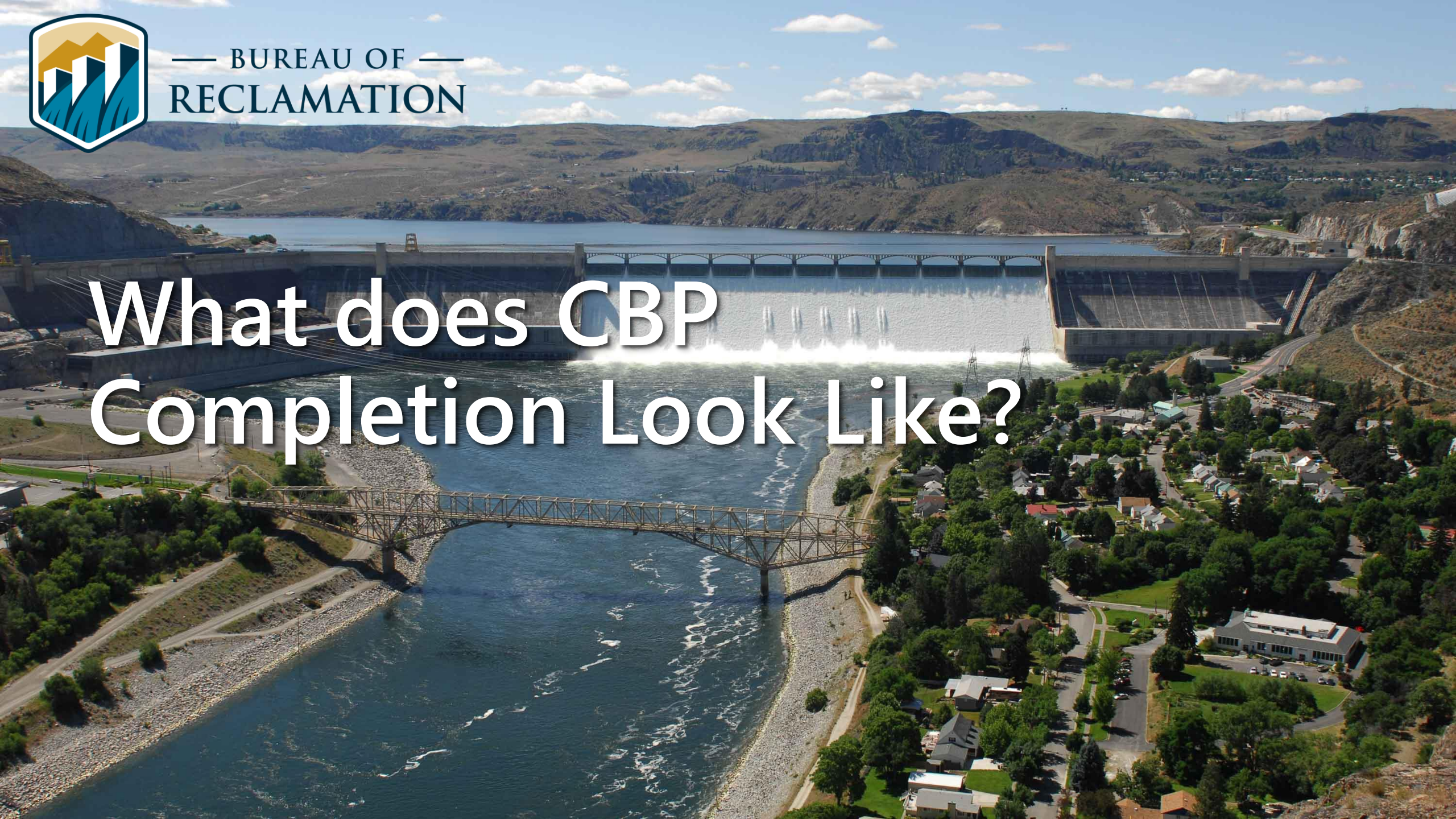

BUREAU OF
RECLAMATION
What does CBP
Completion Look Like?

# What's in this presentations?

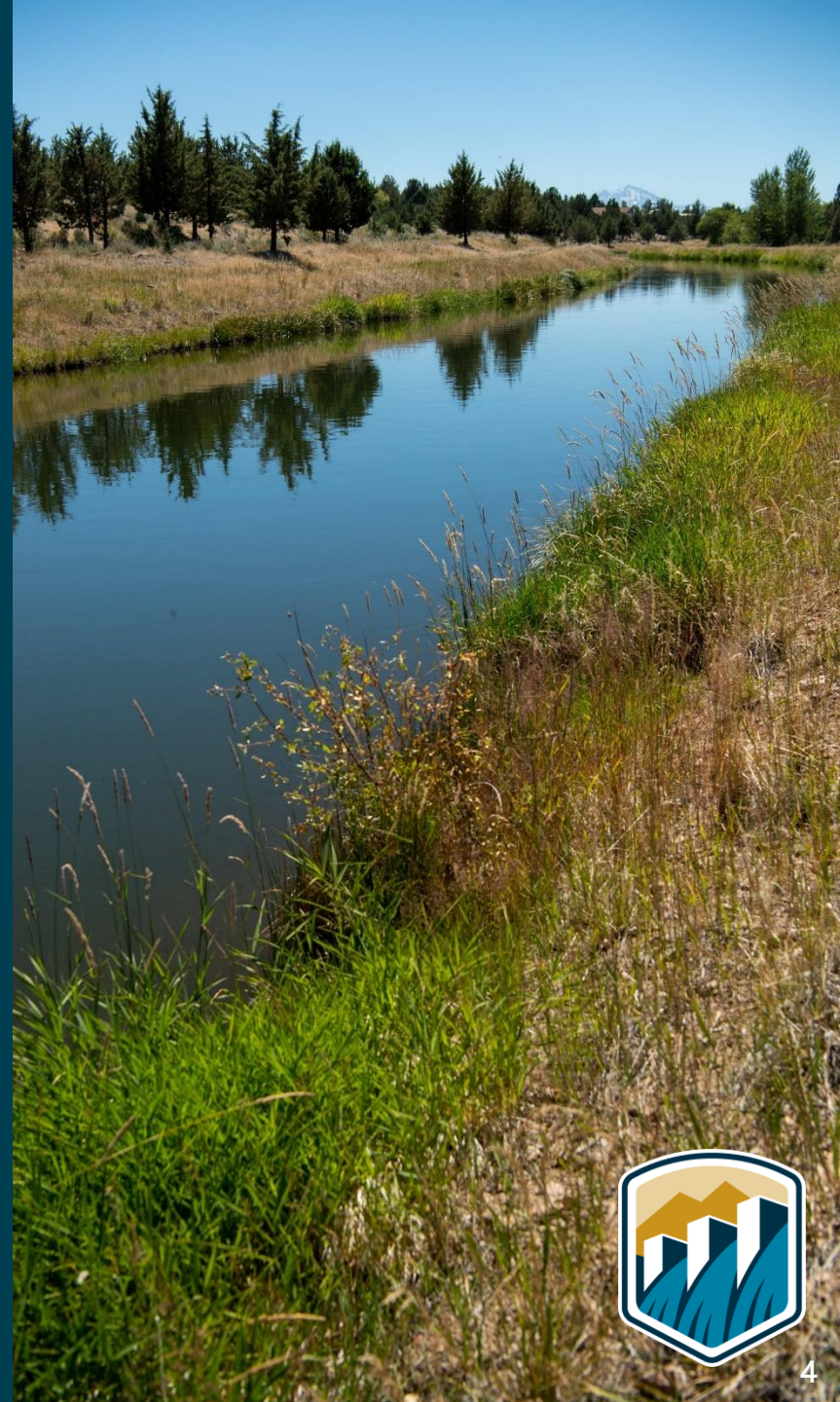
- Part One – Development Framework for the CBP
  - Development Authorities
  - Study process.
  - Environmental Compliance
- Part Two
  - What is authorized?
  - Past efforts at build out.
  - Case study: Odessa

