



— BUREAU OF —
RECLAMATION

Bureau of Reclamation Asset Management

Asset Leadership Network
September 16, 2022

Agenda



Reclamation Background



Asset Management Journey



Asset Management Maturation



Asset Management Visualization



Next Steps



Reclamation's Mission

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

Reclamation Brief Overview

- 492 dams
- 338 reservoirs
- 77 hydropower plants
- 300+ recreation and wildlife areas
- 10,000+ miles of mainline canals
- 2,000+ bridges
- 7.7 million acres of land



About Reclamation

Water

Largest wholesaler of water in U.S.

- Maintains a total reservoir storage capacity of 160 million acre-feet.
- Supplies 10 trillion gallons of water to 31 million people annually.
- Irrigates more than 11 million acres of farmland.

Hydropower

Second largest hydropower producer in U.S.

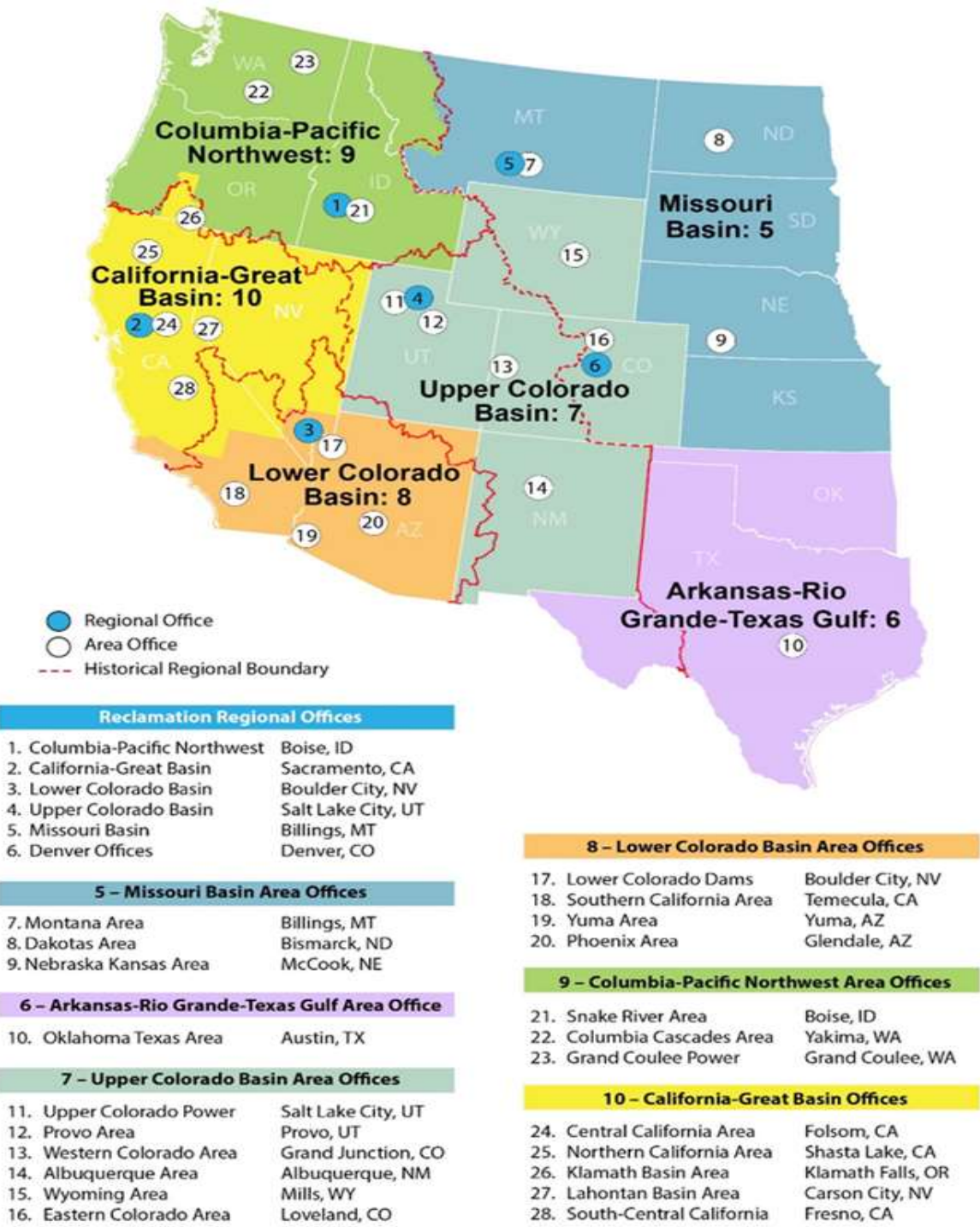
- Over 14,730 Megawatts (MW) of capacity, Reclamation's 53 reserved hydropower facilities produce approximately 40 billion kilowatt-hours annually (equivalent demand of over 3.85 million U.S. homes).
- Reclamation owns an additional 24 transferred hydropower facilities, comprising of 794 MW of capacity.
- Provides critical grid services that help support the growth of additional intermittent, non-dispatchable energy resources.

