REGIONAL TECHNICAL TEAM
PROJECT WORKING GROUP MEETING
MEETING SUMMARY

Date: February 4, 2021
Time: 9:00 AM – 12:00 PM
Location: Remote

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Present: Ryan Niemeyer – UCSRB, Greer Maier – UCSRB, John Crandall – MSRF, Justin Yeager- NOAA, Tracy Hillman- BioAnalysts, Hans Smith – Yakama Nation, Jeremy Cram – WDFW, John Arterburn – Colville Tribe, Catherine Willard – Chelan PUD, Brandon Rodgers – Yakama Nation, Robyn Pepin – Aspect Consulting

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Future PWG Meeting Items:

- Ranking actions/reaches
- Reach Assessment detailed project list
- Protection
- Bull Trout
- Barriers

Riparian and Floodplain Analysis

BPA has funded a GIS analysis of riparian and floodplain metrics at the reach scale for the purpose of filling data gaps in the prioritization tool. Greer Maier and Robyn Pepin updated the PWG on the status of the analysis. All products are due to BPA by then end of February.

Riparian
Greer reminded the group that there are three riparian REI metrics used in Step 2 – riparian structure, riparian disturbance, and riparian canopy cover. Those metrics are averaged for a total riparian score. She showed the REI metric descriptions for each factor and the criteria for "adequate," "at-risk," and "unacceptable" ratings. Robyn and Greer have been working on a riparian analysis using both the EDT and Wenatchee Riparian Assessment as background. The discussion raised the following points.

- Fire should be excluded from this disturbance
- Riparian Structure metric will focus on the entire floodplain, whereas Riparian Canopy Cover and Riparian Disturbance would focus on within a 30 meter buffer of LiDAR-based river's edge (to be consistent with the REI definitions and the Wenatchee Riparian Analysis.
- Disturbance layer was developed in Step 1 by UCSRB using various existing layers (roads, landcover, etc.) and professional judgement (manually outlining disturbed areas- e.g. development, timber harvest).

- All riparian analyses will use the disturbance layer (either to calculate % disturbed or to exclude agricultural areas).

Floodplain

Greer shared the REI metrics for floodplain and stability that would be addressed by this BPA effort ("Off-Channel Habitat: Connectivity with main channel," "Channel Dynamics: Floodplain Connectivity," "Channel Dynamics: Bank Stability/Channel Migration," "Channel Dynamics: Vertical Channel Stability"). After discussed various approaches and existing data sources with partners, UCSRB and Aspect have decided to use a combination of data sources and professional judgement to bin each reach into the three REI categories ("adequate," "at-risk," and "unacceptable" ratings). Those include:
- Relative Elevation Model results from the GGL tool
- Floodplain extent from Steve Fortney
- LiDAR
- Aerial Photos

The goal is to use these data sources and develop at rating system that is consistent as possible with the Reach Assessment outcomes. [UPDATE: "River-styles" data was provided to UCSRB after this meeting and will also be used in the evaluation].

Decisions:
- In future documents, be clear about the limitations based on the methods and assumptions chosen.
- Move forward with the three REI riparian metrics (Riparian Disturbance, Riparian Canopy Cover, and Riparian Structure)

Action Items:
- Greer: continue to develop Floodplain, Stability, and Riparian ratings and convene meetings later in February to go over the draft results with any PWG members interested in reviewing those results.
- Greer/Robyn: document methods clearly

Prioritizing within Priorities

Greer shared the of Step 2 results table (reaches and actions). The PWG had requested additional columns of information. This additional information could be used by the PWG to evaluate or compare reaches or actions. The group refined and commented on those potential criteria and narrowed in on the following:
- Species Status (Spring Chinook – endangered vs. Steelhead and Bull Trout- threatened)
- Unacceptable vs. At-Risk habitat impairment & whether the type of impairment is a "key limiting factor" (see below)
- # impairments within a reach

The group discussed the need to be able to look further into the priority of reaches and actions, since currently the prioritization includes 155 reaches. The group did not want to cut down the list of actions in the prioritized list but generally PWG members agreed that additional information, refinement, or ranking would be beneficial. There was discussion about how to prioritize within the list but the group decided to wait to make any decisions until they saw the additional information.

<u>Decisions</u>:
- Ddevelop a strategy for ranking actions and/or reaches within the prioritized list.

<u>Action Items</u>:
- Ryan: change from separate "Unacceptable" and "At Risk" spreadsheets to simply have 1) a table that lists all the habitat attributes, reach, and whether it is "unacceptable" or "at-risk." This table will be available and displayed in the Prioritization WebMap and 2) a column in the spreadsheet of results which notes the impairments and ratings (e.g. Cover- Wood (Unacceptable))
- Ryan: target species- 1) add target species to reach/action list (based on if the action came out of the limiting factor for that species) and 2) create a table showing all the limiting factors for each species (for inclusion in the WebMap- see below).
- Greer: draft a Tier system for the reaches – generate the Tier values so PWG can provide feedback and edits.

