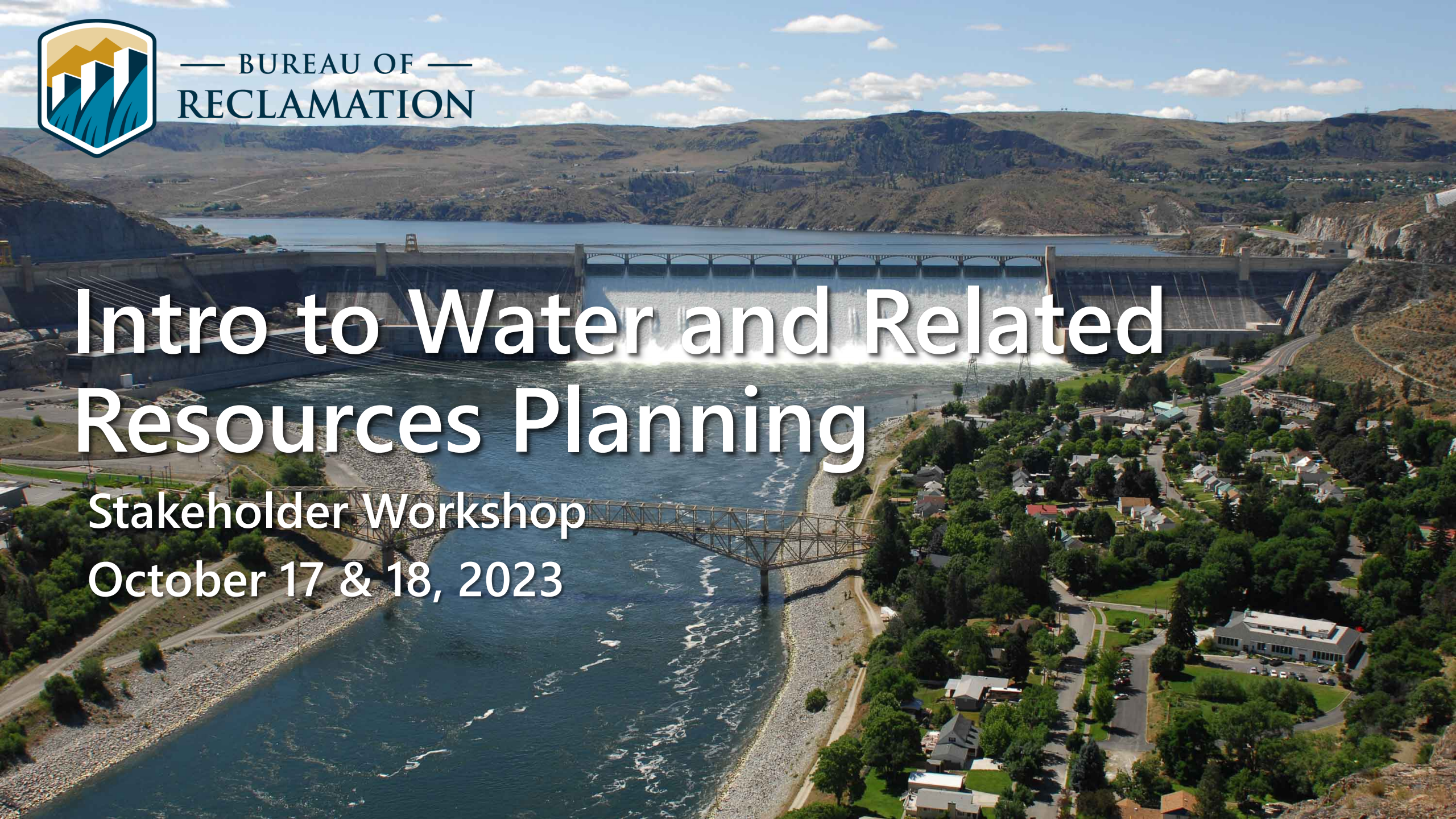


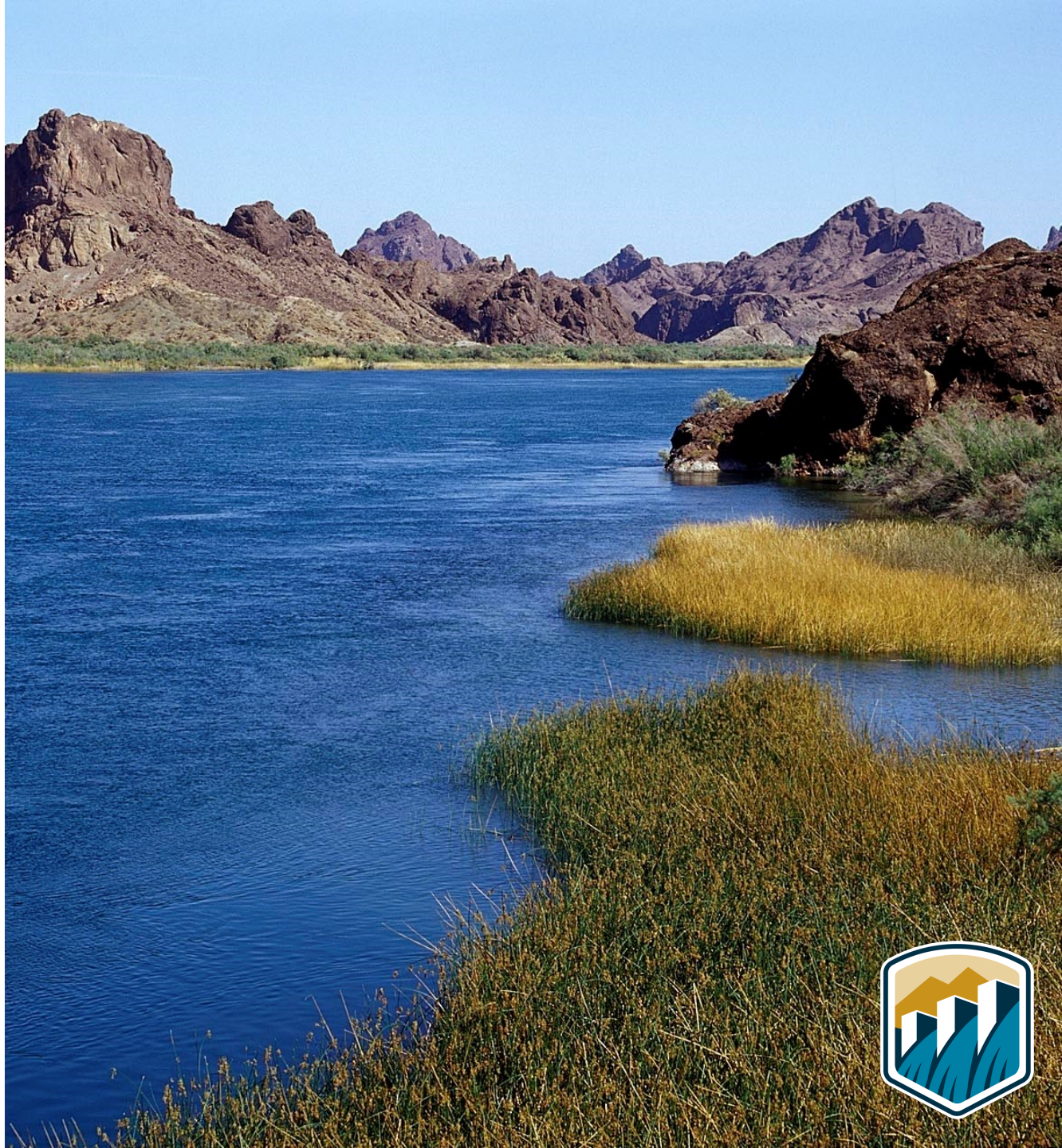
Intro to Water and Related Resources Planning

