recovery Fund (pronounced "Pacsurf")
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
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.