Potential Scenario Themes for Consideration

As Presented at the 10/31/2019 Integration Team Meeting

Cover Notes:

- These potential scenario themes are based on what we heard at the September meeting and at earlier Integration Team discussions, as well as some interpretation, synthesis, teasing out, etc.
- We made an effort to make the scenarios different enough that it would be clear how each differed from the other; to some extent they may represent extremes.
- In some cases, there also may be some overlap between the themes.
- These themes are intended to focus discussion about alternative pathways forward to achieving goals.
- The proposed themes can be modified, adjusted, or combined. For example, elements from some could be combined into a new scenario, or certain elements could be used as components of another scenario.
- More discussion is needed to narrow down this set to a set of scenario themes that we think will be useful to explore in more detail. Then additional work will be needed to flesh out scenarios consistent with those themes (see table).
- In addition, we think that all scenarios should include strategies organized by timeframes, benchmarks/adaptive management, SCEE considerations, and other components such as governance, public education, etc.

Scenario Theme 1: Frontload Maximum Effort in all Threats ("Max & Relax")

- Maximum effort on all fronts directed toward achieving the high natural production goals [and other qualitative goals?] as soon as possible
- Begin immediate efforts to breach lower SR dams
- Move forward with passage at Chief Joe/Grand Coulee and with habitat restoration above HCC to prepare for eventual passage at HCC
- Ramp up efforts to expand distribution in tributary habitat (e.g., Cowlitz, Lewis, Willamette Basin, Deschutes – and any other significant blockages in tributaries)
- Ramp up tributary habitat restoration
- Enhance predator control actions
- Enhance estuary restoration efforts
- Speed up hatchery reforms to achieve natural production goals
- Potentially modify harvest rates to achieve natural production goals more quickly

Scenario Theme 2: Continue Existing Efforts with Some Enhanced Efforts (Backload Maximum Effort as Needed -- "Kitchen Sink/Whittle Away")

- Continue existing efforts to address all threats, with enhanced efforts in some areas;
- A more incremental approach than Max & Relax, using benchmarks to determine whether to continue or add additional actions/increase level of effort
- Continue current mainstem hydro operations for an initial time period and then evaluate effects; set benchmark for whether to continue or move to other options;
- Enhanced estuary habitat restoration;
- Enhanced tributary habitat restoration in targeted stocks or populations;
- For blocked areas, proceed incrementally as laid out in existing plans;
- Identify targeted opportunities to enhance predator control actions;
- For hatcheries, follow strategies and time frames laid out in Qualitative Goals;
- For harvest, follow strategies and time frames laid out in Qualitative Goals.

Scenario Theme 3: Middle Ground (Increased, incremental effort for all H's)

- Increase efforts on most fronts to reduce the time necessary to achieve the mid-range natural production goals as soon as possible
- Implement aggressive actions to improve tributary habitat
- Ramp up estuary habitat restoration
- Ramp up predator control actions
- Ramp up efforts to expand distribution in some tributary habitat (e.g. Cowlitz, Lewis, and Deschutes)
- Continue progress towards providing access to blocked areas (e.g. Chief Joe/Grand Coulee passage, Hells Canyon Complex, Willamette)
- Enhance hydro operations to improve passage survival rates
- Proceed incrementally on dam breeching depending on results of habitat improvements
- Enhance hatchery reform efforts
- Harvest actions follow time frames laid out in qualitative goals.

Scenario Theme 4: Frontload Effort in Blocked Areas

- Maximize/expedite efforts to reintroduce fish into blocked areas (Chief Joe/Grand Coulee and HCC)
- Ramp up efforts to expand distribution in tributary habitat (e.g., Cowlitz, Lewis, Willamette Basin, Deschutes – and any other significant blockages in tributaries)
- Continue efforts to remove smaller passage obstructions present in watersheds throughout the Columbia Basin
- Continue current mainstem hydro operations for an initial time period and then evaluate effects; set benchmark for whether to continue or move to other options
- Focus freshwater habitat improvements in blocked areas to support reintroduced stocks, including areas where smaller passage obstructions were eliminated (if appropriate)
- Continue estuary habitat restoration efforts
- Continue predator control actions
- Likely include increased hatchery production to support reintroduction efforts
- Harvest: follow time frames laid out in qualitative goals