# Part One – Development Framework

- Development Authorities
- Study Process
- Environmental Compliance

# Authority

- Authority: laws giving permission to take action
- Reclamation does not have an “organic act”
- Reclamation’s authorities are generally project-specific
  - Columbia Basin Project - House Document 172
- Planning report is the basis for project authorization

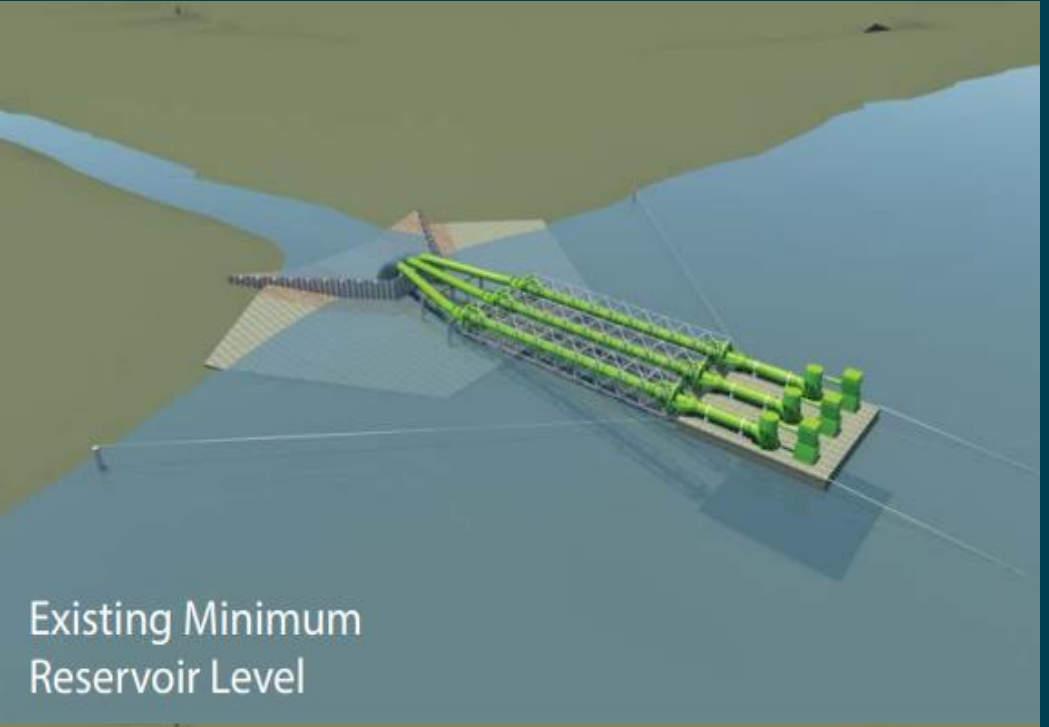


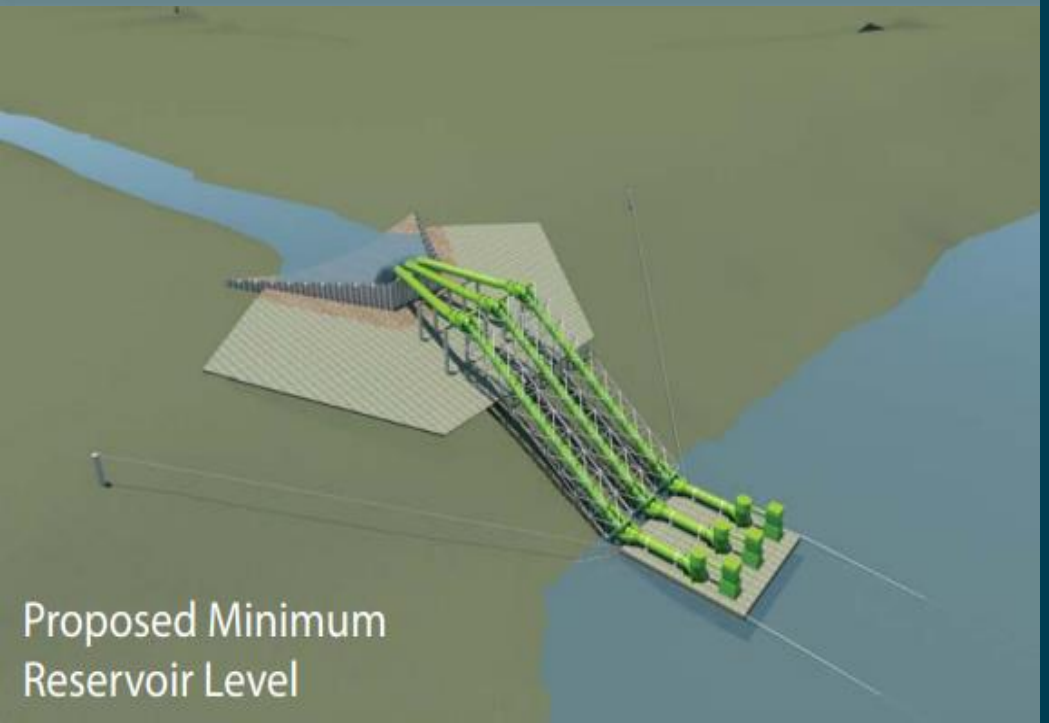
# Congressional Authorization and Appropriation