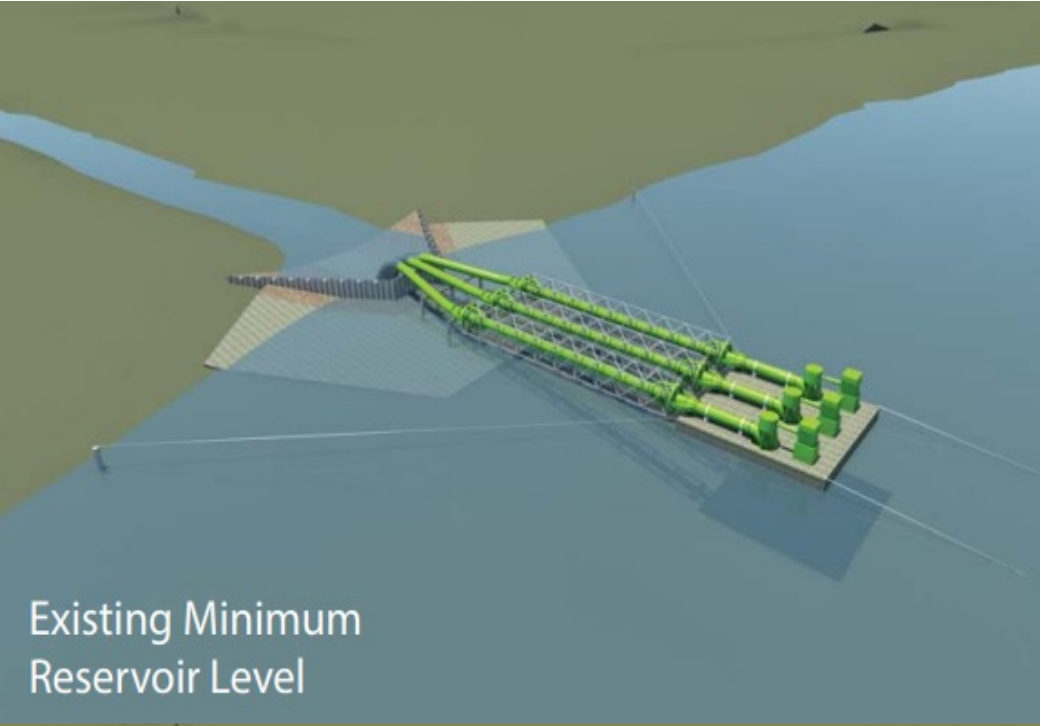
Stakeholder Workshop

October 17 & 18, 2023

Reclamation's Mission

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.





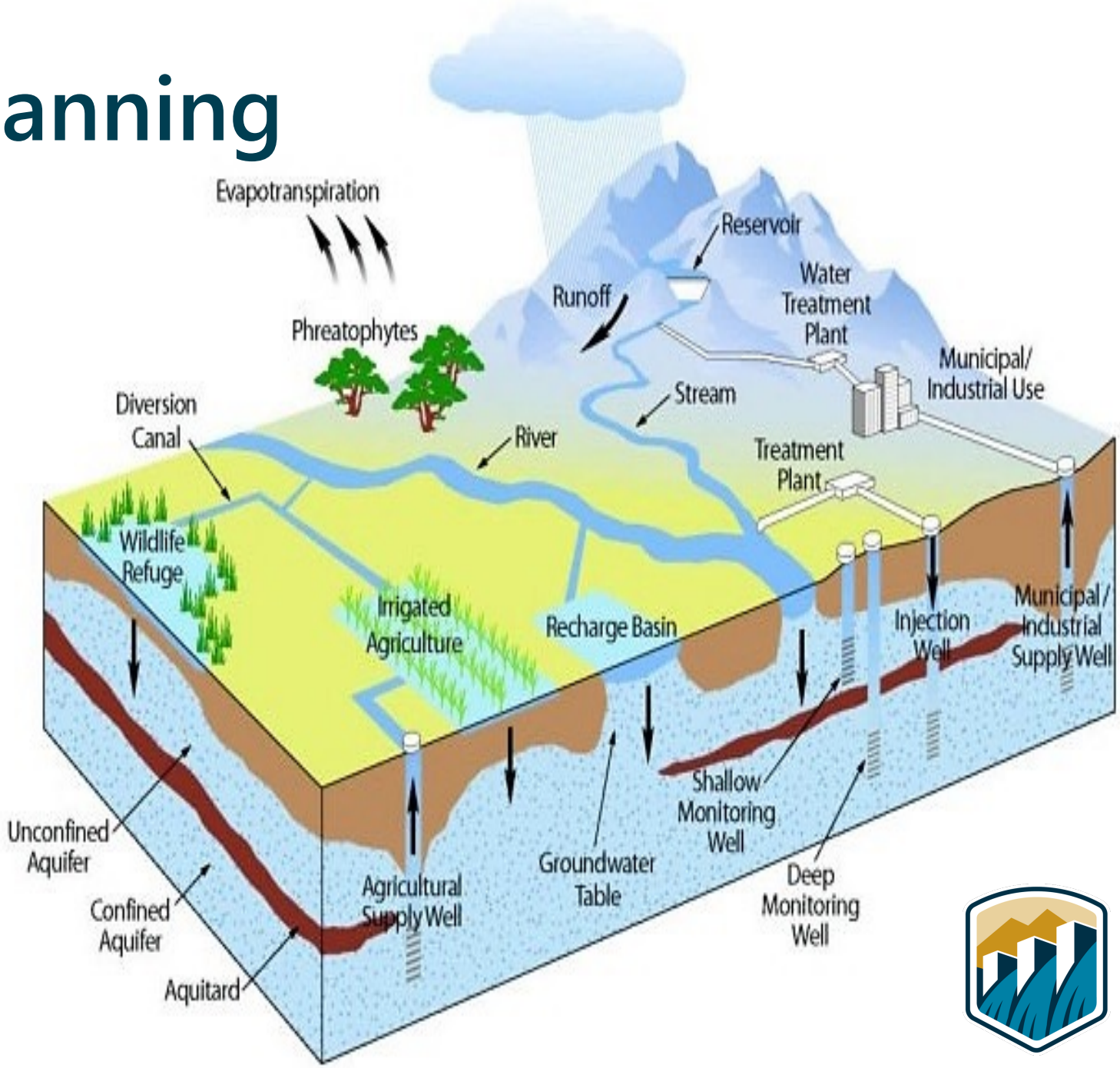
Water Resources Planning

- 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

Issues center on:

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



Authority

- Authority: laws giving permission to take action
- Reclamation does not have an “organic act”
- Reclamation’s authorities are generally project-specific
- Planning report is the often basis for project authorization and/or justification

Reclamation Authorities

- Reclamation Act of 1902
  - Established the Reclamation program under the U.S. Geological Survey
  - Authorizes revenues from the sale of public lands in the West to finance the construction of irrigation projects.
    - ✓ Required water users to repay construction charges to the Reclamation Fund.
- Boulder Canyon Project Act of 1928
  - First project-specific authorization
  - First multi-purpose project: Flood Control, Navigation, Irrigation, Hydropower

