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December 5, 2017

### MEMORANDUM

**TO: Council Members**

**FROM: Tony Grover**

**SUBJECT: Presentation by Action Agencies on the 'Columbia River System Operations Environmental Impact Statement' process**

**PRESENTERS:** Sonja Kokos, Bureau of Reclamation; Rebecca Weiss, U.S. Army Corps of Engineers; and David Kennedy, Bonneville Power Administration

#### **BACKGROUND:**

In accordance with the National Environmental Policy Act, the U.S. Army Corps of Engineers, Bureau of Reclamation, and Bonneville Power Administration, referred to as the Action Agencies, intend to prepare an environmental impact statement (EIS) on the Columbia River System operations and configurations for 14 federal projects in the interior Columbia Basin.

As part of the National Environmental Policy Act process, the co-lead agencies will evaluate a range of alternatives in the EIS, including a no-action alternative (current system operations and configuration). Other alternatives are being developed through the scoping period based on public input and co-lead agency expertise, and will analyze an array of alternatives for different system operations and additional structural modifications to existing projects. The EIS also will analyze potential effects on resources and identify measures to avoid, minimize, and mitigate impacts associated with the system operations and configuration, where feasible.

The first stage of developing an EIS, called "scoping," began with publishing a Notice of Intent in the Federal Register notifying the public and interested parties of the initiation of the development of the EIS and soliciting input from the public regarding the scope,

resources, and issues to address in the EIS, and alternatives to consider in the analysis. The co-lead agencies also held a series of 18 public meetings to engage the public in discussing how the system of dam and reservoir projects are currently operated, encourage comments on how operations could be different, and provide information on resources that are likely to be evaluated in the analysis. Thanks to the interest of citizens throughout the Northwest, more than 2,300 people attended 18 scoping meetings that were held from October 2016 to January 2017 in Montana, Idaho, Washington, and Oregon, and via webinar.

During the public scoping period, members of the public provided input on the development of the EIS and on many issues important to them. The co-lead agencies have received over 390,000 comments highlighting a range of CRSO topics including:

- Operational changes
- Transportation of fish and goods
- Recreational opportunities
- Dam breaching
- Dam construction
- Replacing hydropower generation with other sources of energy generation
- Increasing hydropower generation
- Fish passage
- Various fish-management actions

The National Environmental Policy Act (NEPA) requires federal agencies to carefully consider the environmental, social, and economic effects of any major federal action. In the case of the CRSO EIS, the co-lead agencies must examine how the current operations, maintenance, and configurations of 14 federal dam and reservoir projects (i.e. the “no action alternative”) operate to meet the multiple Congressionally authorized purposes, including flood risk management, navigation, hydropower, irrigation, fish and wildlife conservation, recreation, and municipal and industrial water supply.

In addition, the CRSO EIS will provide an impact analysis of affected resources (the effects) for a reasonable range of alternative operations, maintenance, or configurations of the System compared to the no action alternative. The purpose of NEPA is to ensure that decision makers and the public are informed of the environmental and social consequences of a proposed action prior to making a decision and taking action, as well as providing meaningful opportunity for the public to comment. The main goal of the CRSO EIS is to inform future decisions that provide a contemporary, efficient, and flexible approach to meeting the multiple responsibilities of the co-lead agencies.



# Columbia River System Operations EIS

## NW Power Planning Council Update

December 13, 2017



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# Columbia River System Operations EIS

## Goals for today

- Discuss results of public scoping and how this information is used in the EIS process to develop alternatives for long-term System operations, maintenance and configuration.
- Provide an overview
  - Process by which alternatives are developed
  - Progress to date.
- Discuss the work planned for the coming year, including finalizing a range of alternatives and starting analysis of environmental impacts of those actions.



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# Columbia River System Operations EIS

## What is CRSO?

- Ongoing operation, maintenance and configuration of the system of 14 federal dam and reservoir projects in Idaho, Montana, Oregon and Washington
- 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



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# Columbia River System Operations EIS

## What are we doing?

- Under the National Environmental Policy Act, we are evaluating our approach to the long-term System operations, maintenance and configuration, including
  - Costs, benefits and tradeoffs of updated approaches
  - Actions both within and outside of current authorities
  - Measures to avoid, offset or minimize impacts to resources affected by management of the System.