- Projects need a study authorization and an appropriation from Congress to move forward
- Congress typically appropriates funding for studies through the Energy and Water Appropriations Act
- The House or Senate Committee Reports explain how appropriated funds should be spent

# Initial Opportunities Identification

- Are there opportunities that can be leveraged by solving the problem?
- Define the primary and secondary objective(s) of the planning study to guide:
  - data inventory and collection
  - forecasting
  - evaluation of effects



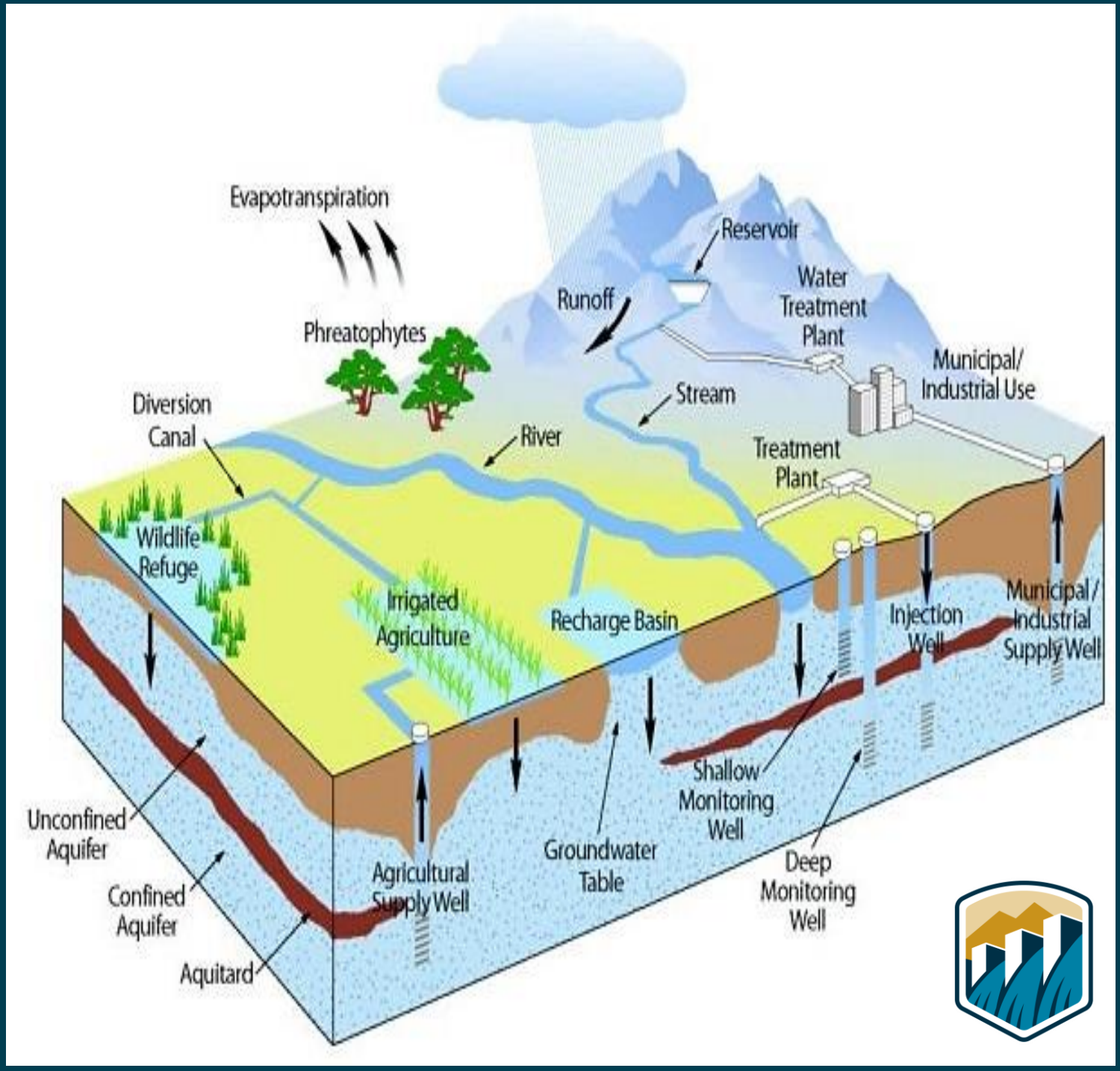

# Water Resources Planning

- Purpose is to solve water and related resources problems – such as improving water supplies, generating hydropower, enhancing the environment, etc.
- Planning helps decision-makers identify water resources problems, conceive solutions to them, and compare the importance of competing or conflicting needs

# Water Resources Planning (Cont.)

<u>Issues center on:</u>

- Quantity
  - How much?
- Quality
  - Temperature, Nutrients, Dissolved $O_2$, etc.
- Timing
  - When is it available?
- Location
  - Where?



# 2013 Principles, Requirements, and Guidelines (PR&G)

Provide a common framework for evaluating Federal water resource investments:

- Using the best available science to include ecosystem service and watershed-based approach
- Taking advantage of opportunities for collaboration with other Federal agencies as well as with tribal and other non-Federal entities
- Identifying and quantifying, where possible, areas of risks and uncertainties
- Addressing healthy and resilient ecosystems; sustainable economic development; floodplains; public safety; and environmental justice
- Planning is an analysis of alternatives comparing a with- vs. without-plan conditions

# Planning Policies & Guidance

**PR&G**

**707 DM 1**

**Reclamation Manual**

Department of the Interior Manual
- Agency Specific Procedures

Policies:

- CMP P05 *Reclamation Value Program*
- CMP P09 *Water and Related Resources Planning*

Directives & Standards:

- *CMP 06-01 Reclamation Value Program*
- CMP 09-01 *Water and Related Resources Special and Appraisal Studies*
- CMP 09-02 *Water and Related Resources Feasibility Studies*
- CMP 09-05 *General Planning Activities*