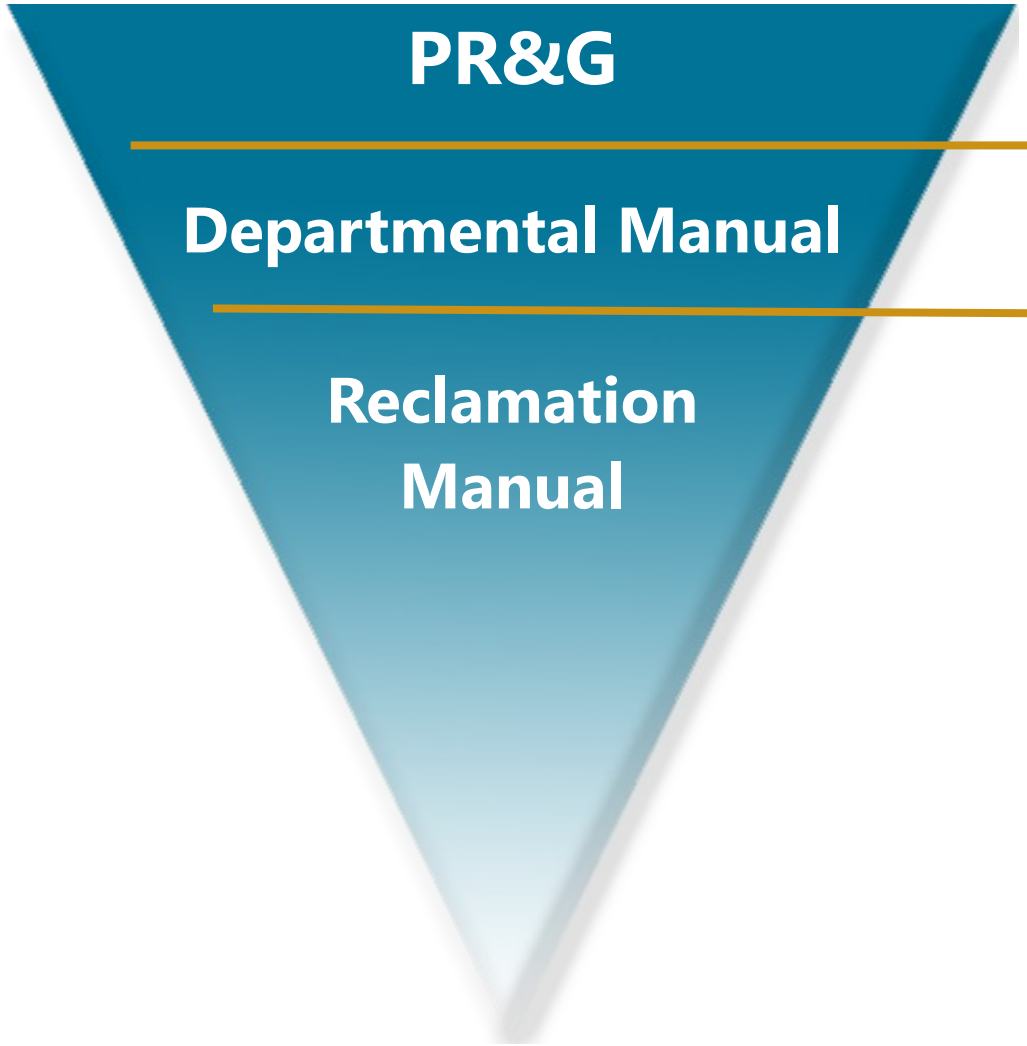
Reclamation Authorities

- Reclamation Project Act of 1939
  - Required projects to be found feasible through comprehensive project planning, including:
    - ✓ Engineering feasibility of proposed construction
    - ✓ Estimated costs of proposed construction
    - ✓ Costs properly allocated to irrigation, M&I, power, etc. and returned to the U.S.
  - Consideration of irrigator's ability to pay
- The Federal Water Project Recreation Act of 1965
  - Directs Reclamation to explore including recreation and fish and wildlife purposes when planning federal projects and establishes cost-sharing principles.

Reclamation Authorities

- The Water Resources Planning Act of 1965
  - Establishes the Water Resources Council
  - Calls for principles, standards, and procedures for Federal participation in the preparation of comprehensive regional or river basin plans and for the formation of Federal water projects

Reclamation Authorities & Manual (Cont.)



PR&G

Principles and Requirements for Fed. Investments in Water Resources
Interagency Guidelines

Departmental Manual

Department of Interior Agency Specific Procedures

Reclamation Manual

POLICIES:

CMP P09 *Water and Related Resources Planning*

DIRECTIVES & STANDARDS:

CMP 09-01 *Water and Related Resources Special and Appraisal Studies*

CMP 09-02 *Water and Related Resources Feasibility Studies*

CMP 09-04 *Planning for Major Rehabilitation and Replacement of Existing Assets*

CMP 09-05 *General Planning Activities*

PEC 01-02 *Project Cost Allocations*

PEC 11-01 *Irrigation Ability-to-Pay Analysis*

https://www.usbr.gov/recman/

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

Appraisal Study

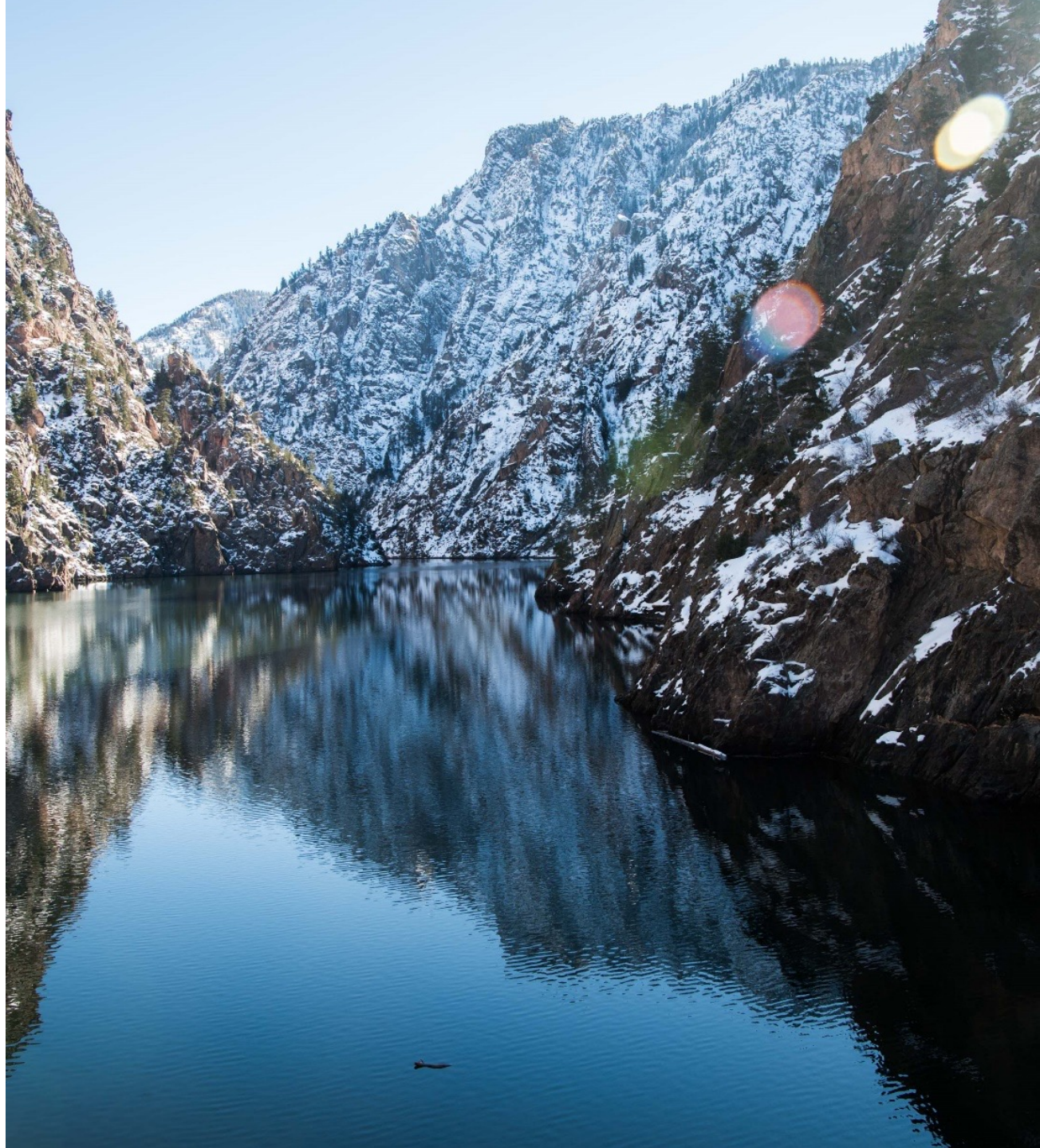
- Reclamation has general authority to conduct appraisal studies
- Identify a range of solutions that could address the problem or issue
- Determines whether Reclamation should investigate problems in more detail
- Uses existing information and data with very limited new data
- Conducted by Reclamation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