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# Columbia River System Operations EIS

## What are we doing?

- Outcome of this process: Environmental Impact Statement identifying potential alternatives to current operations and maintenance that
  - Inform future decisions on a flexible approach to provide for multiple Congressionally authorized purposes and our resource, legal, and institutional purposes
  - Minimize or eliminate environmental impacts
  - Meet all federal statutory and regulatory requirements and responds to recent court order

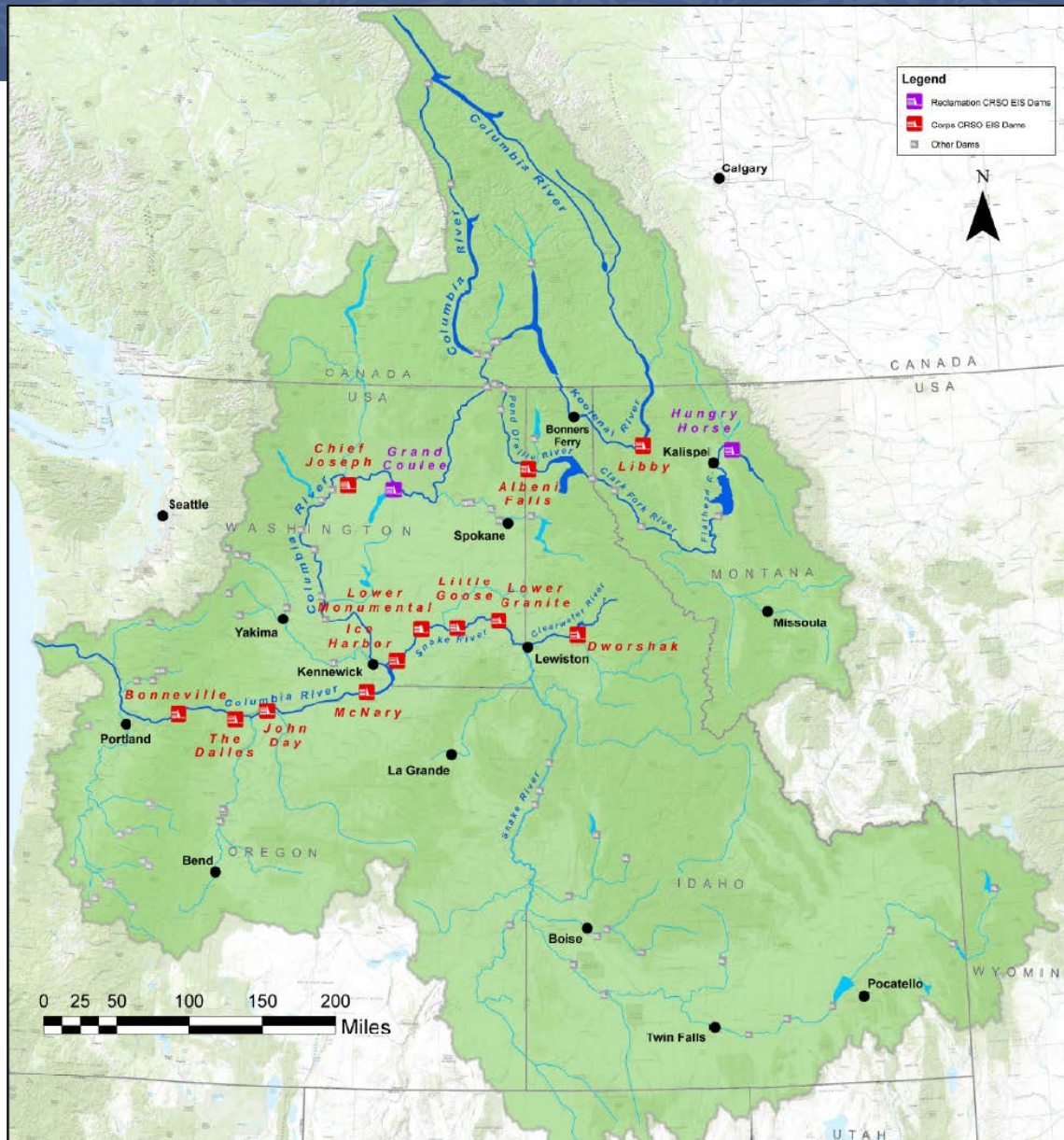


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# Columbia River System Operations EIS



