RECLAMATION

Managing Water in the West

Public-Private Partnerships (P3)

Water Infrastructure and Alternative Financing Forum

Reclamation Overview

May 9, 2017

U.S. Department of the Interior
Bureau of Reclamation

Created in 1902 to Reclaim the Arid West

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.

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Reclamation: 114 Years of Managing the Contemporary Water Needs of the West

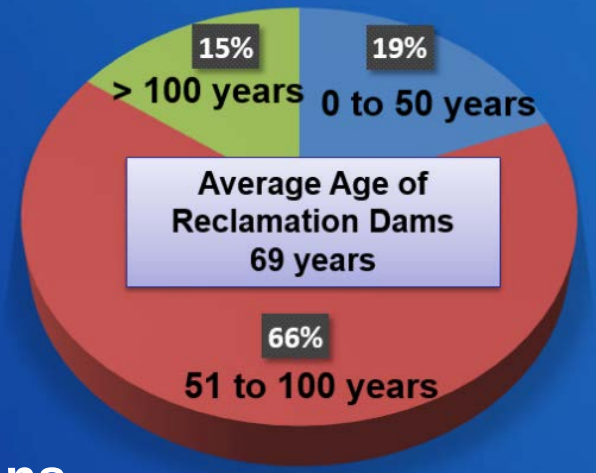
- President Roosevelt signed the Reclamation Act on June 17, 1902 establishing the U.S. Reclamation Service
- Began with “single purpose” projects designed primarily for irrigation development
- Program spawned additional benefits considered incidental to irrigation at the time

Aspects of Reclamation

- **No single Organic Statute**
  - Some general authorities
  - Hundreds of Project specific authorizations
- **Must Comply with State Water Law**
  - Project water rights appropriated under state law
  - Subject to State adjudication and administration
  - Multi-state Compacts/Decrees/Treaties
- **Business Practices**
  - Cost-based rates: Water Supply and Power costs borne by beneficiaries
  - Extensive cost accounting system
- **Transferred Works**
  - Reclamation retains title
  - 2/3 of Reclamation's assets by count
  - Operating Entity responsible for Operations, Maintenance, and Replacement

Reclamation's Role in the West

- Largest wholesaler of water in U.S.
- Second largest hydropower producer in U.S.
- Flood Control & Recreation
- Facilities
  - 337 reservoirs
  - 489 dams and 76 hydropower facilities
  - 8,116 miles of canals
  - 942 pumping plants, + pipelines & siphons
  - 202 recreation sites
- Total Replacement Value of $104B



