CRSO EIS Update

May 30, 2018

US Army Corps of Engineers®
Northwestern Division

U.S. Department of the Interior
Bureau of Reclamation

Bonneville
Power Administration

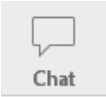
Online and telephone

- If **online** participants experience any technical difficulties, send a note to “Host” with details of what you are experiencing.
- If **call-only participants** experience any technical difficulties, please hang up and try your call again. All participants’ phones will remain muted until the Question and Answer session later.
- If you have the ability to participate online, we recommend you do so. This allows us to better manage the amount and flow of questions during the Question and Answer session.

Submitting questions

We will remind you of this process later.

- **Online**: Type a question into the **Chat** window on the right side of your screen. Our team will read your question to all participants during the Question and Answer session.

  Click on 

  to open the window.

- For **call-only** participants: We will open phones to questions during the Question and Answer session.

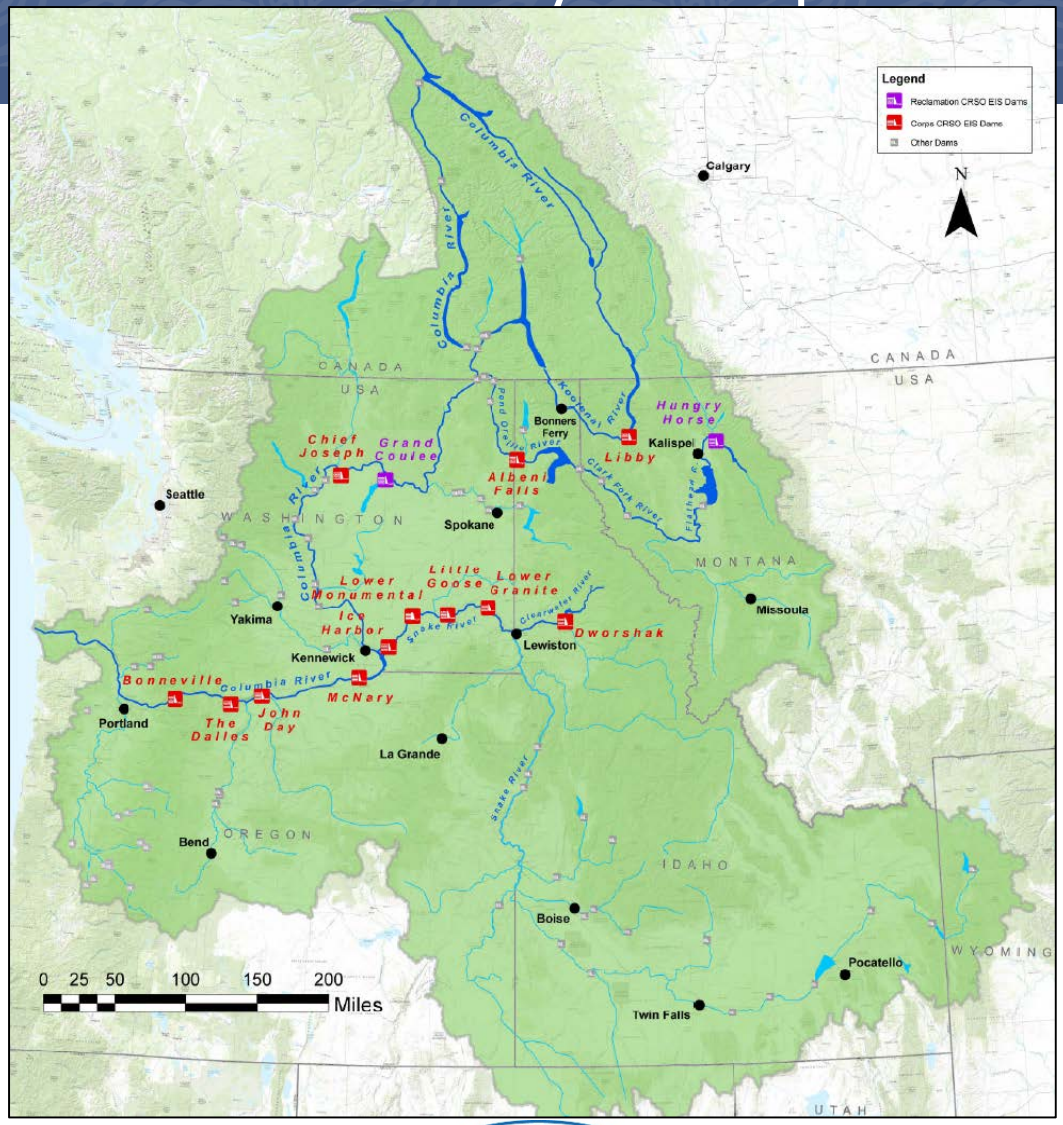
Goals for today

- Provide an overview of current status
  - Study objectives
  - Alternatives development
  - Next steps in the EIS process
  - Questions and answers

Purpose of the CRSO EIS

- Provide NEPA documentation for long-term system operations, configuration, and maintenance of the 14 federal dam and reservoir projects in Idaho, Montana, Oregon, and Washington.
- Background: Congress authorized the Corps and Reclamation to construct, operate and maintain these projects to meet multiple specified purposes, including:
  - Flood risk management
  - Navigation
  - Hydropower production
  - Irrigation
  - Fish and wildlife conservation
  - Recreation
  - Municipal & industrial water supply
  - Water quality
- Congress authorized BPA to market and transmit the power generated by coordinated System operations.

Columbia River System Operations EIS



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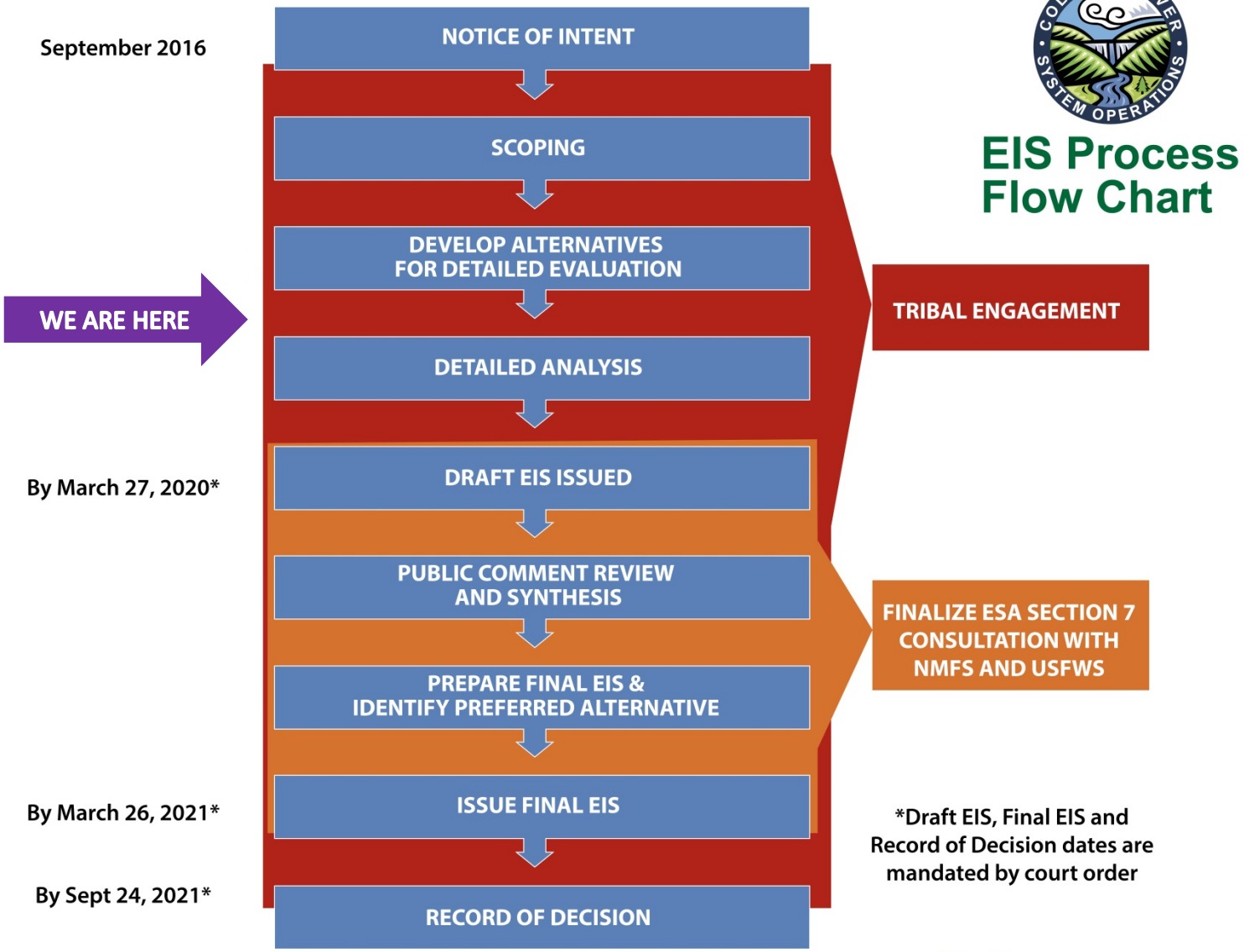
EIS Process Flow Chart