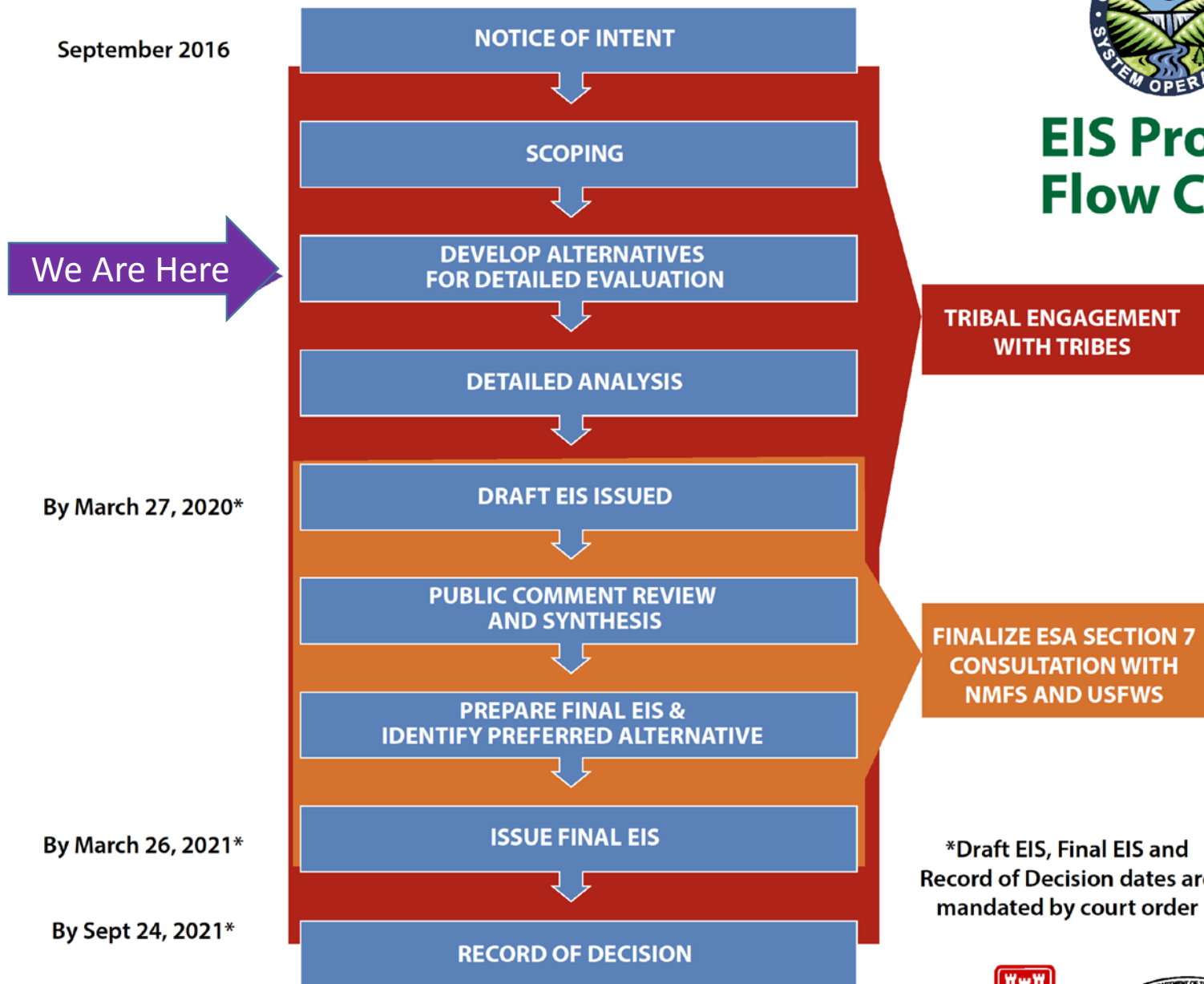
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# EIS Process Flow Chart