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Jurisdiction and Structure

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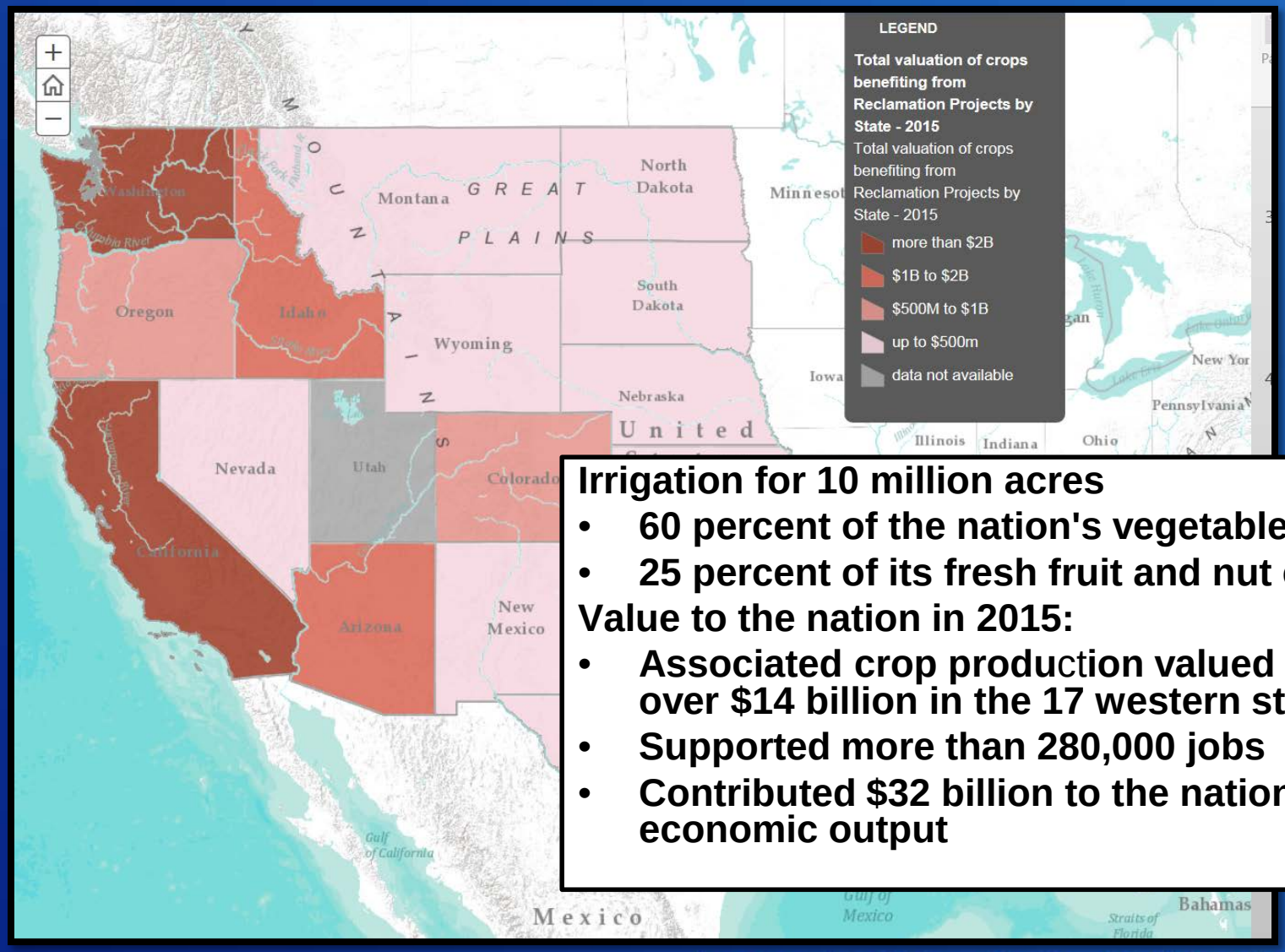
Mission Areas and Impacts

Irrigation



Irrigation for 10 million acres

- **60 percent of the nation's vegetables**
- **25 percent of its fresh fruit and nut crops**