Feasibility Study

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

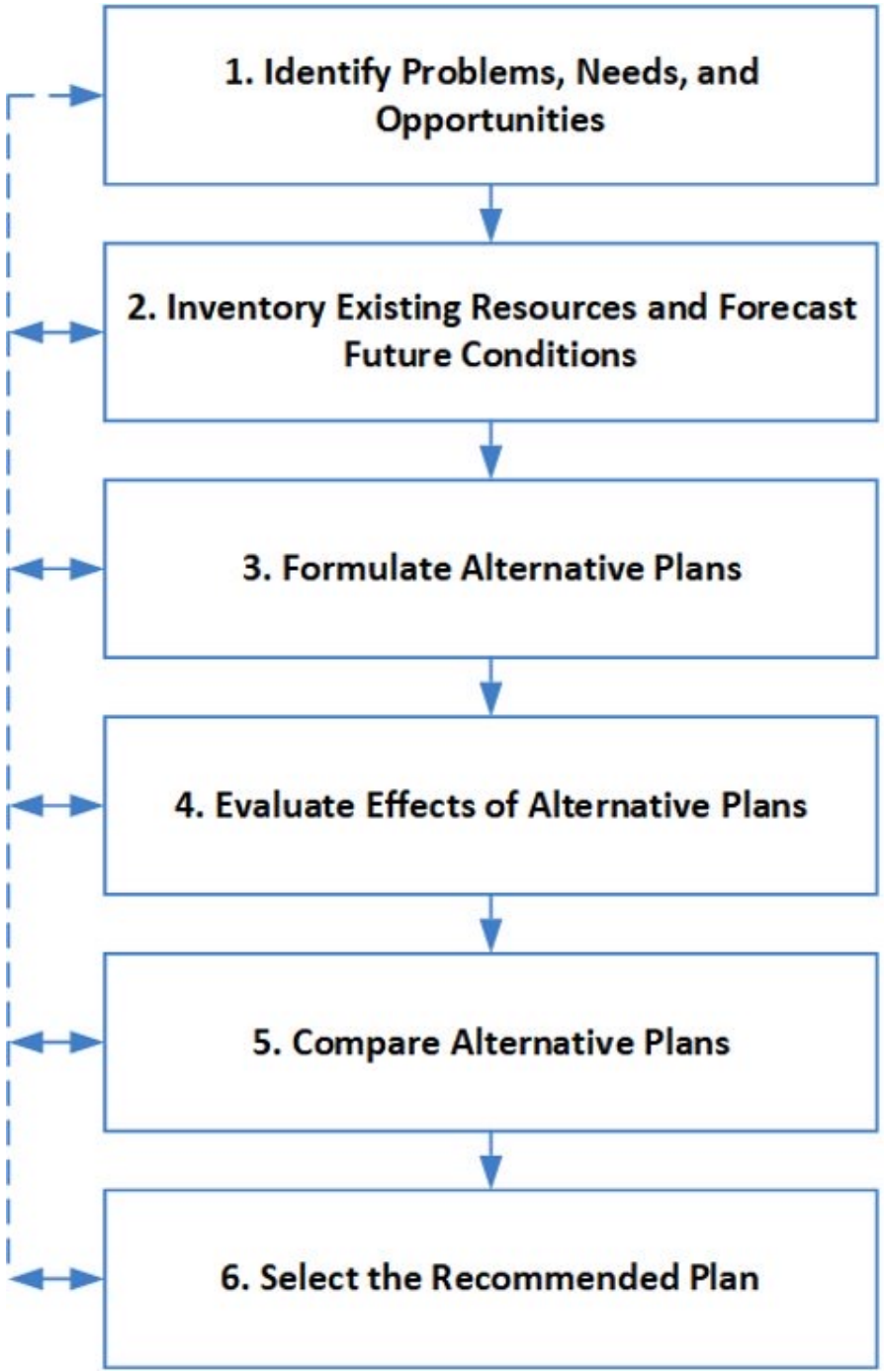
XM Justification Report

- RM D&S, *Planning for Major Repairs and Rehabilitation Activities* (CMP 09-04)
- Applies to Extraordinary Maintenance (XM) activities financed with Reclamation appropriations greater than:
  - $13.9M+ (scaled)
  - $27.7M+ (standard)



Federal Planning Process

- 6-step planning process
- Iterative (note the arrows)
- Important not to be pre-decisional in approach to issue
  - Don’t presuppose the solution!



1. Identify Problems, Needs and Opportunities

- Starts before study authorization, but can occur during an appraisal study or at the beginning of a feasibility
- Scoping of the problem:
  - What exact problem will be addressed by the project/action?
- Define the study area; stakeholders; potential beneficiaries
- What are the planning objectives?
  - May have primary and secondary
- What are the planning constraints?