# Types of Investigations and Studies

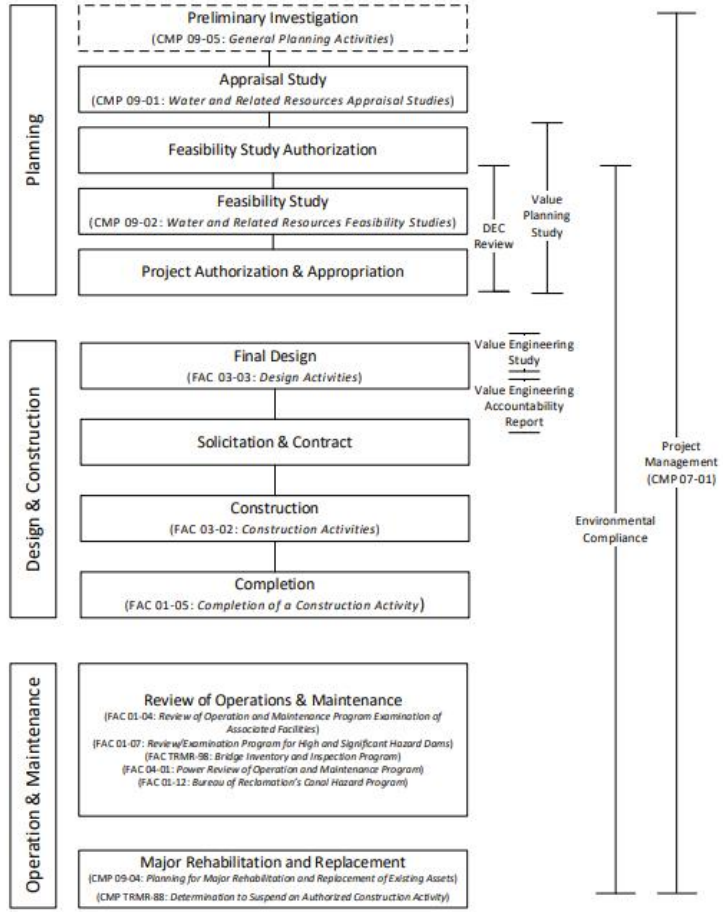
- Value Program
  - Value Planning
  - Value Engineering
- Preliminary Investigation
  - Basin Studies
  - General Planning
- Appraisal Study
- Special Study
- Feasibility Study
  - Requires study authorization





**Reclamation Manual**
Directives and Standards

Overview of Water Resources Planning, Design, Construction, and O&M Process Phases Associated with CMP P09



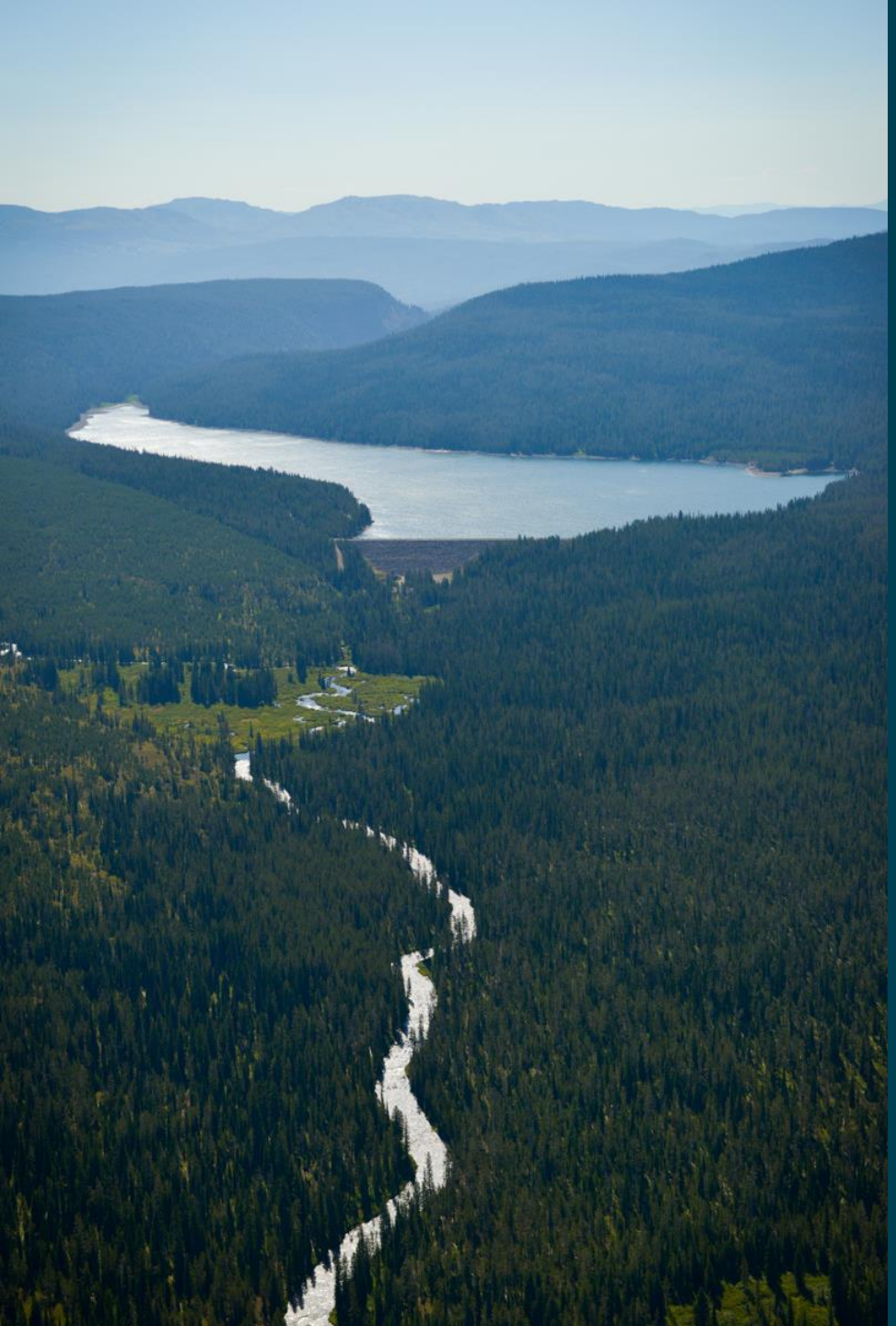

Notes:
1. Dashed rectangle indicates discretionary activity.
2. Appraisal studies may result in a recommendation not to proceed with a feasibility study.
3. Special studies follow a different process and do not result in recommendations to conduct a feasibility study or project authorization (See CMP 09-01).
4. Feasibility studies may result in a recommendation not to seek implementation authorization and terminate in a concluding report (See CMP 09-02).
5. Feasibility studies may recommend a non-structural project alternative, which does not require construction.

# Reclamation's Value Program - Purpose

- Make good projects better.
- Save Stakeholder dollars.
- Satisfy Public Law, OMB A-131, and DOI Requirements
  - DOI DM 369-1: The ultimate goal is the acquisition of the most functionally effective assets, products, and programs at initial and life-cycle costs that provide best value to the government.
  - Public Law 104-106: improving performance, reliability, quality, safety, and life cycle costs.