Value to the nation in 2015:

- **Associated crop production valued at over $14 billion in the 17 western states**
- **Supported more than 280,000 jobs**
- **Contributed $32 billion to the nation's economic output**

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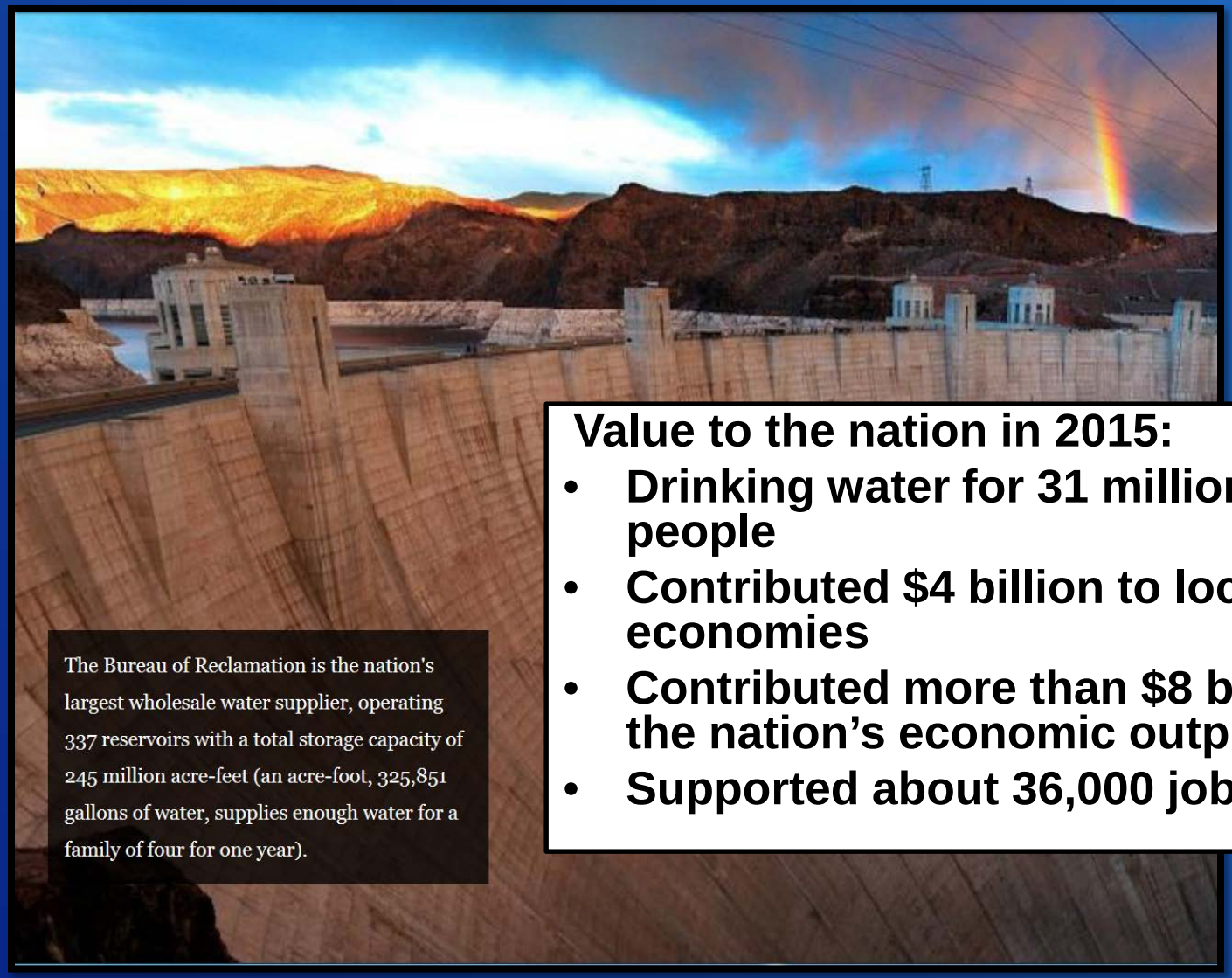
Municipal & Industrial