# Columbia River System Operations EIS

## Scoping Overview

- Provided opportunity for the public to inform the scope of the study and nature of the analysis
- Received over 400,000 comment letters or forms
- Published a Scoping Summary Report in October 2017
- Input categorized as
  - proposed actions to take
  - resources to consider
  - methods to use in the evaluation
  - issues to address in the scope of the analysis



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# Columbia River System Operations EIS

## Scoping Comment Topic Areas

- NEPA Process
- Public Scoping Process
- Alternatives (e.g., dam breach, various levels of spill)
- Scope of Analysis for EIS
- Impact Analysis Methodologies
- Hydrology and Hydraulics
- Climate Change
- Water Quality
- Water Supply
- Air Quality
- Anadromous and Resident Fish
- Threatened and Endangered Fish Species – Dam Configuration & Operation
- Wildlife
- Wetlands and Vegetation
- Invasive and Nuisance Species
- Cultural and Historic Resources
- Tribal Interests/Resources
- Flood Risk Management
- Power Generation/Energy
- Power Transmission
- River Navigation
- Transportation of Goods and Fish
- Recreation
- Socioeconomics and Environmental Justice
- General Opposition to EIS Development
- General Support to EIS Development



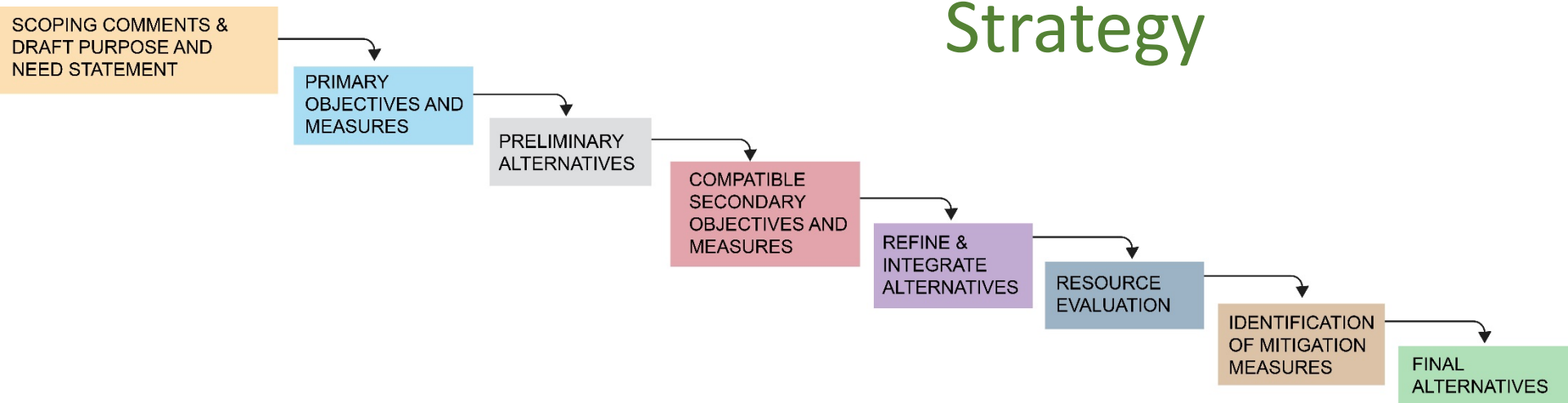
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# Columbia River System Operations EIS

## Alternatives Development Strategy



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# Columbia River System Operations EIS