# Value Program – Results Summary

- $597 M of savings with an average ROI of 25:1 for the past 22 years
- Total Value Program expenses cost $23.4 M for 851 total studies over the past 22 years
- Intangibles, such as alternative selection and getting people to think differently about the project (Relationship/Communication)

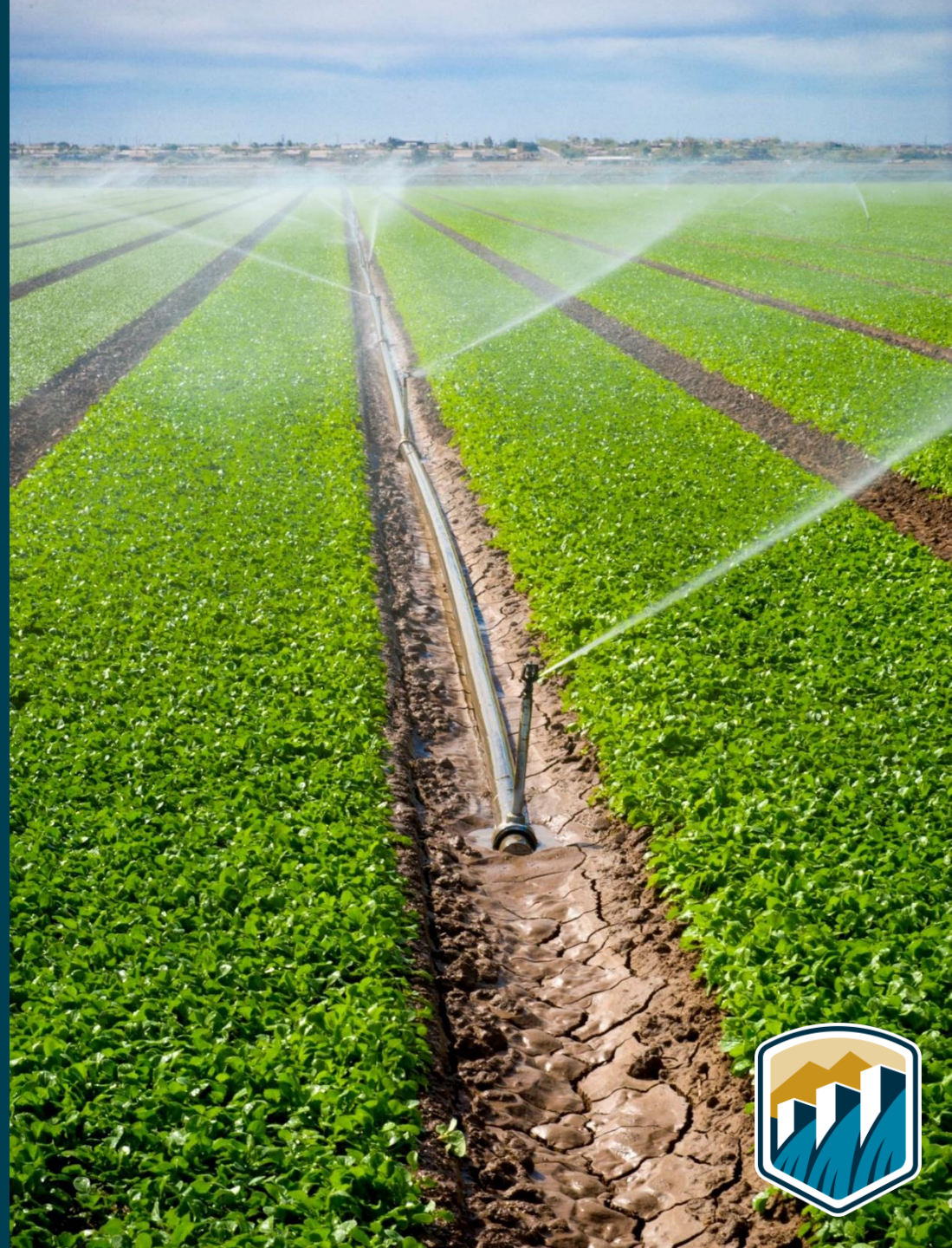


# Preliminary Investigation

- Determines whether Reclamation should be involved or has an interest in the water resource(s) problem(s)
- Uses existing information and data
- Conducted by Reclamation staff and stakeholders depending on the type of study.

# Appraisal or Special Study

- Identify a range of solutions that could address the problem or issue
- Determines whether Reclamation should investigate problems in more detail
- Limited in scope
- Uses existing information and data with very limited new data
- Conducted by Reclamation staff and cost-share partner(s)