Value to the nation in 2015:

- **Drinking water for 31 million people**
- **Contributed $4 billion to local economies**
- **Contributed more than $8 billion to the nation's economic output**
- **Supported about 36,000 jobs**

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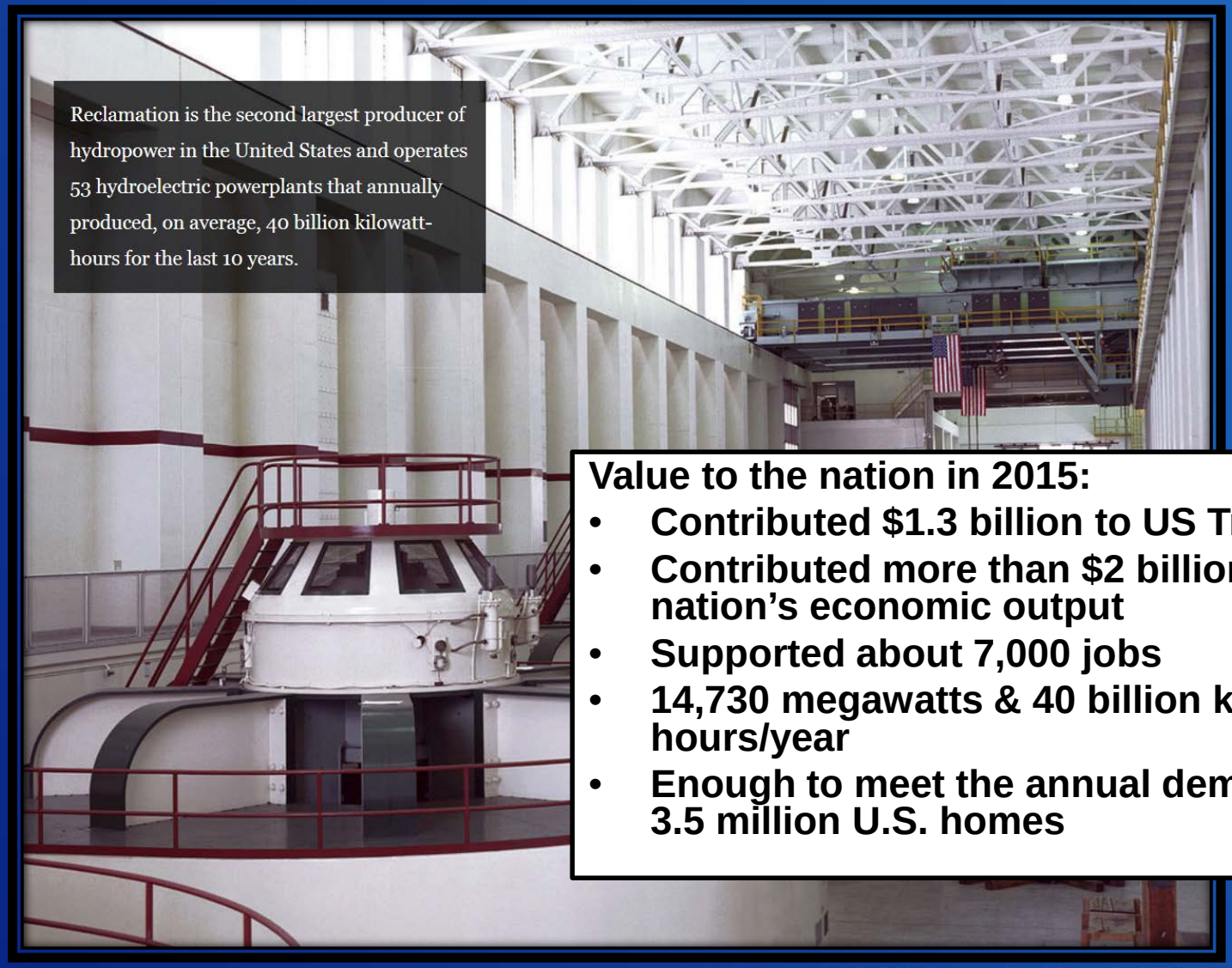
Hydropower