## Key Definitions

- **Objectives** describe the results you want to achieve (the “why”)
- A **Measure** is an action at a specific location to achieve a desired effect (the “how”)
  - One measure may be used with multiple objectives
  - May be sited at multiple locations
- An **Alternative** is driven by one or more objectives
- The actions of an **Alternative** come from the **Measures** that are implemented together to achieve one or more of the objectives



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# Columbia River System Operations EIS

## Preliminary Alternatives Development

### Refined Objectives and status of Measures

- Reviewed 100+ objectives and 500+ measures
  - Public, Tribes, Co-lead Agencies, Cooperating Agencies, Scoping
  - Meet the study purposes?
  - Identify primary objectives
- Screening: Review objectives and 230 measures
  - Measures - Meet an objective?
  - Meet technical criteria?
- Summer 2017: Begin application of objectives and measures to develop Preliminary Focus Alternatives



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# Columbia River System Operations EIS

## Objectives

- 1) Improve juvenile and adult fish passage and long-term survival of anadromous fish
- 2) Improve survival and habitat connectivity of resident fish
- 3) Provide a reliable power supply; minimize carbon emissions by generating carbon-free power (includes hydropower and integration of other renewable energy)
- 4) Maximize operating flexibility and adaptable water management strategies to be responsive to changing conditions, including hydrology, climate and the environment
- 5) Provide unmet, authorized regional water supply



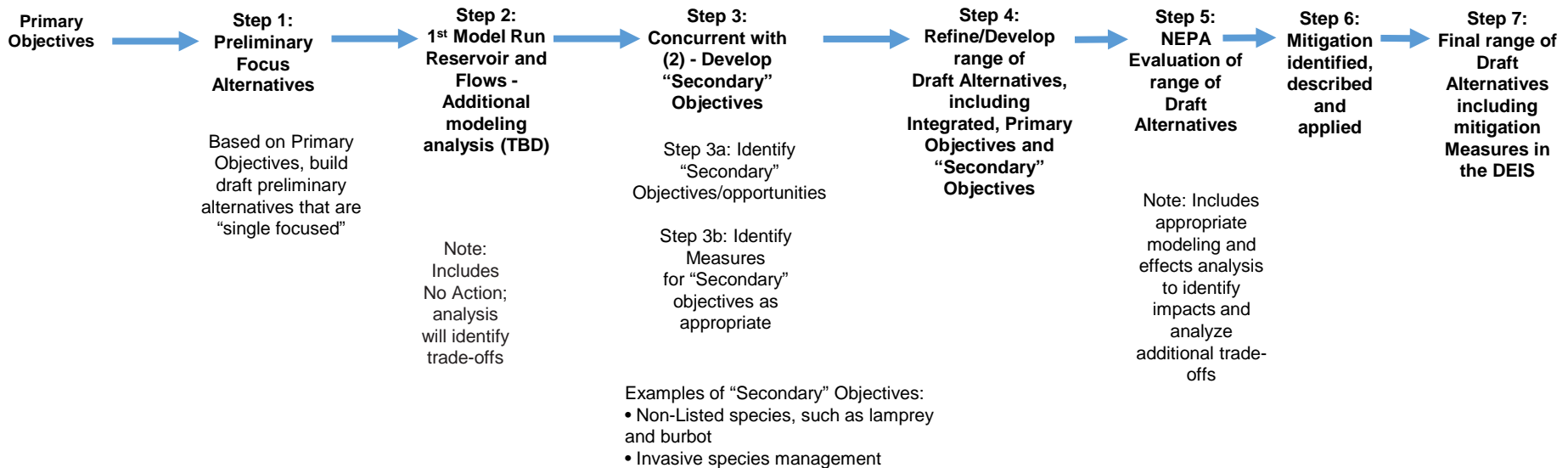
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# Columbia River System Operations EIS

## Development and Analysis of Reasonable Range of Alternatives for DEIS



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# Columbia River System Operations EIS

## Preliminary Focus Alternatives

### What are they?

- Combinations of suites 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 integrated alternatives
- May or may not be carried forward and developed as an alternative in the draft EIS or final range of alternatives



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# Columbia River System Operations EIS