*Draft EIS, Final EIS and Record of Decision dates are mandated by court order

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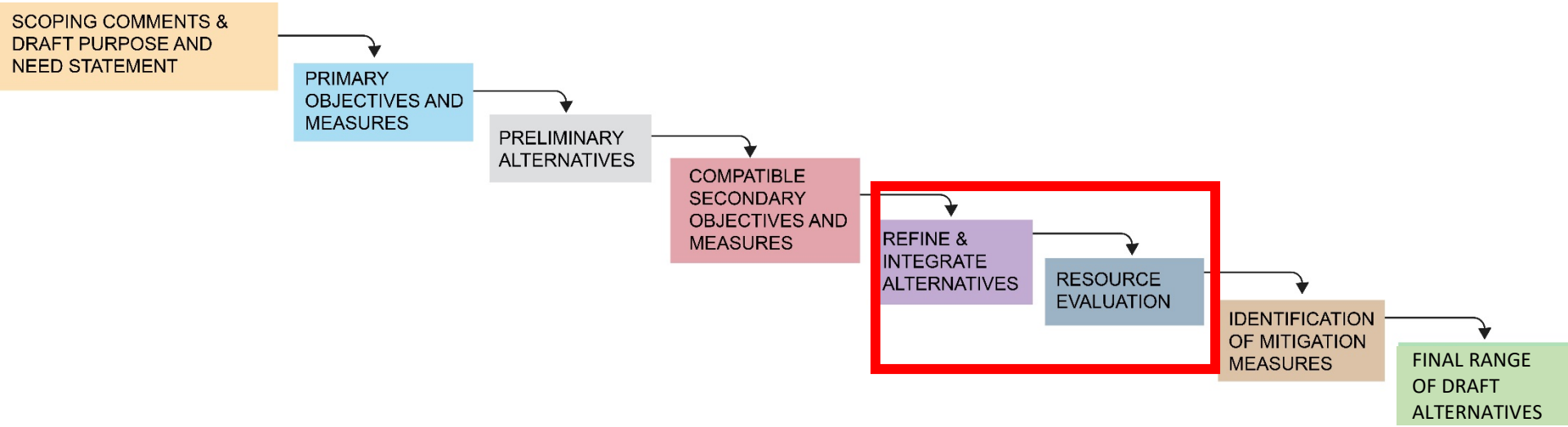
Columbia River System Operations EIS

Alternatives Development Strategy



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Objectives

- Improve ESA-listed anadromous salmonid juvenile fish rearing, passage, and survival within the project area
- Improve ESA-listed anadromous salmonid adult fish migration within the project area
- Improve ESA-listed resident fish survival and spawning success in project area
- Provide an adequate, efficient, economical, and reliable power supply that supports the integrated Columbia River Power System

Objectives, cont.