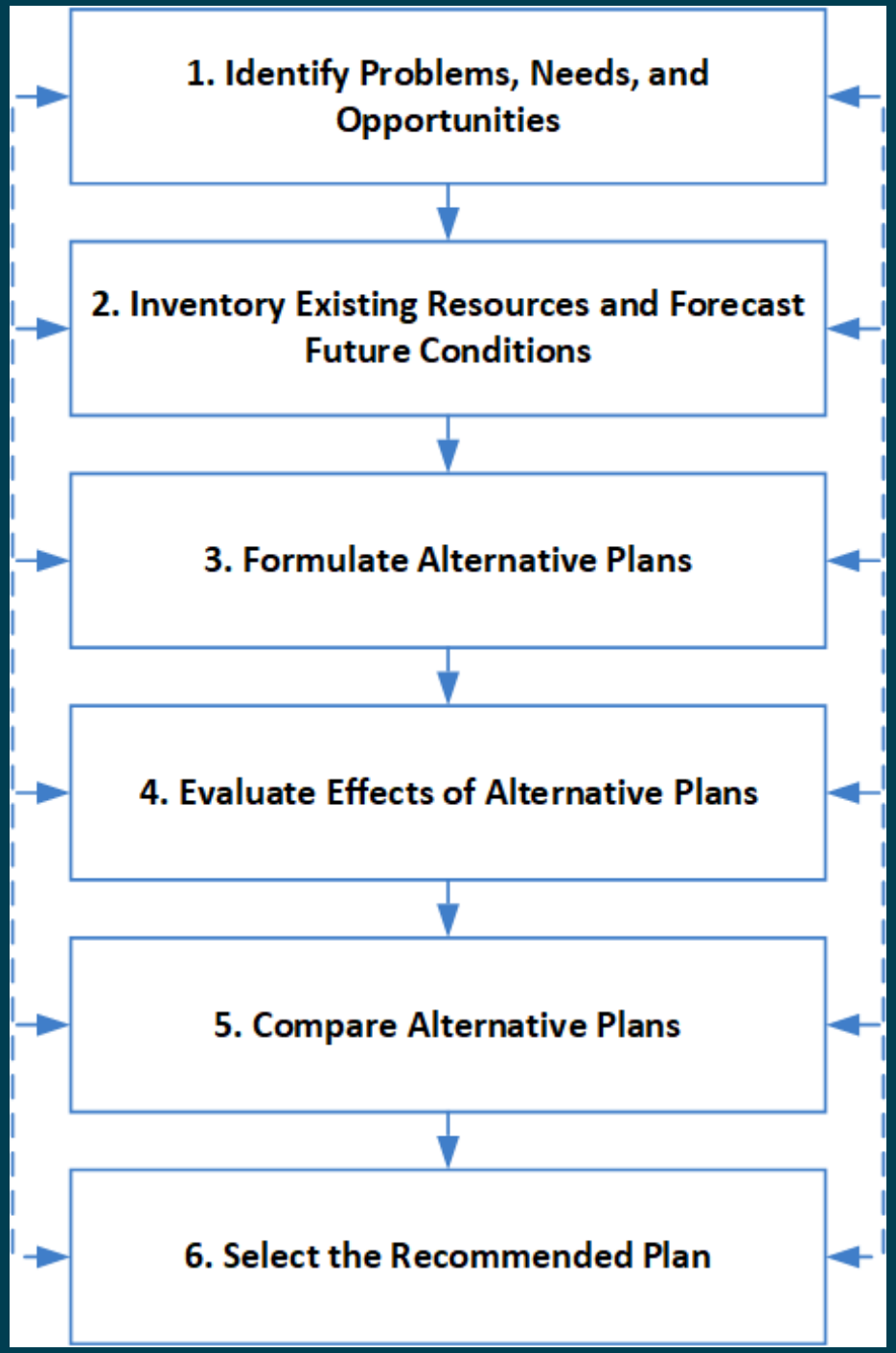


# Feasibility Study

- Requires Congressional study authorization
- Based on existing and new information
- Conducted by Reclamation staff and cost-share partners
- Formulate/evaluate alternative plans
- Economic benefits compared with estimated costs
- Feasibility-level cost estimate
- Environmental and social impacts
- Risks and uncertainties
- Recommended plan described in detail
- Results in a feasibility report, used to request authorization for construction

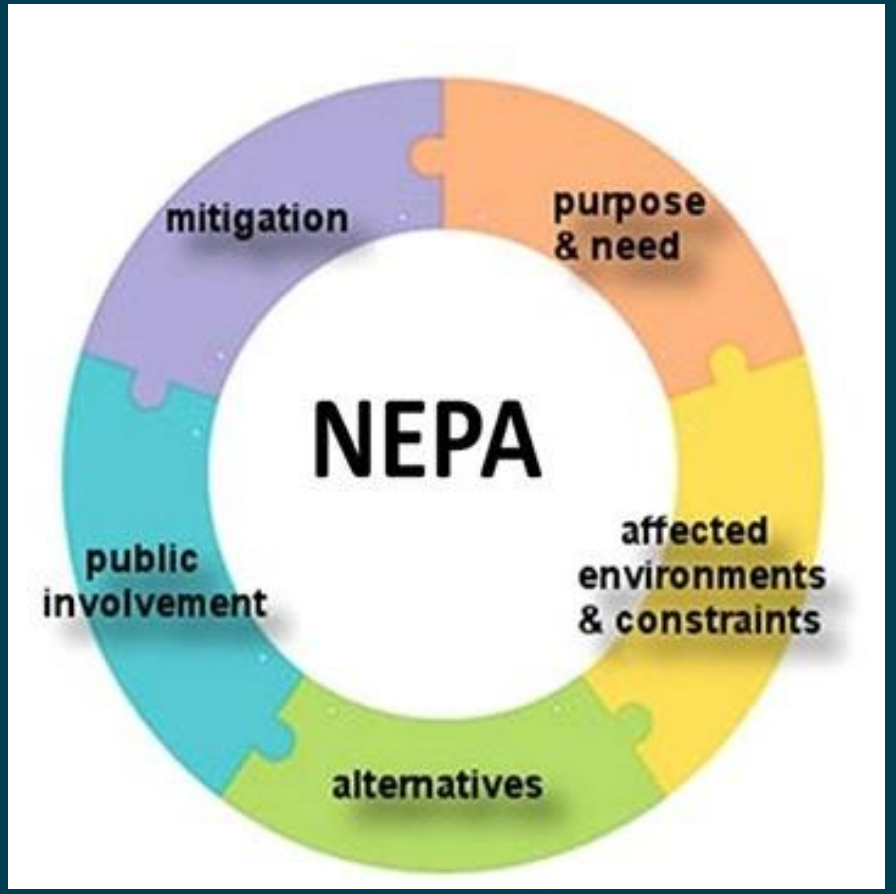
# Study Process

- 6-step planning process
- Iterative (note the arrows)
- Important not to be pre-decisional in approach to issue