Value to the nation in 2015:

- **Contributed $1.3 billion to US Treasury**
- **Contributed more than $2 billion to the nation's economic output**
- **Supported about 7,000 jobs**
- **14,730 megawatts & 40 billion kilowatt-hours/year**
- **Enough to meet the annual demand of 3.5 million U.S. homes**

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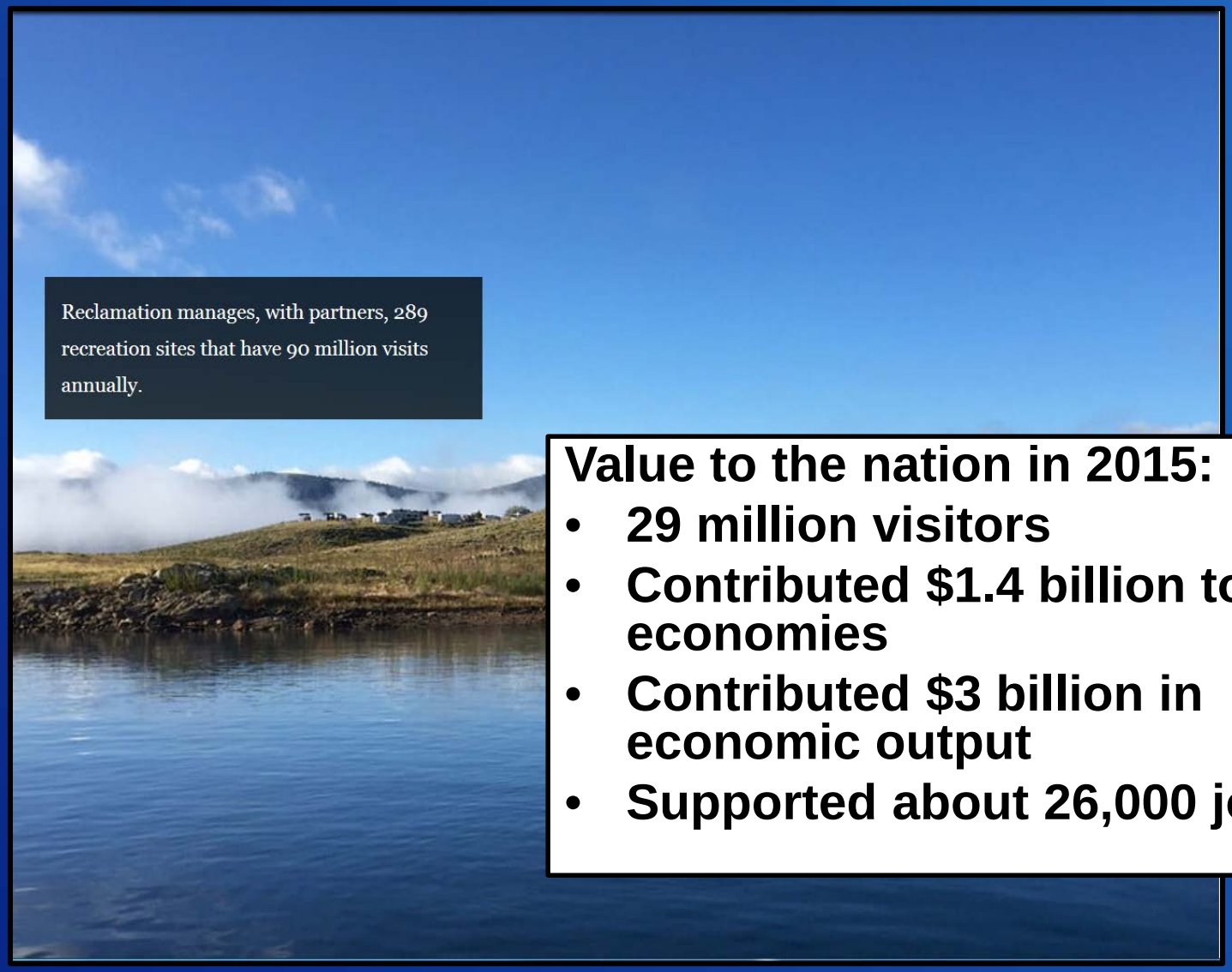
Recreation