Benefits

Water, power, recreation, & environment

- Over 329 recreation and wildlife areas.
- Current replacement value of over \$100 billion.
- 458,000 jobs (Reclamation employs approximately 5,000).
- \$63 billion in economic output from an appropriated \$1.5 billion budget.

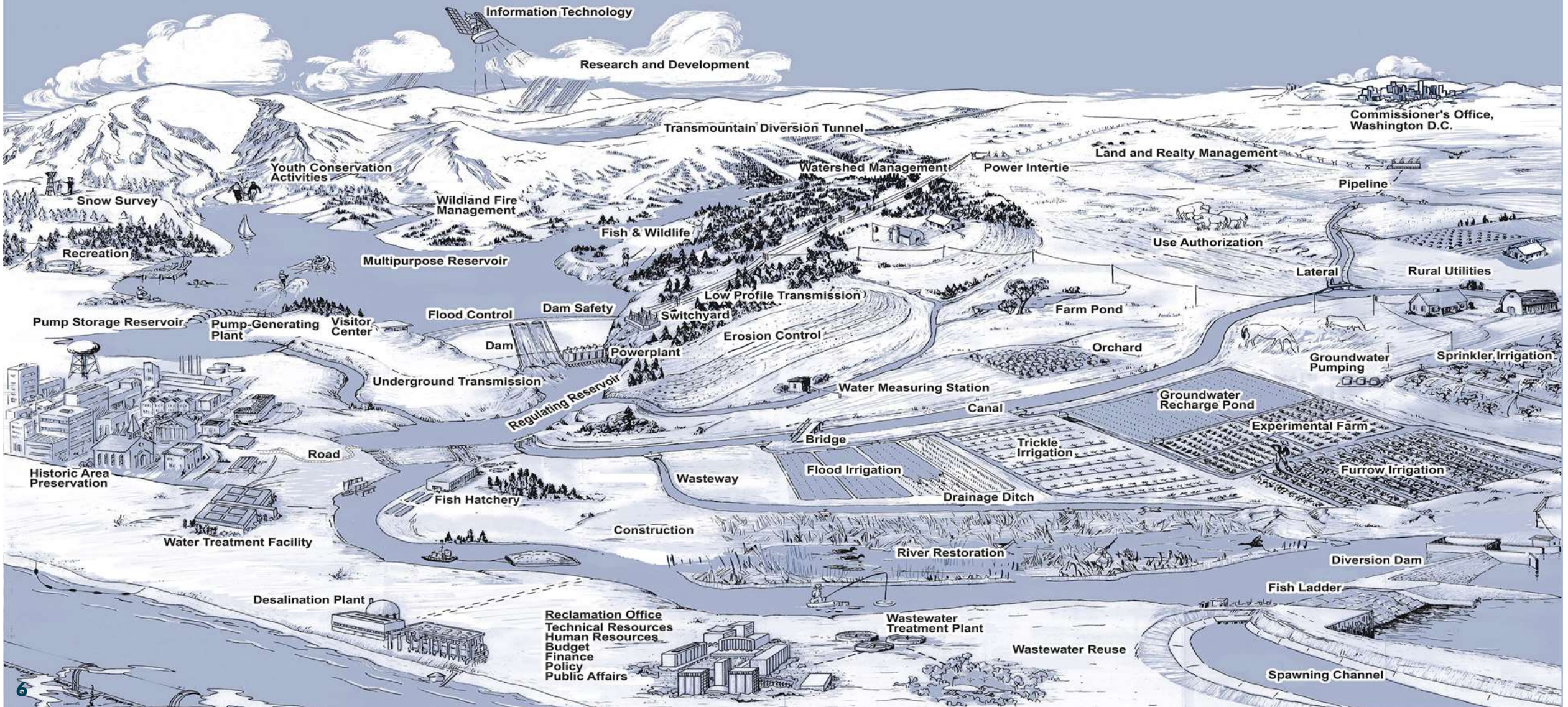
Reclamation Regions and Key Offices



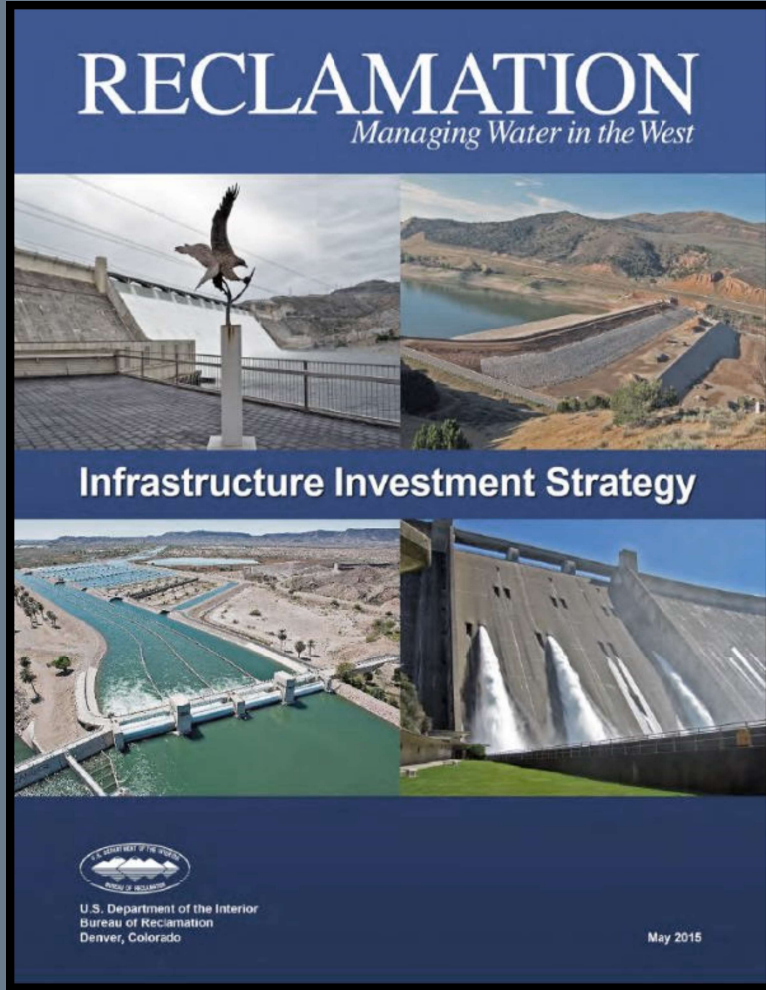
Bureau of Reclamation Asset Management

The coordinated activity of an organization to realize value from assets.

(International Organization for Standardization, ISO 55000 Asset Management, (Clause 3.3.1))



Background



Infrastructure Investment Strategy

Major Rehabilitation and Replacement (MR&R) Program Developed

Extraordinary
Maintenance
(XM)

Safety of Dams
(SOD)

Deferred
Maintenance
(DM)