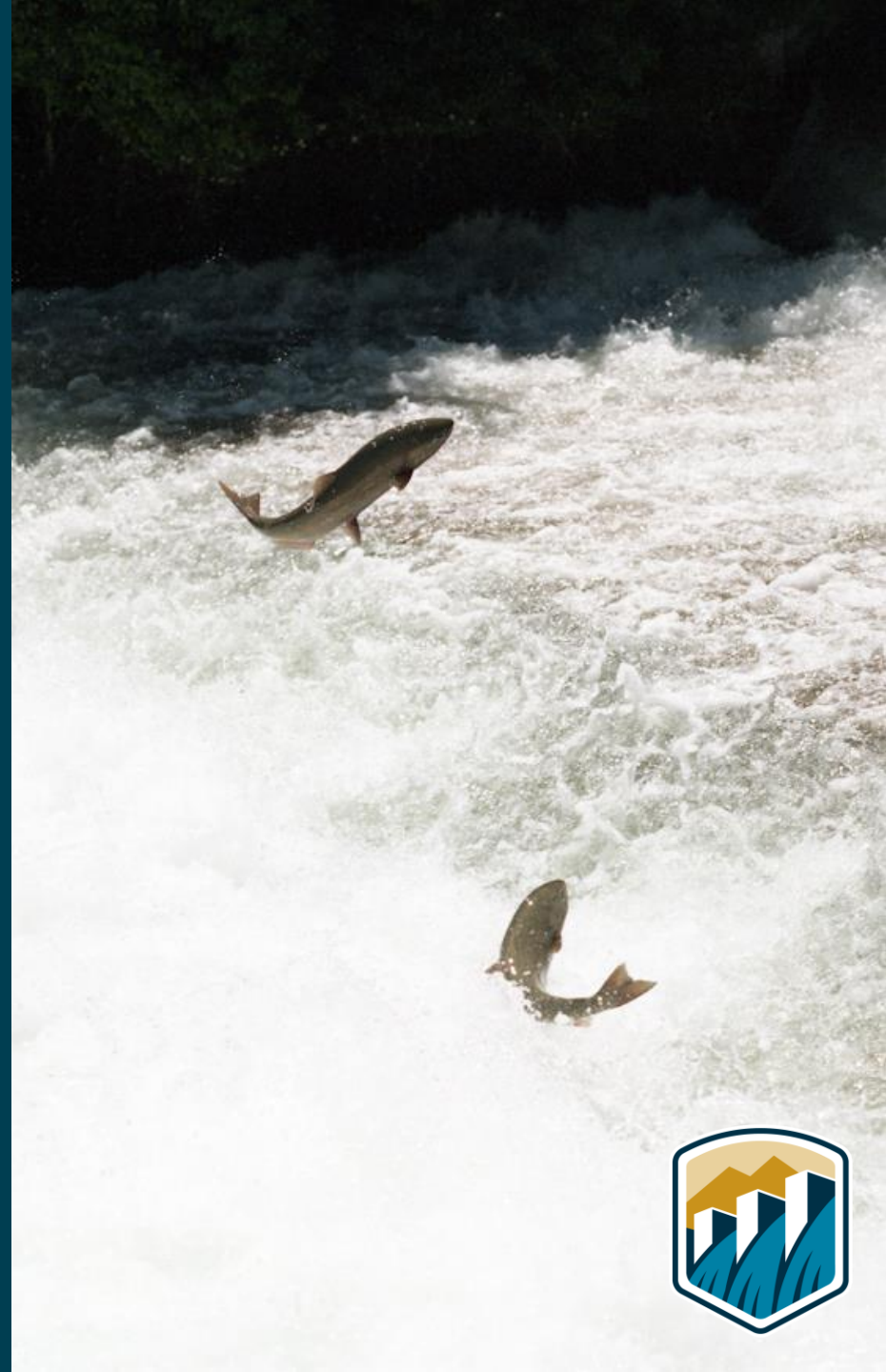
# Environmental Compliance

- National Environmental Policy Act (NEPA) of 1969
  - Environmental Impact Statement (EIS) prepared concurrently with Feasibility Study as required by PR&G and CMP 09-02
  - Often also in conjunction with State-level documentation
  - Informs mitigation costs
- National Historic Preservation Act of 1966
- Fish and Wildlife Coordination Act of 1958
- Endangered Species Act of 1973
  - Consultation should begin during the planning phase



# Environmental Compliance

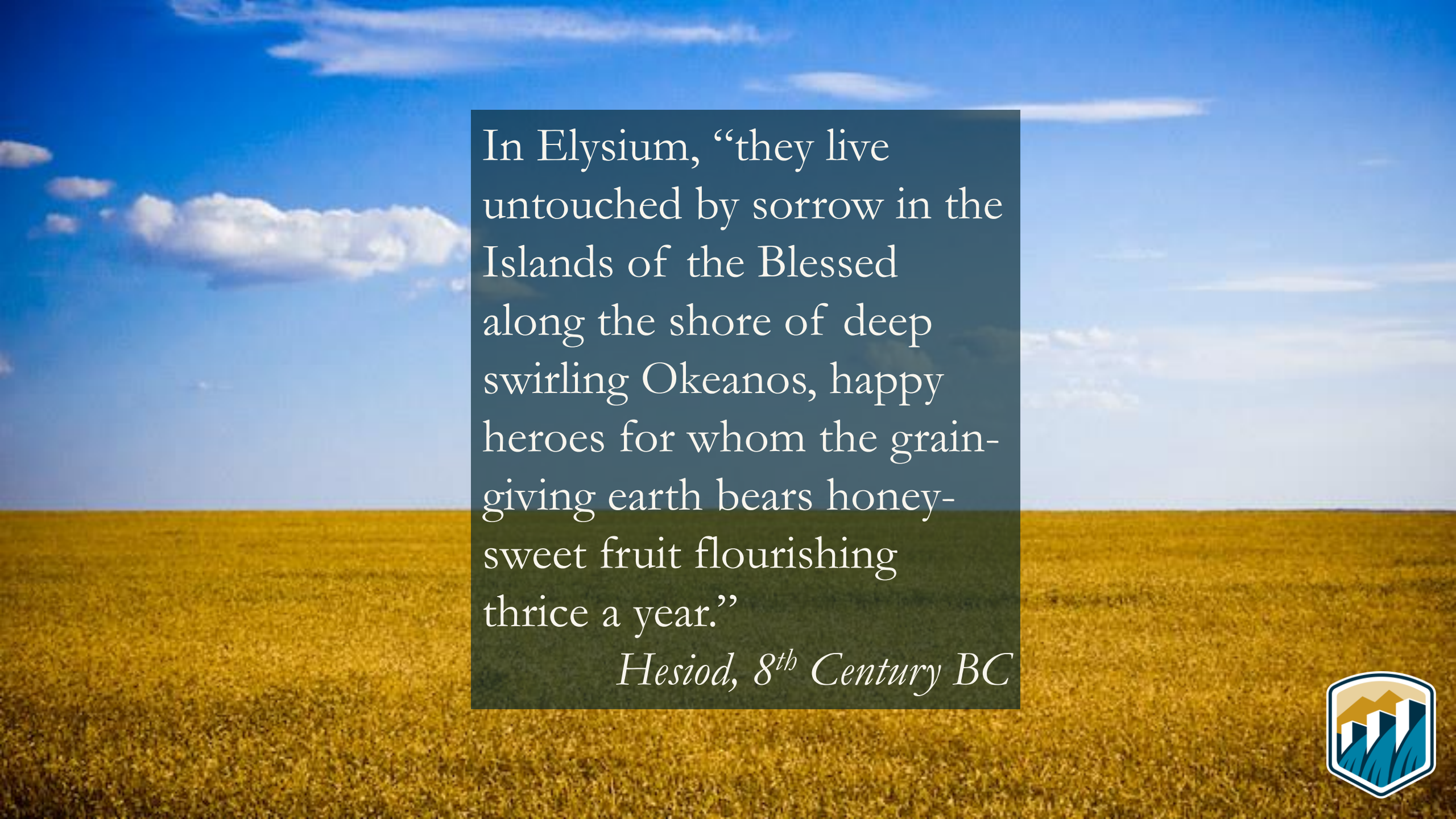
- Plans should be formulated to first avoid environmental impacts, then minimize, then mitigate
- Mitigation Plan
  - Should be well developed and have a feasibility-level cost estimate
  - Should outline:
    - What species will be impacted? Where? How much?
    - What were mitigation plans and costs for other similar projects with similar species impacts
  - Important not to trade off impacts to one species for a benefit to another
    - Ex: Red Legged Frog impact vs Steelhead Trout benefits



PART TWO

# Development History of the CBP

- Pre-authorization.
- Authorized Plan – House Document 172
- Past Studies
- Odessa as Case Study