## Preliminary Focus Alternatives

### Fish passage & survival focused

- Increased spill to 125% TDG with extended duration
- Fish survival
  - Adult ESA-listed
  - Resident ESA-related
  - Juvenile ESA-related anadromous
- Lower Snake River dams breach

### Operational flexibility focused

- Hydropower reliability
- Water management flexibility
- Water supply



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# Columbia River System Operations EIS

## Current status

- Final development and review of Preliminary Focus Alternatives
  - Development teams provide final description of preliminary alternative measures
  - Co-lead agencies review for completeness
  - Details provided for modeling and modeling calibration
  - Start evaluation



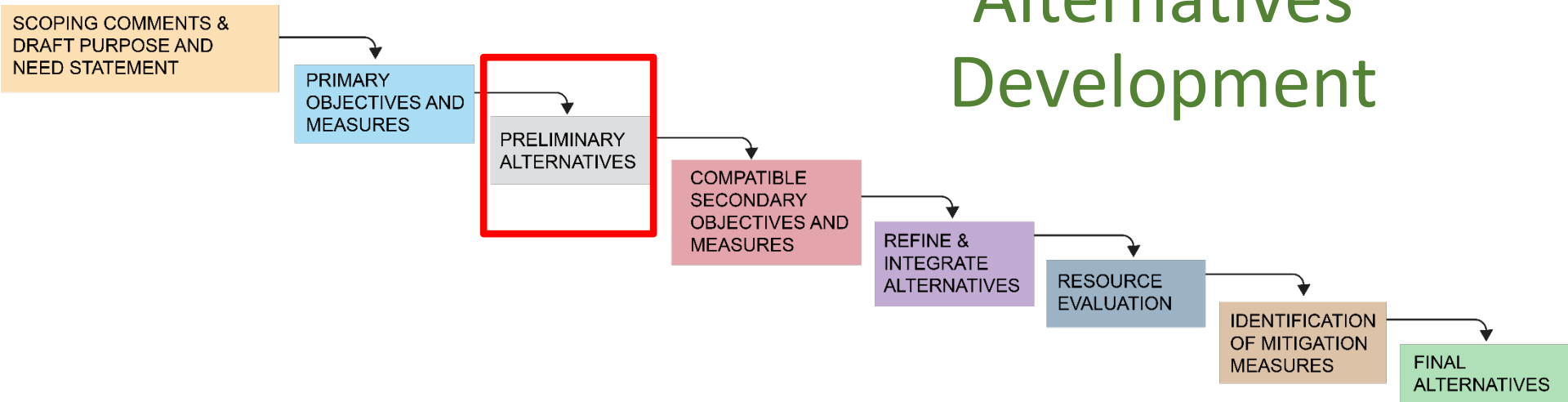
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# Columbia River System Operations EIS

## Current Status of Alternatives Development



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# Columbia River System Operations EIS

## What is Next?

- Incorporate secondary objectives and measures
- Develop integrated alternatives
- Finalize a reasonable range of alternatives for evaluation
- Evaluate a reasonable range of alternatives
- Evaluate mitigation measures and effectiveness with range of alternatives
- Identify preferred alternative and release draft EIS



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# Columbia River System Operations EIS

## Refine and Integrate Alternatives

### Plan to:

- Identify additional suite of compatible objectives and measures to add to alternatives
- Develop integrated alternatives
  - Will respond to multiple objectives
  - Will be informed by information gathered from the preliminary focus alternatives



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# Columbia River System Operations EIS

## Development of a Reasonable Range of Alternatives

- Several alternatives will be developed to meet objectives to various degrees so that trade-offs can be compared.
- Analysis from preliminary focus alternatives will help verify effectiveness and assumptions in the integrated alternatives.
- The plan for the reasonable range of alternatives moving into the evaluation is to meet all applicable statutes and regulations.



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# Columbia River System Operations EIS

## Resource Evaluation and Mitigation

- Final reasonable range of alternatives will undergo full evaluation, including impacts to significant resources.
- Impacts of alternatives will indicate the appropriate range of mitigation measures.
- Mitigation measures will undergo analysis for effectiveness and be comparable.
- Mitigation plans will be added to the alternatives in the final array.
- Co-lead agencies will identify a preferred alternative and release the draft EIS for public review.