Risk

Probability of Failure

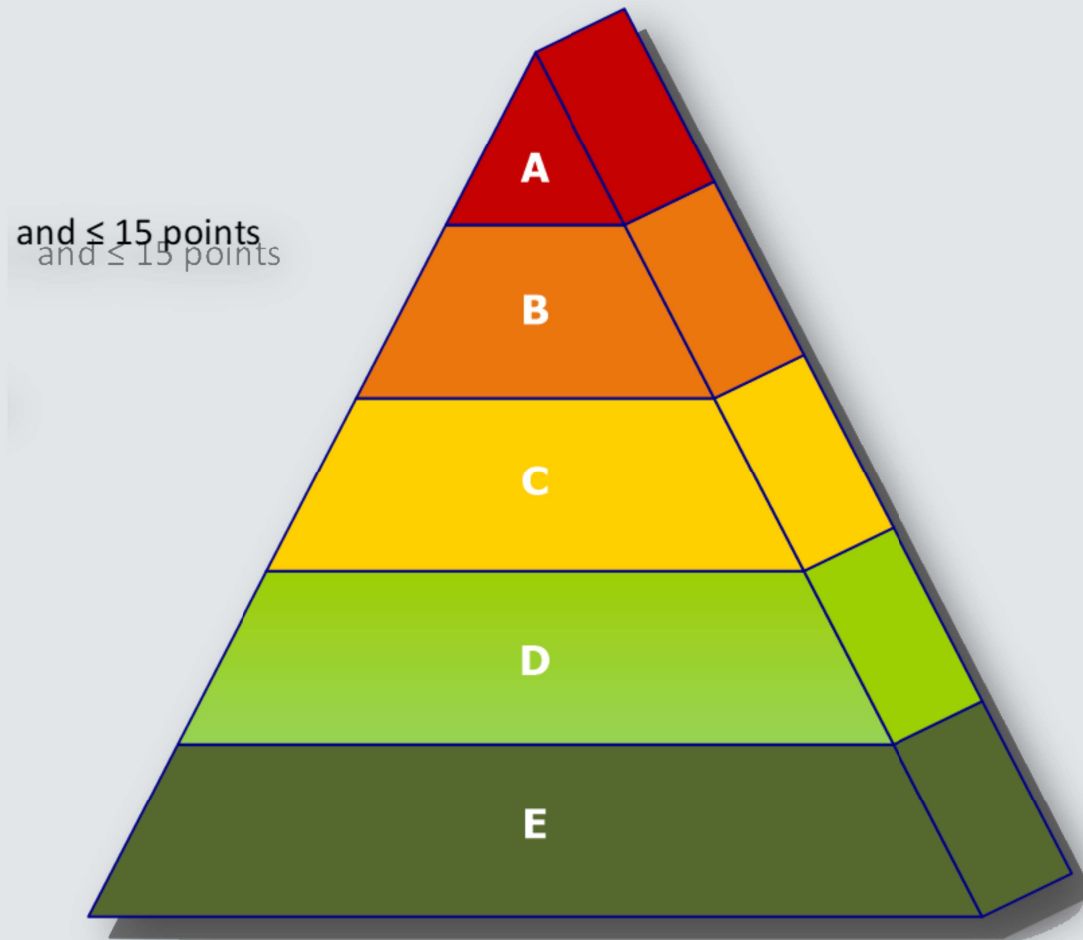
Consequence of Failure

Benefits

Investment

Mission

MR&R Categorization



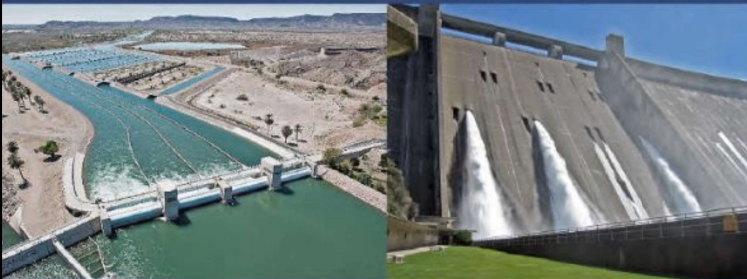
Background

RECLAMATION

Managing Water in the West



Infrastructure Investment Strategy



U.S. Department of the Interior
Bureau of Reclamation
Denver, Colorado

May 2015

Infrastructure Investment Strategy

One Hundred Sixteenth Congress of the United States of America

AT THE FIRST SESSION

*Begun and held at the City of Washington on Thursday,
the third day of January, two thousand and nineteen*

An Act

To provide for the management of the natural resources of the United States,
and for other purposes.

*Be it enacted by the Senate and House of Representatives of
the United States of America in Congress assembled,*

SECTION 1. SHORT TITLE; TABLE OF CONTENTS.

(a) SHORT TITLE.—This Act may be cited as the “John D. Dingell, Jr. Conservation, Management, and Recreation Act”.

Bureau of Reclamation Transparency Act

John D. Dingell, Jr. Conservation, Management, and Recreation Act, P.L. 116-9

Title VIII – Water and Power,
Subtitle G - Reclamation
Transparency Act (Section
8601-8603)

Asset Management Plan every 2
years to include:

- Assessment of major repair needs
- Itemized list of repair needs by facility
- Level of cost estimate
- Appropriations needed to complete each item
- Categorical rating for each repair item



Asset Management Report to Congress

Collaboration across Reclamation

Shorter Report

- Aim for succinct message
- Reduce future administrative efforts to recreate report

Public release of report excludes activities deemed sensitive

April 2021

Asset Management Report

Pursuant to the John D. Dingell, Jr. Conservation, Management, and Recreation Act of March 12, 2019



Background

The [John D. Dingell, Jr. Conservation, Management, and Recreation Act, P.L. 116-9](#), Title VIII – Water and Power, Subtitle G – Bureau of Reclamation Transparency, Sections 8601-8603 (Reclamation Transparency Act) requires the Bureau of Reclamation to provide Congress with a detailed assessment of Major Rehabilitation and Replacement (MR&R) long-term capital and repair needs, categorization of repair needs, and regular reporting of information related to Reclamation's investments in infrastructure. The report to Congress must include an itemized list of MR&R information, guidance that describes the applicability of a risk categorization system, and budget-level cost estimates, as reported in annual funding requests for individual activities. The initial Asset Management Report must be submitted by March 2021, with updates required every two years thereafter.