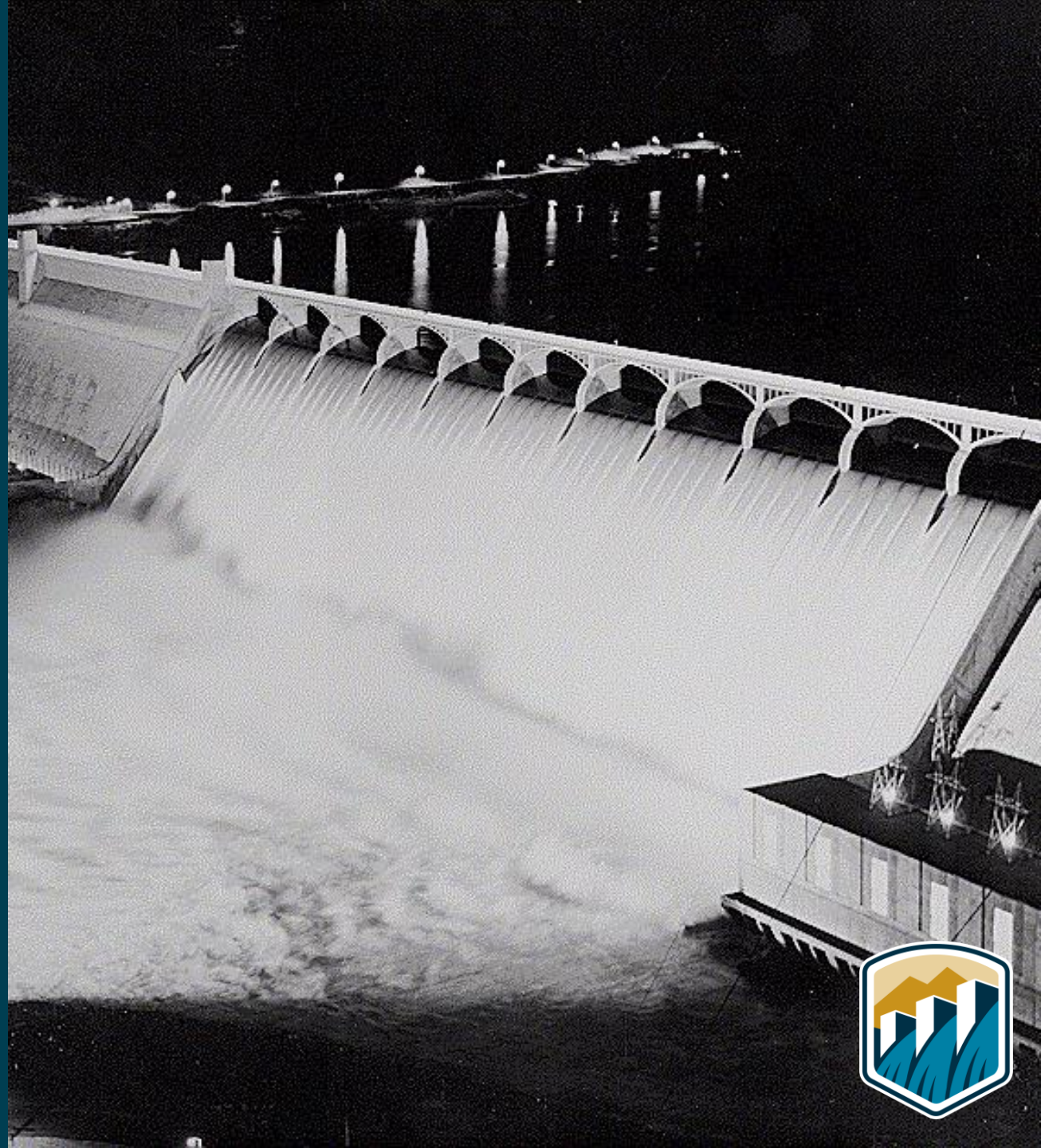

In Elysium, “they live
untouched by sorrow in the
Islands of the Blessed
along the shore of deep
swirling Okeanos, happy
heroes for whom the grain-
giving earth bears honey-
sweet fruit flourishing
thrice a year.”
Hesiod, 8th Century BC

# Pre-Authorization

| 1913 | 1917-1918 | 1919-1932 | 1933 | 1942 |
|---|---|---|---|---|
| Reclamation's first feasibility study in the Columbia Basin | Clapp and Blaine Plans for large scale development | Dueling studies between gravity and dam options | First Feasibility Report & Construction of Grand Coulee | Incremental development introduced. |

# Feasibility under the 1939 Act

- 1943 CBP reauthorized under the 1939 Act.
- 1945 - HD 172, feasibility report for the purpose of the 1939 Act.
- 1,029,000 acres.
- Defines the facilities to be used.
- Sets the boundaries for what can be developed.



# Past study of project completion

| 1932 | 1945 | 1968 | 1974-1984 | 1989 |
|---|---|---|---|---|
| East Main planed as a gravity facility. | East Low, East High and secondary pumping. East High and other lands in Quincy and South bypassed and deferred. | East High Investigations introduced the idea of an East High System. | Dueling perspectives on economic feasibility of the East High System. Phases Defined. | Continued Development EIS. |

# ESA and its impact on project development

| 1994-1997 | 2003 | 2004-2008 | 2010 | 2012 |
|---|---|---|---|---|
| Salmon species listed in the Columbia River. Moratorium placed on contracts from the Columbia R. | Columbia River Initiative MOU identified strategies for improving water supplies. Moratorium lifted b/c of 2000 BiOp | Salmon Litigation and Nez Perce Settlement recognized water during the summer was "zero-sum" | Lake Roosevelt Incremental Storage Releases. | Odessa Subarea Special Study. Largest irrigation development in the West in nearly a half-century. |

# Key takeaways

1. **Gravity vs. Pumping.** The basin means there are options for gravity and pumping, affecting costs for different parts of the project.

2. **Very sensitive economics.** Whether facilities are feasible will change on the precise benefits, stakeholder interest and market conditions.

3. **Diversity of interests.** The vast size of the Project and time scale for development means that there are diverse perspectives in the basin among irrigators and between different stakeholders.

CASE STUDY

# Odessa Special Study

- Replaces groundwater supplies with surface water on parts of the Odessa aquifer.
- Full replacement and partial replacement.
- Economic feasibility was tight for all alternatives.
- Highly collaborative.

ODESSSA

# Key Takeaways

- Federal, state & local cooperation.
- Creative thinking about benefits and costs
- Responsive and flexible to local needs.
- Paying attention to non-ag interests.
- ESA and optimizing water supply.

SUMMARY

# Lessons

- Finding win/win benefits is important to continued development.
- Cost sharing is key to funding in current appropriations environment.
- Pre-study planning very important.