Value to the nation in 2015:

- **29 million visitors**
- **Contributed $1.4 billion to local economies**
- **Contributed $3 billion in economic output**
- **Supported about 26,000 jobs**

Existing Assets

Reserved vs. Transferred Works

- **Reserved Works – facilities for which Reclamation holds title and has retained responsibility for operations and maintenance**

- **Transferred Works – facilities for which Reclamation holds title but responsibility for operations and management has been contractually transferred to the project beneficiaries**

489 Dams

363 High- & Significant-Hazard
5 National Critical Infrastructure

337 Reservoirs

Total storage capacity of
245 million acre-feet

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942 Pumping Plants

Capacity of 174,936 ft³/sec
Replacement Value of $4.6B

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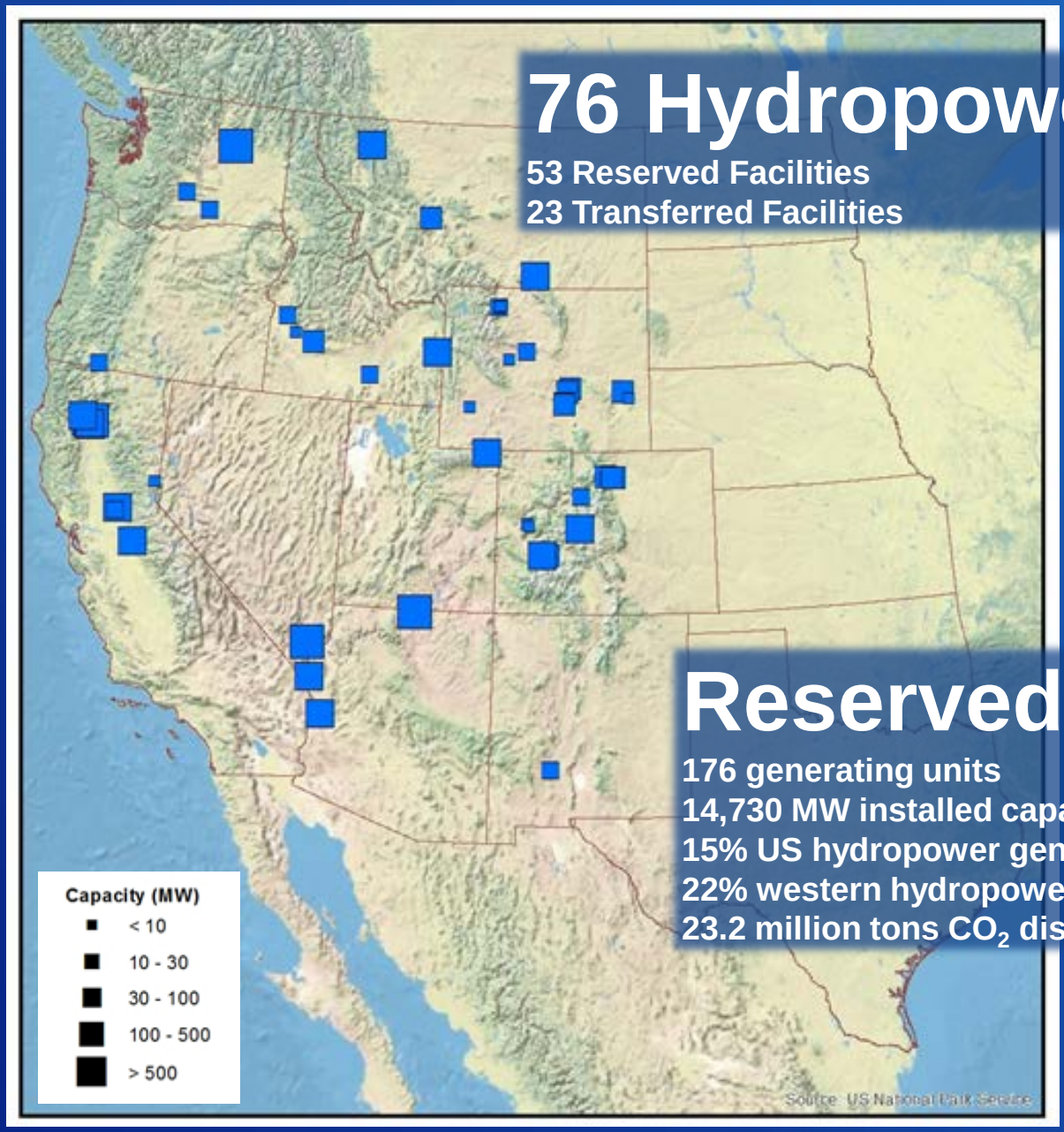