2. Inventory Existing Conditions and Forecast Future Conditions

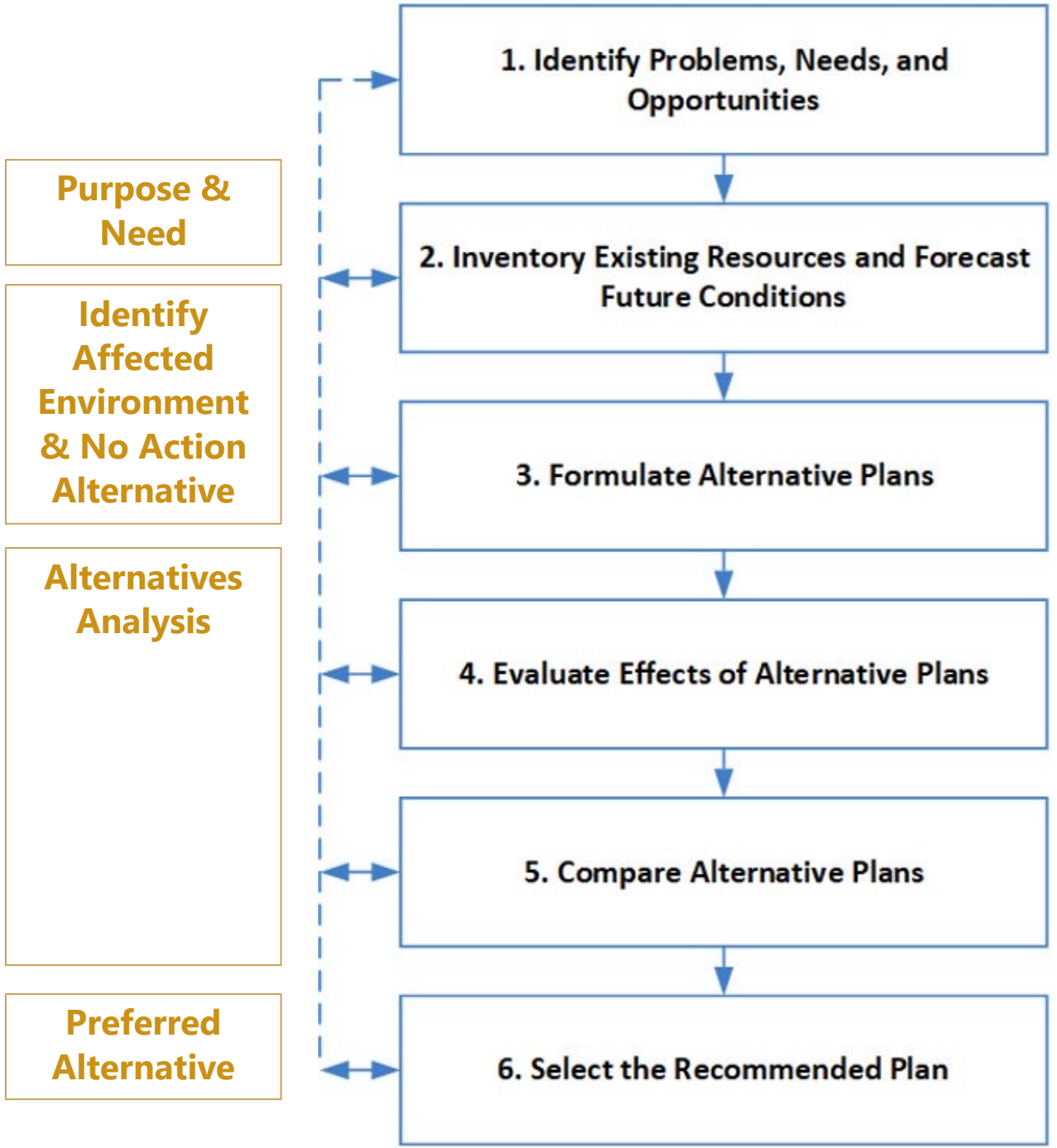
- Historic conditions, expected changes
  - Consideration of climate change
- Period of analysis (generally 100 years for multipurpose dams or expected useful life)
- Future without project conditions
  - Determine the forecast period
  - Most likely condition to exist in the absence of the project
  - May show existing problem worsening
  - This is the "no-action" alternative (NEPA)

3. Formulate Alternative Plans

- Develop a list of activities that can be implemented to address primary planning objectives
  - Ways to achieve all or part of planning objectives, avoiding constraints
  - These are the building blocks of alternative plans
- When formulating, each incremental feature/activity should be analyzed independently and combined with other features/activities (that are not mutually exclusive)
  - PR&G require consideration given to non-structural alternatives
- Value Planning is a great tool at this stage

Environmental Compliance

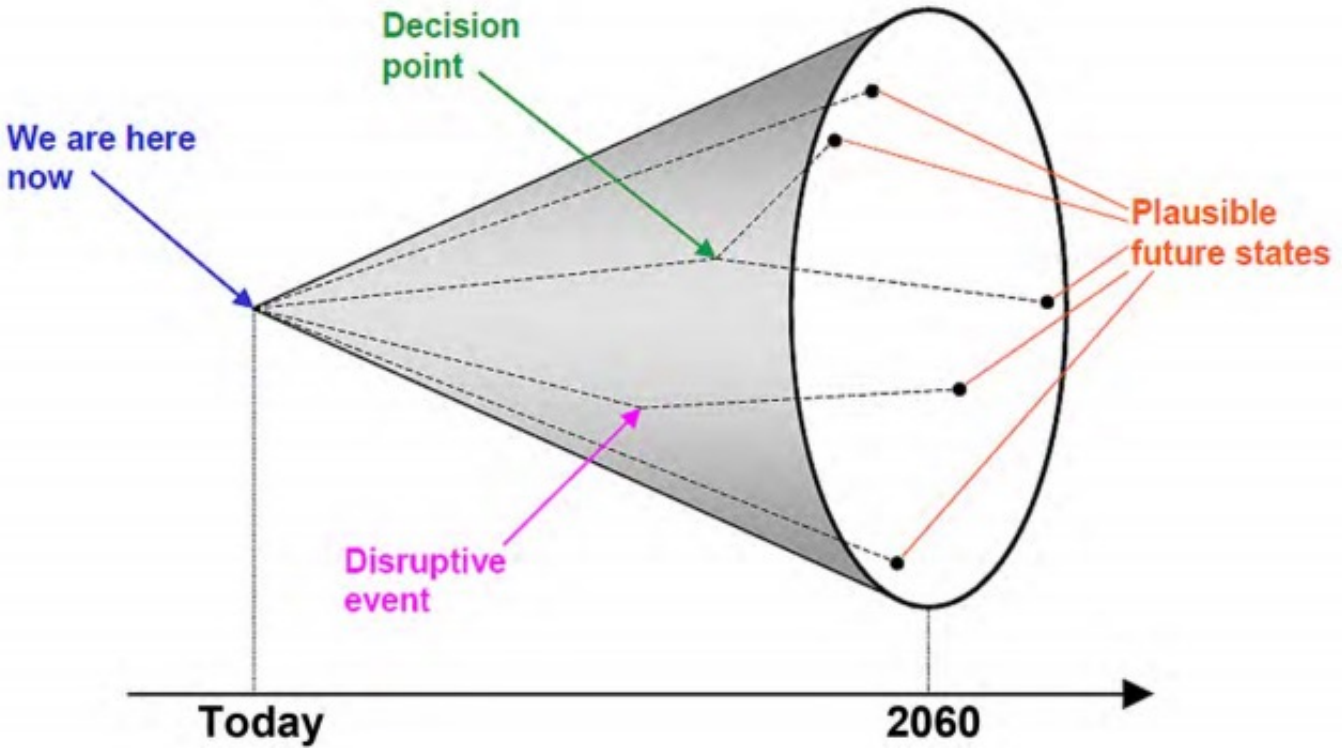
- Plans should be formulated to first avoid environmental impacts, then minimize, then mitigate.
- Alternatives should be the same
- Informs environmental feasibility
- Informs benefit-cost analysis



Public Involvement

- Hold meetings with residents, businesses, local governments, special interests
- Hold public meetings/workshops
- Website/electronic media
- Newsletters
- Important to solicit feedback from the public to ensure acceptability of proposed plan(s)