- Minimize greenhouse gas emissions from power production in the Northwest
- Maximize operating flexibility by implementing updated adaptable water management strategies
- Meet existing authorized water supply obligations
- Improve conditions for lamprey within the CRS project area

Single-objective Alternatives

What are they?

- Combination of measures (actions) to achieve a single objective
- Capture a broad range of measures to frame the analysis
- Calibrate the modeling and analysis tools
- Used to inform/refine the measures in the multiple-objective alternatives

Single-objective Alternatives

Fish passage & survival focused

- Increased spill to 125% TDG* with extended duration
- Adult Anadromous Fish Survival Focus
- ESA-Listed Resident Fish Survival Focus
- Juvenile Anadromous Fish Survival Focus
- Lower Snake River Dam Breaching

Operational flexibility focused

- Hydropower Generation Focus
- Water Management Focus
- Water Supply Focus

* TDG - Total Dissolved Gas

Multiple-objective Alternatives

- Combination of measures (actions) to achieve multiple objectives
- Include various combinations of measures drawn from one or more Single-objective alternatives or developed by the co-lead agencies
- Designed to provide variations in emphases of objectives in the development of a range of potential alternatives
- Currently five Multiple-objective alternatives (including the “No Action” alternative) are proposed for analysis in the draft EIS

Range of alternatives

- Includes all Single-objective and Multiple-objective alternatives
- Includes variations in System operations as well as configuration changes.

  For example:

  - Fish passage spill levels from no spill (emergency conditions), to operations ranging from 110% to 125% TDG, including changes over fish migration seasons
  - Operating reservoirs at different pools, incl. lower Columbia and Snake reservoirs to minimum operating pool (drawdown operations)
  - Reconfiguration of fish passage, incl. breach the lower Snake River dams, surface passage spillways, and spillway weirs

Range of alternatives

Examples, cont.:

- Increase water deliveries from Chief Joseph and Grand Coulee
- Hydropower generation from low or restricted to optimization for energy production and use with other renewables
- Implement sliding scale summer draft at Libby and Hungry Horse

Range of alternatives, cont.

Modularity

- Co-lead agencies have the opportunity to adjust alternatives using any measure included in any of the Single-objective or Multiple-objective alternatives for potential inclusion in an preferred alternative
- Modularity involves using what is learned about measures in each alternative and reshaping as necessary to build a preferred alternative.
- It is important to have all measures evaluated and be able to combine measures in the EIS for cumulative assessment.

Mitigation

- Impacts of alternatives will inform the appropriate type and range of mitigation measures.
- Mitigation measures will undergo analysis.
- Mitigation will be added to the alternatives carried forward for detailed analysis in the EIS.

What is next?

- Evaluate the effects of the different alternatives on resources.
- Compare alternatives, including performance in light of potential hydrologic variability (climate change).
- Develop and evaluate mitigation measures to include in the alternatives.
- Identify preferred alternative and release draft EIS.

Stay informed

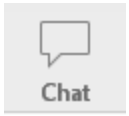
- Find us at www.crso.info
- Add your name to our project mailing list
  - Call 800-290-5033
  - Email your contact information to info@crso.info

Questions and answers

Our facilitators will take questions from callers and online participants.

To submit a question:

- **By telephone:** Our team will unmute phones to accept questions and then return your phone to Mute.
- **Online**: Type a question into the **Chat** window on the right side of your screen and Submit. Our team will read your question to all participants.

Click on 

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