76 Hydropower Plants

53 Reserved Facilities
23 Transferred Facilities

Reserved Facilities

176 generating units
14,730 MW installed capacity
15% US hydropower generation
22% western hydropower generation
23.2 million tons CO_2 displacement

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Reclamation Lands

27,744 land records
6.05 million acres

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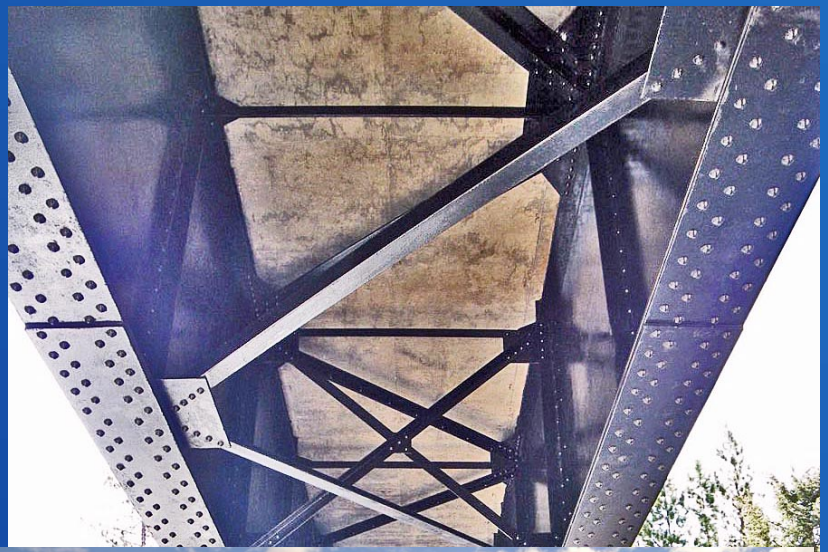
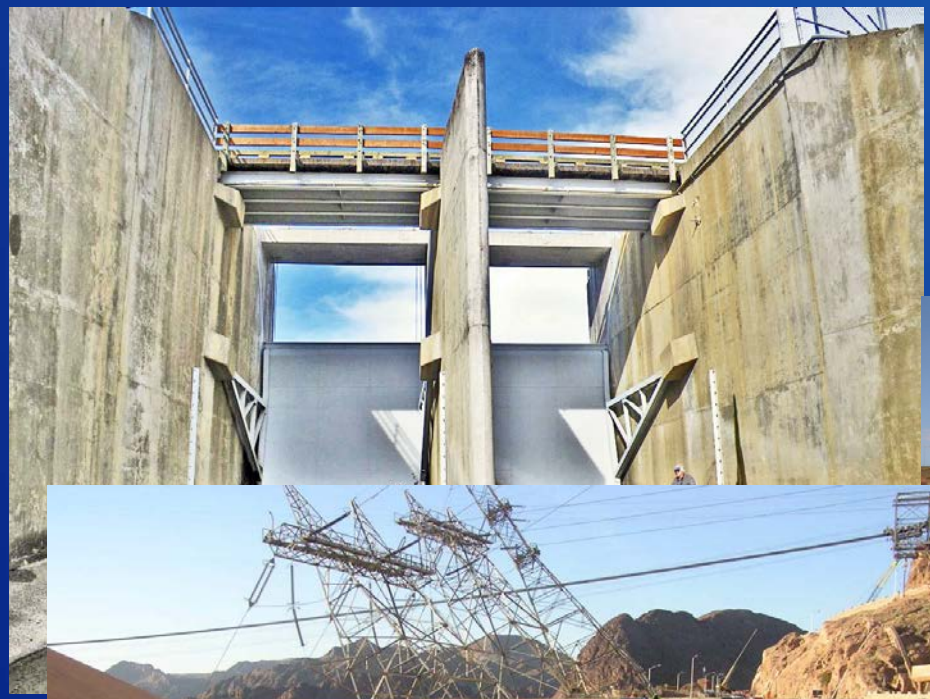
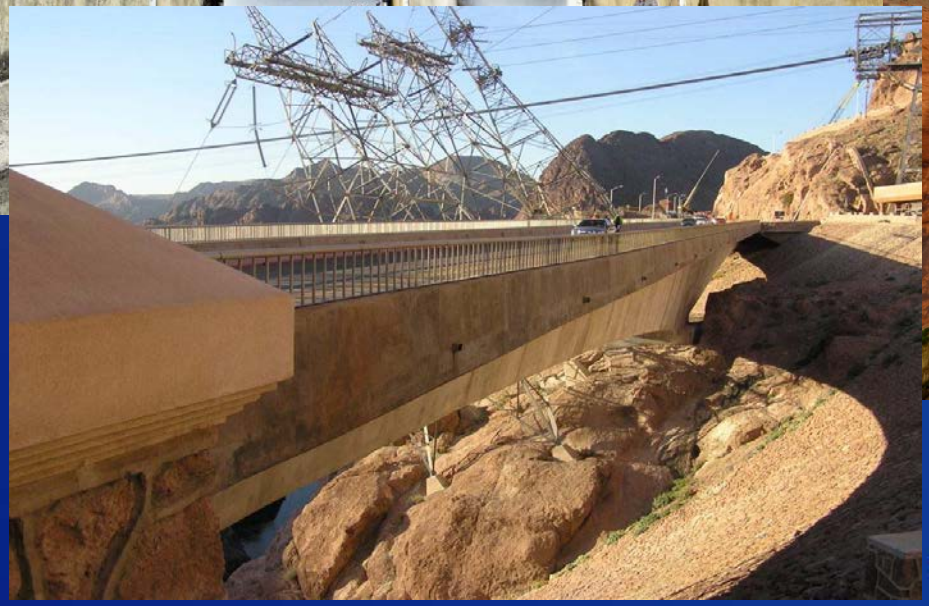
Transportation