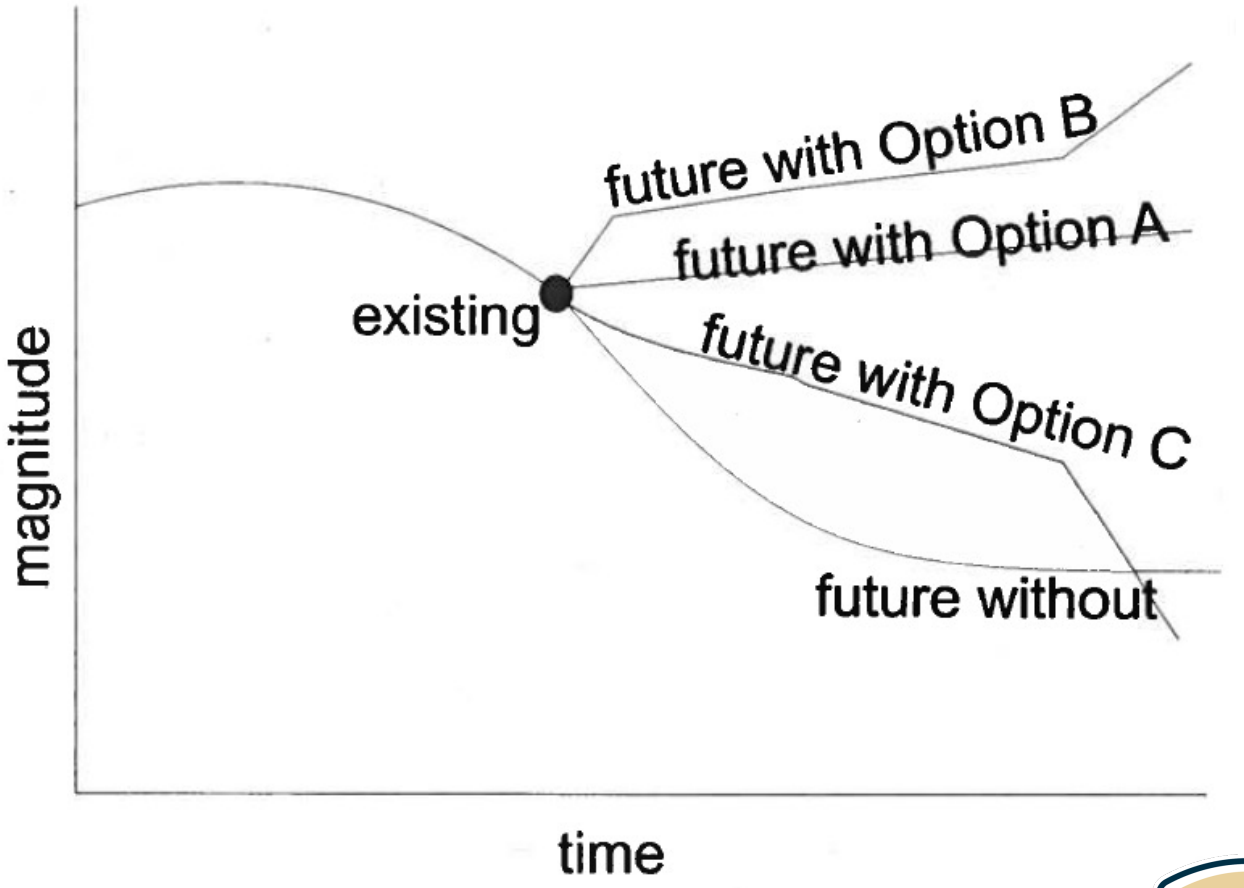
4. Evaluate Alternative Plans



- Forecast future with-plan conditions and compare to future without-plan conditions
- Evaluation methods comply with RM, including *Peer Review of Scientific Information and Assessments* (CMP P14) and *Scientific Integrity* (CMP P13)
- Alternative plan(s) screened out based on criteria
  - Reduce Initial Alternatives

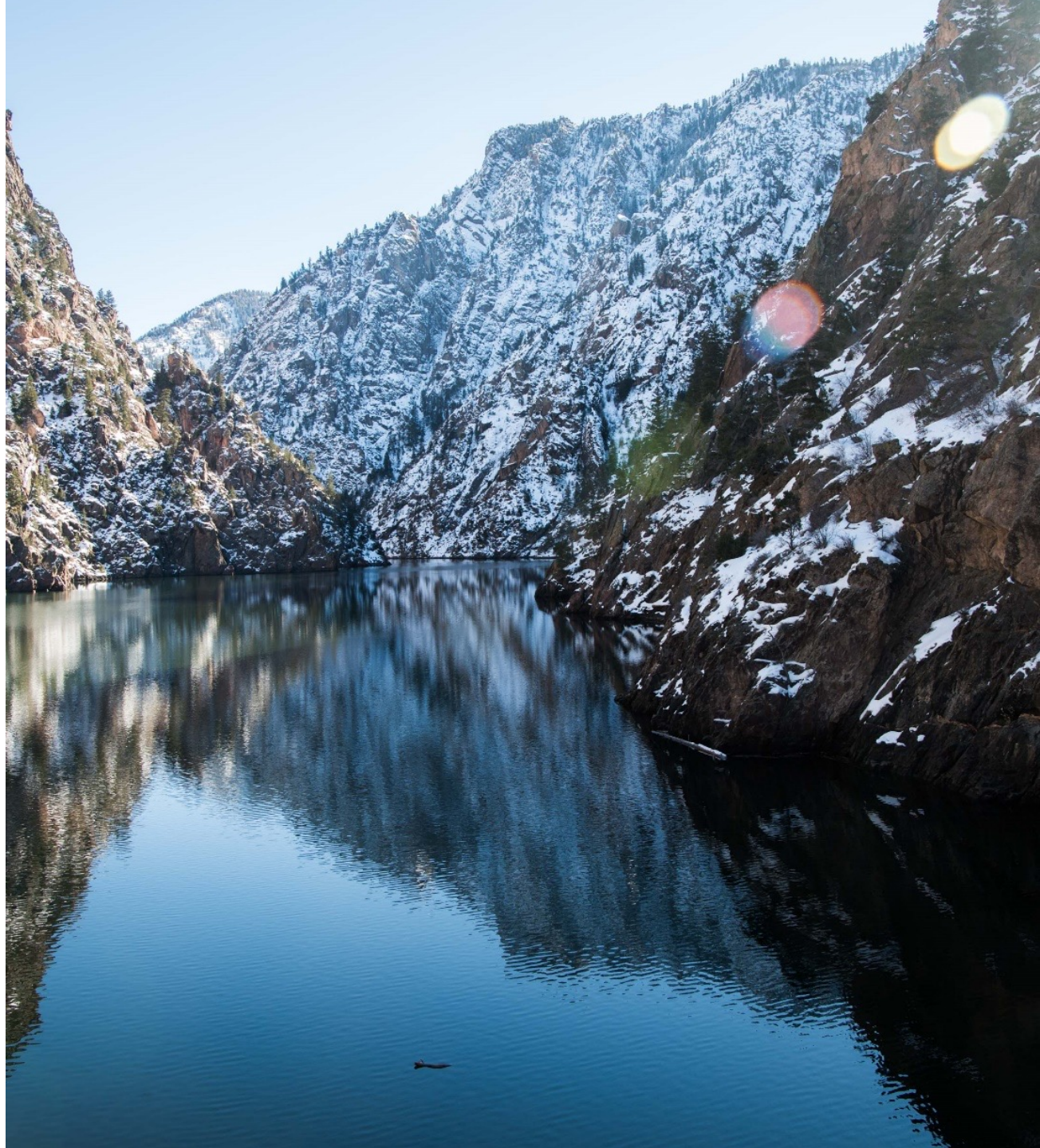
5. Compare Alternative Plans

- PR&G requires screening for:
  - Acceptability
  - Effectiveness
  - Efficiency
  - Completeness
- Display to what extent each plan meets planning objectives
- Can be done multiple times throughout the process



6. Plan Selection

- PR&G recommend selecting the plan that maximizes net public benefits



Cost Allocation

- Costs allocated across project purposes on the basis of benefits
  - Separable Cost-Remaining Benefit (SCRB) Method
- Typically, only done on the recommended plan

Table ES-7. Initial Construction Cost Allocation Summary for CP4A ($ millions)[1, 2]

Item/ Calculation	Irrigation Water Supply	M&I Water Supply	Fish and Wildlife Enhancement	Hydro-power	Total
Allocated Total Annual Costs					
Average Annual Benefits	5.1	21.8	33.3	14.4	74.6
Single-Purpose Projects	43.6	44.5	42.2	14.4	-
Justifiable Expenditure (Lessor of Benefits/Single Purpose Alt Costs)	5.1	21.8	33.3	14.4	74.6
Separable Annual Costs	4.5	7.0	6.5	0.0	18.0
Remaining Benefits/Justifiable Expenditure	0.6	14.8	26.8	14.4	56.6
% Remaining Benefits	1%	26%	47%	25%	100%
Allocated Joint Cost	0.5	10.7	19.4	10.4	41.0
Total Allocated Costs	4.9	17.7	25.9	10.4	59.0
Allocated Construction Costs					
Construction Cost	103.8	303.6	614.5	243.6	1,265.5
% of Total Construction Cost	8%	24%	49%	19%	100%

Notes:

[1] January 2014 price level, 3.5 percent interest rate, and 100-year period of analysis.