Scenario Theme 5: Frontload Opportunities for Early Success

- This scenario would sequence most effort in the first 25 years on the stocks where we have the greatest chance to move them significantly forward in that time frame and achieve at least the mid-range if not high-range goals and/or on actions where we have an opportunity for early success
- Identify and implement actions that have greatest chance of yielding early improvements in natural-origin abundance
- Focus on identifying populations/stocks that have the quickest path to increasing abundance, those that have the slowest path to increasing abundance and those that are intermediate between the slowest and the fastest
- Populations that have the quickest path should achieve goals in 25 years – actions in all threat categories would be sequenced and targeted so as to achieve these goals
- Populations that are intermediate achieve goals in 50 years – actions in all threat categories would be sequenced and targeted so as to achieve these goals
- Populations that have the slowest path should achieve goals in 100 years – actions in all threat categories would be sequenced and targeted so as to achieve these goals
- These expectations for completion dates could be modified to be more flexible and extended if necessary (e.g. quickest = 25-50 years, intermediate = 50-100 years and slowest=100+ years)
- Include adaptive management process with benchmarks to track progress towards goals and process for adjusting actions as necessary

Scenario Theme 6: Frontload Efforts to Secure Strongholds

- This scenario would focus the most effort in the first 25 years on securing strongholds
- Actions implemented throughout this scenario would vary depending on the populations identified and the major limiting factors associated with those limiting factors
- Strongholds could be identified in various way -- e.g., what stocks do we have the greatest chance of holding onto in the face of climate change; what stocks have the highest natural production potential, what are core populations that have potential to be self-sustaining in the near term and that are resilient to climate change?
- For non-stronghold stocks/populations, continue existing levels of effort for first 25 years
- After the first 25 years, emphasis would shift to maintaining the strongholds and ramping up efforts to improve the stocks that had not been the focus of effort in the first 25 years
- Include benchmarks to track progress towards goals and adaptive management process for adjusting actions as necessary
- Evaluate population status (e.g. how are populations responding to climate change) at 25 and 50 years to determine populations to focus on during the upcoming time frame

Scenario Theme 7: Frontload Efforts to Secure the Most At-Risk Populations

- This scenario would sequence most effort in the first 25 years on the stocks/populations that are most at risk to ensure that they do not further decline and make as much progress as possible toward goals
- Actions implemented throughout this scenario would vary depending on the populations identified and the major limiting factors associated with those populations
- Identify stocks/populations that have the highest extinction risk – actions in all threat categories would be sequenced and targeted so as to stabilize and move these populations to a certain benchmark in 25 years, with continued effort as needed in later years (but efforts would be front-loaded to benefit these stocks/populations in the first 25 years)
- For other stocks/populations, continue existing levels of effort for first 25 years, then identify opportunities to shift resources in years 25-50 and 50-100 to these stocks once the at-risk stocks begin to be stabilized and improved.
- Include adaptive management process with benchmarks to track progress towards goals and process for adjusting actions as necessary
- Evaluate population status (focus on at risk populations) at 25 and 50 years to determine populations to focus on during the upcoming time frame

Scenario Theme 8: Innovation

- This scenario would continue existing efforts for first 25 years while also making aggressive efforts to pursue innovation in technology, methodology, education – for example:
    - Promote a sustainable, distributed, green energy future. Regionwide rallying around energy options to fulfill basin-wide stakeholder interests.
    - Address transportation policy and what motivation would be needed to change over what period of time over what pathways?
    - Strive to harmonize, equalize, attend to past harms and create change in ways that care for each other's needs and concerns.
    - Incentivize new technologies to be nimble and adaptive to change.

Scenario Theme 9: Experimental Management

- This scenario would incorporate the idea of experimental management: identifying watersheds/populations/or stocks for management under experimental design
- Could also be a means to test approaches such as the one that some have advanced about shutting off all harvest and all hatchery fish for a period of time to see what happens to natural production. (Given that there are some populations that we believe would go extinct without hatchery supplementation, this would most likely need to be a targeted experimental management approach.)
- Could also mean testing impact of increased harvest opportunities on healthy stocks, would need to be strategic with respect to location of fishery and gear utilized to ensure that recovery of listed populations is not jeopardized

Proposed Table for Developing Details on Scenario Components

- Components may also be broken down by sub-areas of the basin, by stock, etc.; not all components need to include time frames and benchmarks

Components	Short Term - Up to 25 years	Benchmarks/ Adaptive Management	Medium Term - Up to 50 years	Benchmarks/ Adaptive Management	Long Term - Up to 100 years	Benchmarks/ Adaptive Management
Estuary habitat						
Tributary habitat						
Blocked habitat						
Mainstem survival*						
Latent mortality*						
Hatchery						
Harvest						
Predation						
Mainstem						
Hatcheries						
Future conditions/ climate change						
Research						
Social considerations includes equity considerations						

Components	Short Term - Up to 25 years	Benchmarks/ Adaptive Management	Medium Term - Up to 50 years	Benchmarks/ Adaptive Management	Long Term - Up to 100 years	Benchmarks/ Adaptive Management
Cultural Considerations						
Ecological Considerations						
Economic Considerations						
Governance						
Funding						
Public education/ marketing						
Infrastructure						