299 Public Bridges
1,200 Miles of Roads







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Buildings

1,799 owned buildings
Total of 4.8 million square feet (sq. ft.)
2.7 million sq. ft. Office & Warehouse

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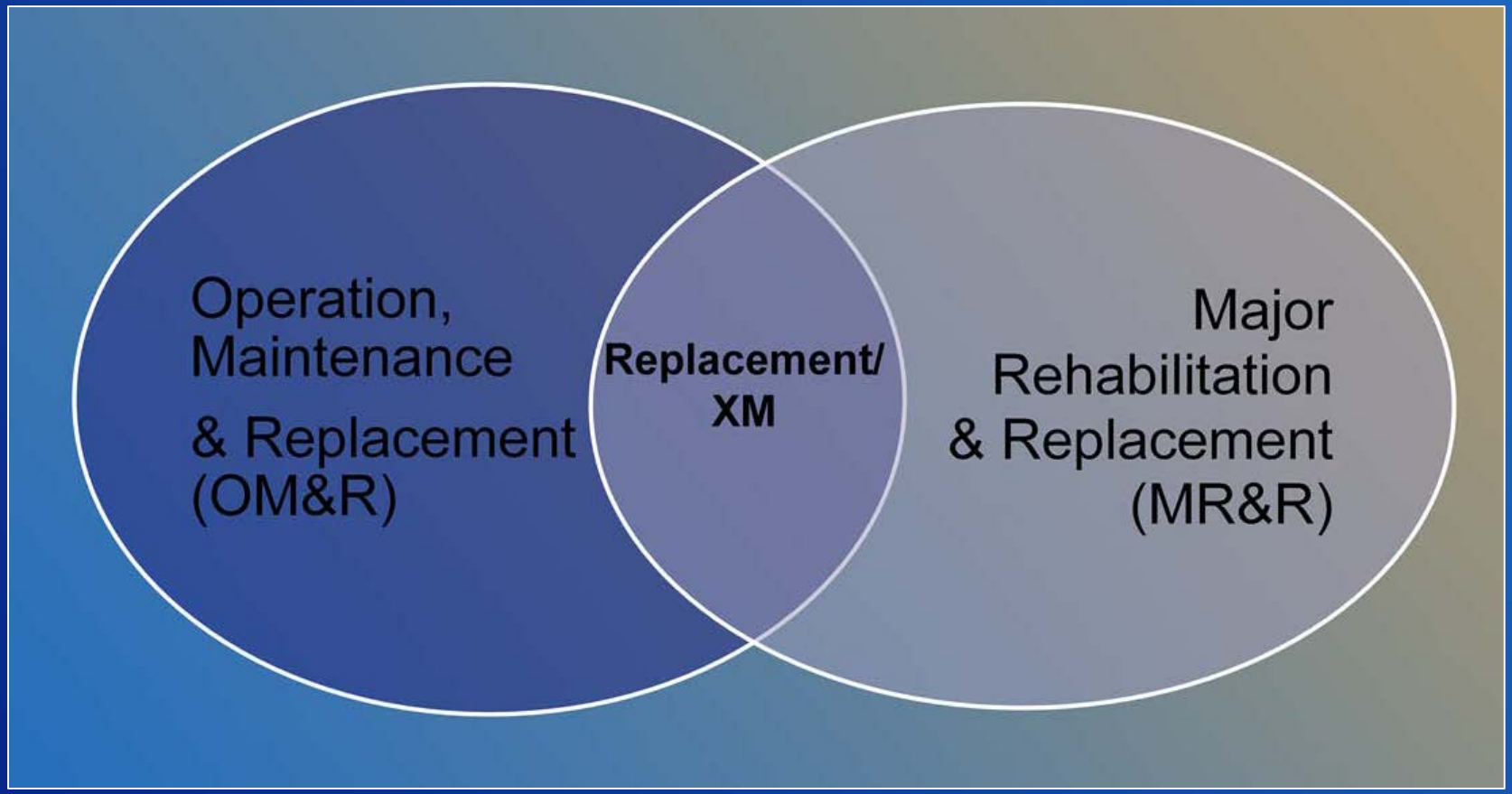
Significant Contemporary Challenges

- Water Supply & Demand Imbalances
- Managing Competing Water Use Demands
- Western Drought Response
- Infrastructure Investments
  - Investments in Existing Infrastructure to Support Risk Informed Asset Management
  - New Infrastructure Investments

Definitions



MR&R = Extraordinary Maintenance (XM) + Dam Safety Modifications + Deferred Maintenance (DM)
XM = The R in OM&R; O&M = Reoccurring = A4; R = Non-Reoccurring = A5

Estimates of Infrastructure Needs

Major Rehabilitation and Replacement

- $1.4 billion: Safety of Dams Corrective Actions (Dam Safety Remaining Ceiling)
- $2.8 billion: Major Rehabilitation and Replacement (5-year estimate)
  - $337 million: Deferred Maintenance
  - $358 million: Dam Safety
  - $2.1 billion: Extraordinary Maintenance

New Construction

- $1.6 billion: Water Supply / Ecosystem Improvements (5-year estimate)
- $1.5 billion: Indian Water Rights Settlements (balance)
- $1.3 billion: Rural Water Supply Projects (balance)
- $485 million: Title XVI Water Reclamation and Reuse Projects (balance)
- Other

Investment Needs and Opportunities

- Infrastructure rehabilitation and replacement
- Enhancement of existing facilities (e.g., Kachess)
- Construction of new projects (e.g., Eastern New Mexico Rural Water System, Arkansas Valley Conduit)
- Technology development and implementation (e.g., Paradox Valley Unit)
- Operation or replacement of existing facilities (e.g., Yuma Desalting Plant)

Context for RFI

Exploration of P3 as a potential finance and delivery tool for Reclamation's portfolio of water resource projects

Reclamation objectives of P3 Approach

- **Accelerate delivery to advance public benefits;**
- **Provide greater cost and schedule certainty;**
- **Innovation;**
- **Ensure asset life-cycle management;**
- **Minimize cost impact on end-users;**
- **Optimize risk allocation;**
- **Maximize public benefits by Incentivizing innovative asset uses and monetization.**


Questions