[2] All numbers are rounded for display purposes, and therefore line items may not sum to totals.

Key:

- = not applicable

IDC = interest during construction

M&I = municipal and industrial

O&M = operations and maintenance

Cost Assignment

- Costs of the project are:
  - reimbursable
  - nonreimbursable
- Only done on the recommended plan

Table ES-8. Initial Construction Cost Assignment for the NED Plan ($millions)[1]

Purpose /Action	Total		Cost Assignment			
			Nonreimbursable		Reimbursable	
	Percent	Cost	Percent	Cost	Percent	Cost
Study Objectives						
Irrigation Water Supply	8%	103.8	0%	0.0	100%	103.8
M&I Water Supply	24%	303.6	0%	0.0	100%	303.6
Fish & Wildlife Enhancement	49%	614.5	100%	614.5	0%	0.0
Hydropower	19%	243.6	0%	0.0	100%	243.6
Total	100%	1,265.5	49%	614.5	51%	651.0

Notes:

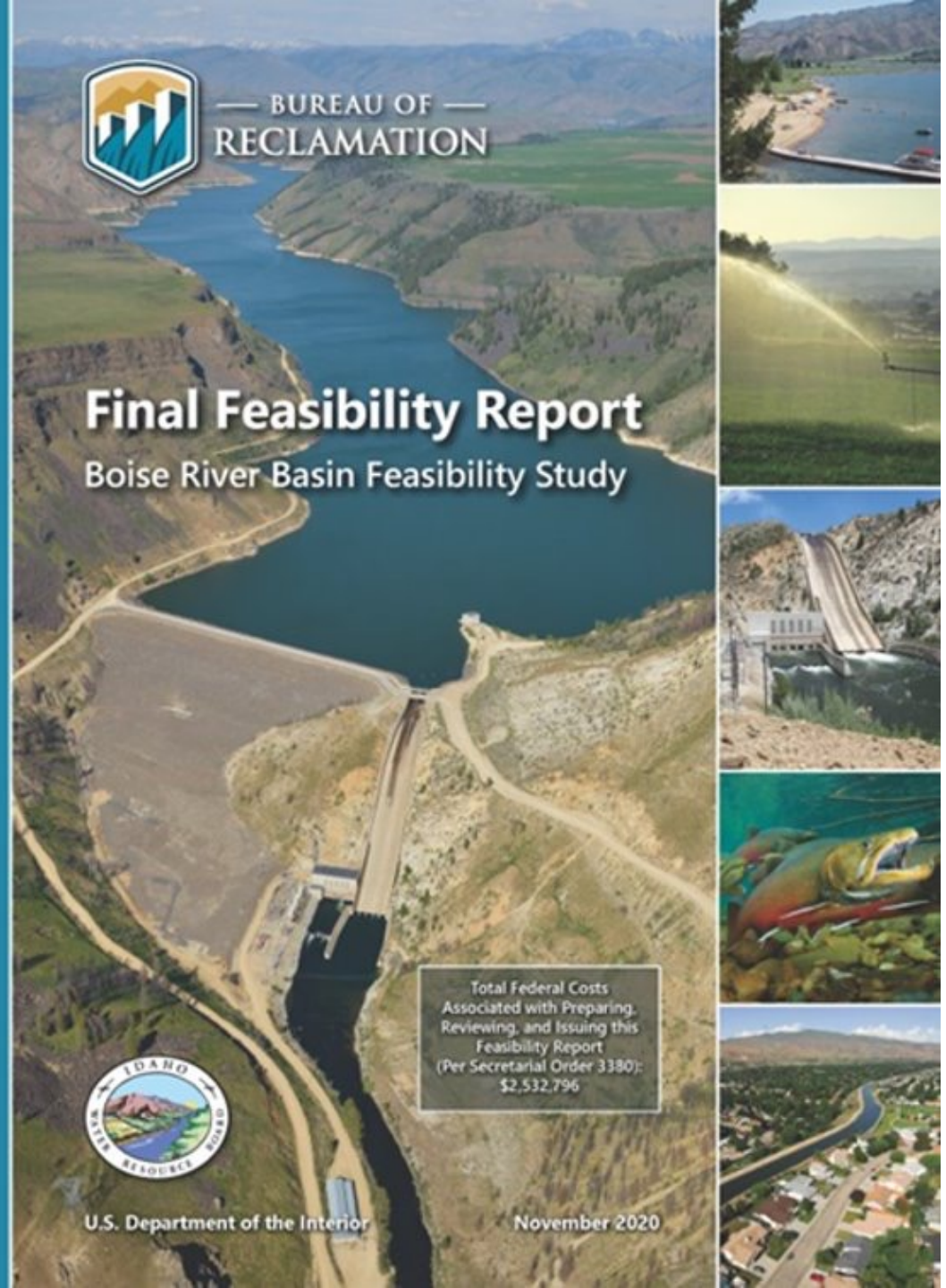
[1] All numbers are rounded for display purposes, and therefore line items may not sum to totals.

[2] Final cost allocation and assignment would occur following completion of project construction.

Key:

M&I = municipal and industrial

NED = National Economic Development



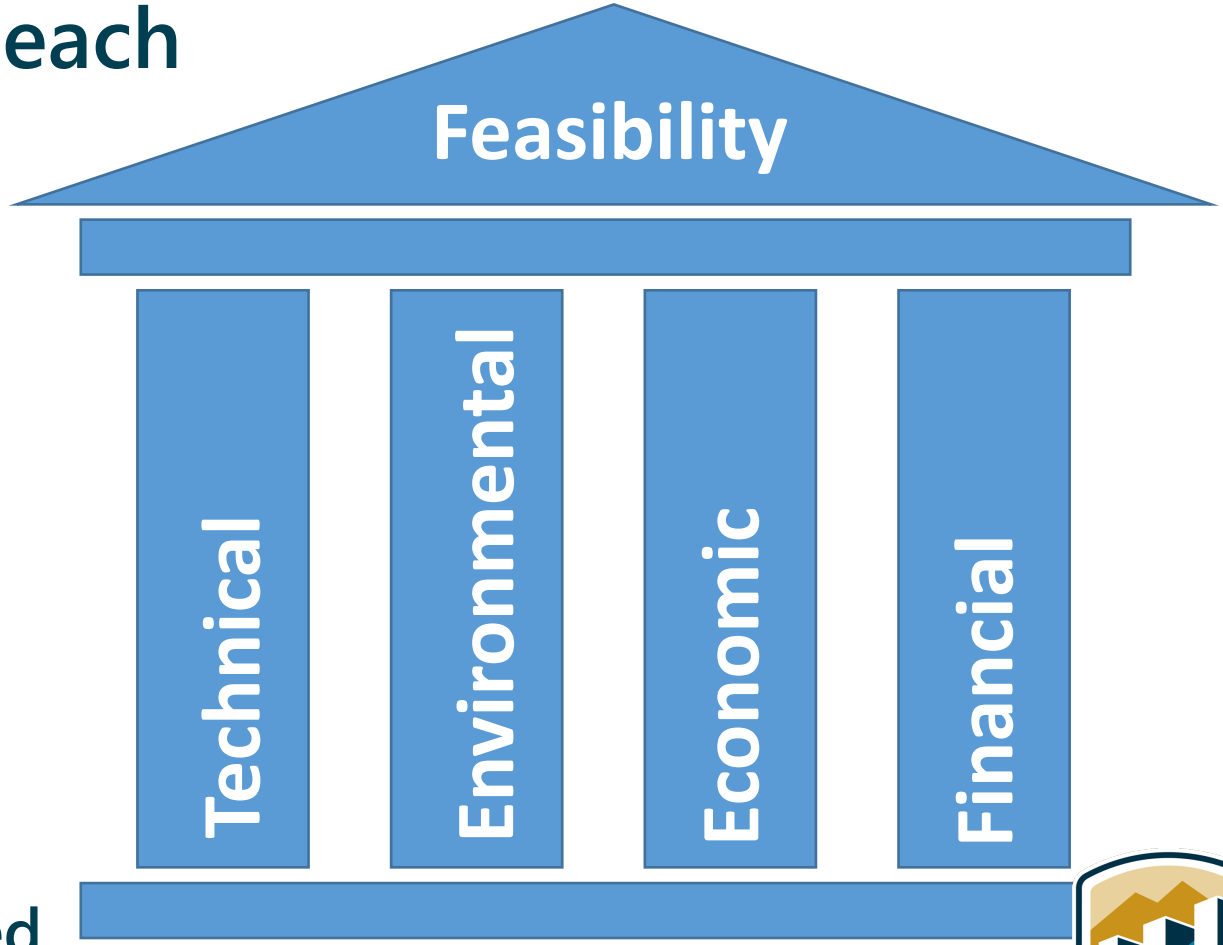
Feasibility Report

- Documents the feasibility study process and results
- Recommended plan
- Per PR&G, the DOI ASP, and CMP 09-02, the feasibility report should be *integrated* with the corresponding NEPA document
  - In practice, both documents should be sent simultaneously from Reclamation to DOI, OMB, and to Congress for review

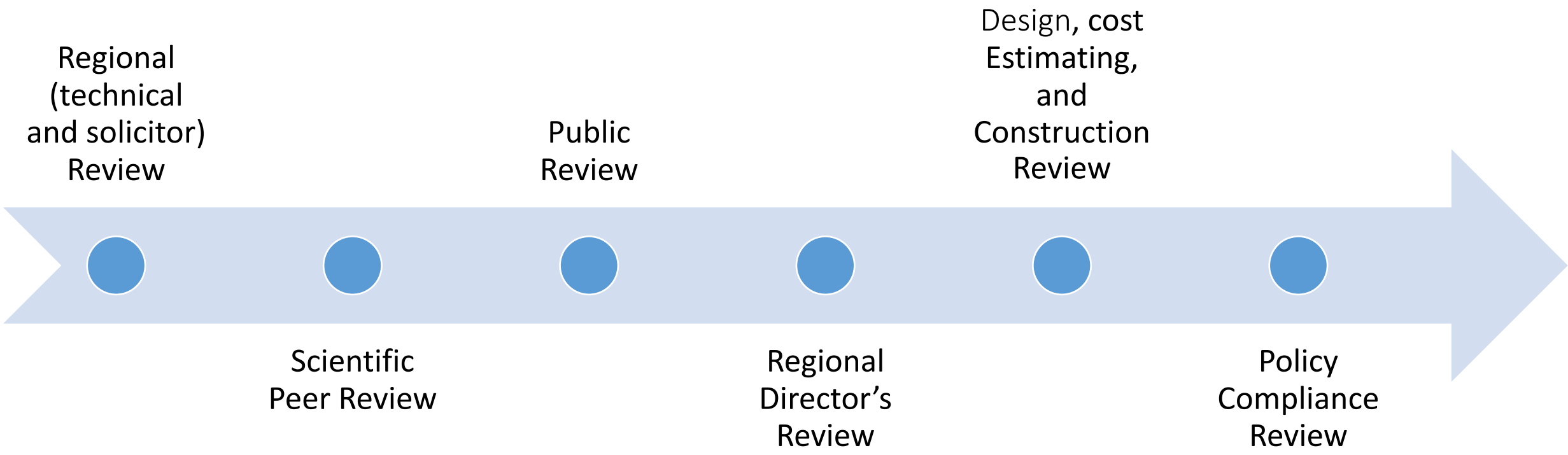
Determination of Feasibility

Recommended Plan must have each to be considered feasible:

- Technical
  - Feasibility-level designs/costs
- Environmental
  - NEPA compliance
- Economic
  - Positive net public benefits
- Financial
  - Beneficiaries have the financial capability to pay for costs assigned to them.



Reclamation Reviews



Next: Departmental and OMB reviews

Policy Compliance Review

- After Regional Director's Review
- Last review before Feasibility Report goes to the Commissioner for decision-making
- 3 reviewers
  - One selected each by Region and Policy
  - One jointly selected
  - Team may seek input from other experts
- Generally 60-days

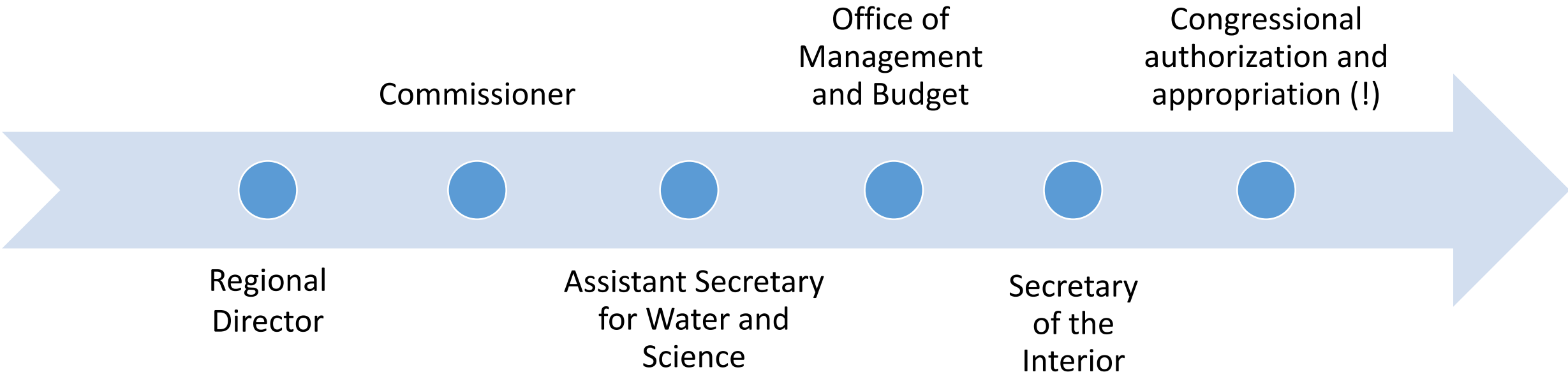
Policy Compliance Review (cont.)

- Collaborative process
- Culminates in a Policy Compliance Review Report, transmitted to the Commissioner alongside the final Feasibility Report
- Importantly, this report is often used as the basis for a recommendation of feasibility from the Commissioner to the Secretary of Interior and ultimately, Congress.
- Internal document

Policy Compliance Review (cont.)

- Common findings recently:
  - Incomplete financial feasibility analysis
  - Lack of operational clarity to support technical feasibility
  - Lack of appropriate stakeholder engagement

Approval Process



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