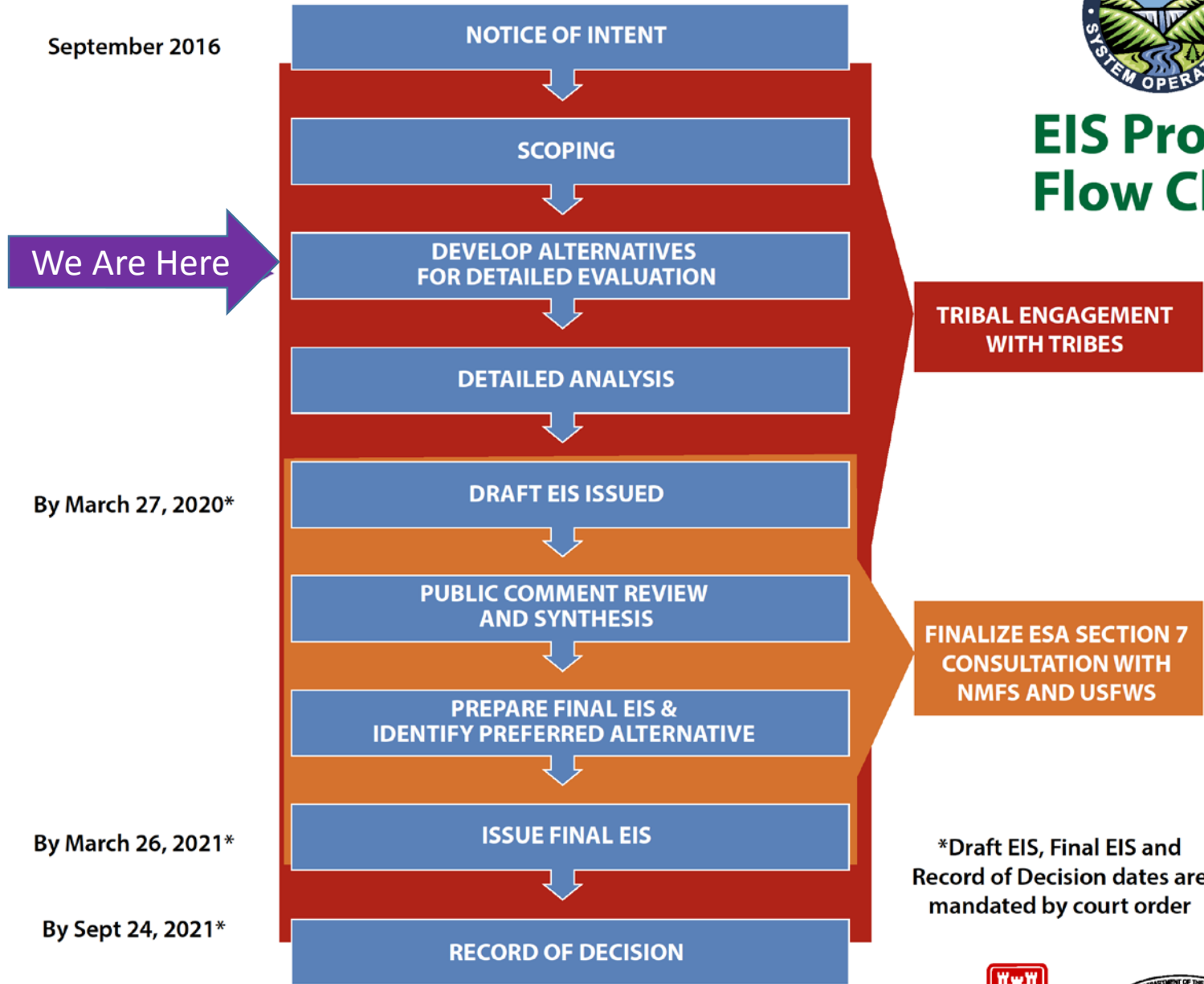
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# EIS Process Flow Chart