Key Limiting Factors

The PWG reviewed the subset of key limiting factors that had been drafted and sent out. This list of key limiting factors will be used to generate the % habitat function by life stage which is used in the protection prioritization. They can also be used to prioritize actions (see above). It could also be used to rank within our priorities (see above). In many cases reaches have data for these key limiting factors but not for other metrics identified by the PWG as habitat factors (e.g. boulder counts or other Level II attributes that aren't included in reach assessments but are included as potential limiting factors). The thought is that these are the most important factors for those life stages and could be used to evaluate habitat function.

There was a lot of discussion about some habitat attributes that are important but are lacking empirical data (e.g. icing). The PWG decided not to include those at this time as key limiting factors. They also added off-channel habitat attributes to winter rearing. The PWG reviewed and revised the list and Greer agreed to send out the list one final time before finalizing it.

<u>Decisions</u>:
- Winter Rearing – add "Off-Channel-Floodplain" habitat attribute to this life stage
- Remove Temperature for life stage Smolt Outmigration

<u>Action Items</u>:
- Greer: send out updated list of key limiting factors.
- Ryan: Generate Key limiting factors percent and scoring based on the list of key limiting factors.
- Ryan: incorporate updated Key limiting factors for protection (% habitat function by life stage)

Barriers
The Barriers Subgroup will be meeting on Feb 9th. Once the tool is updated, the PWG will meet to discuss how to plug the updated results into the Prioritization tool outputs. Robyn shared how other groups have prioritized barriers in meetings she has participated in. Other barriers could include more information about the habitat upstream of the barrier. If there are any inputs desired for barriers, participants should attend the Feb 9th meeting.

Bull Trout

Robyn Pepin is just wrapping up the development of the BT life stage maps (identifies the reaches used by each life stage for the limiting factor analysis). John Crandall has been working with Jose Vasquez on that effort. It should be wrapped up shortly and then the PWG can run the prioritization tool.

<u>Action Items</u>:
- Greer: continue coordinating with the Bull Trout group to refine the reach layer.

Prioritization WebMap

Robyn Pepin shared a demo of the prioritization webmap. They are just in the initial stages of development. This is another BPA-funded project due at the end of February. The goal of the additional mapping capabilities are to allow users to view results through various filters and in various ways (e.g. species results, results by project type, tables of data). The tool will give you the ability to zoom into specific reaches and view various layer overlay including species tiers, etc.

Tracy mentioned we need to add limiting factors and threats, as well as limiting life stages. Federal reporting requires reporting limiting factors and threats addressed. And funding criteria includes the limiting factors addressed. Another participant mentioned making this portal a "one stop shop" for all the necessary data for proposals.

The group discussed being able to both look at the assessment unit level of information and reach-scale level information. So ideally there would be both Assessment Unit and Reach level summary tables that pop up when you click on the assessment unit or reach layer. One participant mentioned their desire to include existing projects in the web map application. Also, fish barriers or redds could be included as well.

<u>Decisions</u>:
- Include both limiting factors and threats in the webmap
- Include the ability to click on Assessment Unit or the individual Reach and have a table with information pop up.

<u>Action Items</u>:
- Aspect: continue to build out the webmap based on PWG feedback and follow-up with the PWG later in February.

R-code

Ryan shared how all the analysis in the Excel and Python code had been copied over to an R Project. Ryan shared the R Project code. Greer mentioned she had taken the individual tabs from the existing Prioritization excel tool and created individual tables, which are in the R Project. The R Code then pulls those individual tables.

Several participants expressed that they did not need to use the R Code themselves. Ryan and Greer shared that the inputs and outputs will all be in excel, so the RTT can easily look at those in the excel. Ryan shared that these inputs and outputs will always be saved on GitHub, which is a publicly available repository. One participant recommended including in the R Project an R Markdown page that generates an Executive Summary automatically with important tables and metrics. In an R Project, this document would be automatically generated – so if an update was made to the data (e.g. habitat data from a new Reach Assessment was entered), the R Code could be re-run and the Executive Summary would be automatically generated.

<u>Decisions</u>:
- The tool will be migrated over to the R code
- Generate R Markdown code
- Continue to have Excels as input and outputs for the R Code, so RTT and others can merely look at excels and not need to work with the R Code.

<u>Action Items</u>:
- Ryan: Include an R Markdown script to pull specific tables and data – make it like an executive summary
- Ryan: Look into generating excels where the excel format is maintained (a way to have the red-yellow-green colors, have the filters, etc.)
- Ryan/Greer/Blaire/Robyn: Meet to see if we can automatically upload results directly to R Code into the Prioritization Portal
- Ryan: Try to figure out how to have output in an excel be color-coded and formatted like the input (e.g. scores of 1, 3, and 5 get colors of red, yellow, and green).