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

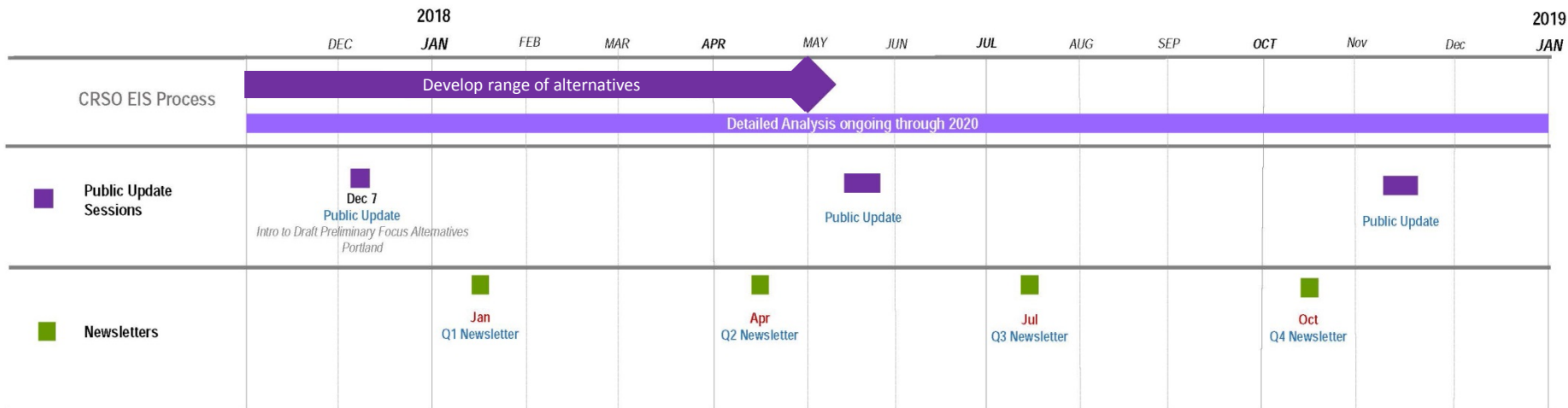




# Columbia River System Operations EIS

## 2018 Public Outreach

(as of December 2017)



Check the project website for changes to this schedule and to add your name to the mailing list for outreach announcements: [www.crso.info](http://www.crso.info).



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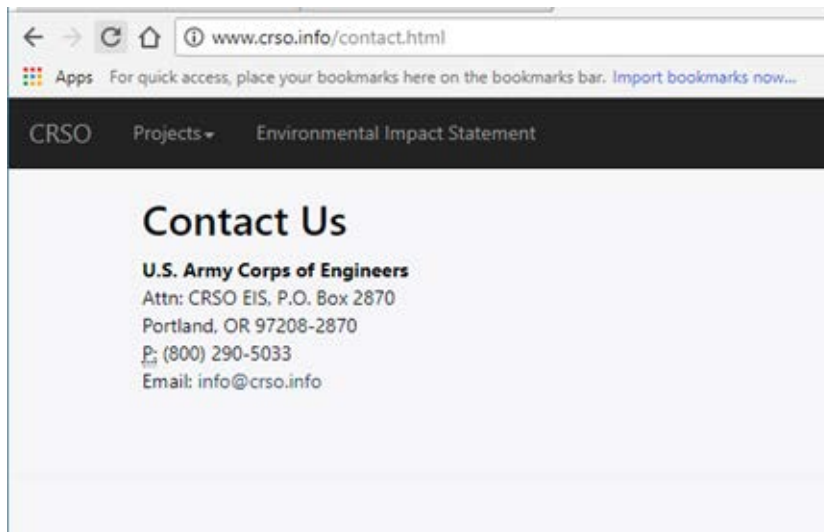




# Columbia River System Operations EIS

## Stay informed

- Find us at [www.crso.info](http://www.crso.info)
- Add your name to our project mailing list
  - Call 800-290-5033
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