This initial Asset Management Report describes the actions that the Bureau of Reclamation is taking in order to fulfill the requirements of the Reclamation Transparency Act, including an identification of all relevant MR&R activities, a process for categorizing the activities in order to determine funding priorities, and plans for how to improve the efficiency and transparency of reporting MR&R funding needs.

Funding for Major Rehabilitation and Replacement Activities

The purpose of collecting MR&R information on Reclamation's infrastructure is to evaluate and report the condition of all Reclamation facilities and costs associated with these activities, regardless of the funding category. MR&R activities include all extraordinary maintenance (XM) activities, Safety of Dams program modifications, and deferred maintenance on a Reclamation facility that is intended to ensure the continued safe and reliable delivery of authorized Project benefits. Reclamation collects MR&R data at reserved works facilities (Reclamation operated and maintained) and transferred works facilities (non-Federal partner operated and maintained (operating partners e.g., irrigation districts)). To date Reclamation has identified approximately 2,800 activities with estimates totaling \$11.9 billion over the next 30 years (2021 to 2050), of which approximately 80 percent represent a preliminary cost estimate. A list of MR&R activities is attached in the Appendix of this report.

Funding of MR&R activities relies on a mix of appropriated and non-appropriated sources. Reclamation directs a substantial portion of its annual appropriations

toward addressing the MR&R activities at water and power reserved works and a lesser amount toward the Federal share of completing maintenance on transferred works. The chart below identifies anticipated funding categories for MR&R activities for FY 2021-2025. The anticipated estimated total funding for these projects is \$4.6 billion. Approximately \$2.3 billion dollars of planned MR&R activities are expected to be funded by Reclamation appropriations over the next five years.

FY 2021-2025 \$4.6 B Anticipated MR&R Needs Estimate by Funding Category

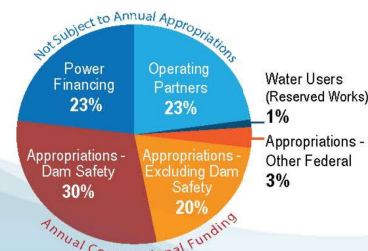


Figure 1. MR&R activities anticipated to be funded in FY 2021-2025 by Funding Category.

Major Rehabilitation & Replacement Activities by the Numbers

FY 2017-2020 Accomplishments

- 639 Total MR&R activities addressed
- \$1.8 B in estimated MR&R costs addressed

Next 30 Years

\$4.6 B	\$8.6 B	\$11.9 B
5 Year	10 Year	30 Year

- Over 2,800 MR&R Activities planned over the next 30 years
- Approximately 80 percent of activities have been identified at a preliminary cost estimate
- Comprehensive, long-term planning strategies will be critical to invest limited appropriations to address increasing MR&R funding needs
- Financing strategies will need to be developed to address MR&R needs at all facilities to ensure safety and reliability of Reclamation's infrastructure

Dam Safety and Infrastructure Major Rehabilitation and Replacement Contacts

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Public Report

Asset Management Report

Appendix - List of Major Rehabilitation and Replacement Activities FY 2021-2050

The activities and associated cost estimates identified in this report are projected needs, may not reflect currently funded priorities, and initiation of construction may not be underway at time of publication. The cost estimates listed in the funding categories are preliminary level cost estimates and should not be used for budgeting purposes as they do not meet the requirements for a feasibility level cost estimate and are subject to revision. Additionally, ongoing discussions on cost share for certain transferred works, which involve water users and State and local governments, may affect the ultimate Federal cost share.

Controlled Unclassified Information (CUI) has been redacted from the public release of this report.

U.S. Department of the Interior

April 2021

Appendix

Sorted by State and Congressional District

Includes:

- Authorized Project
- Asset Name
- Funding Categories
- Brief Description of Work
- MR&R Categorization
- Estimated 30-Year MR&R Total

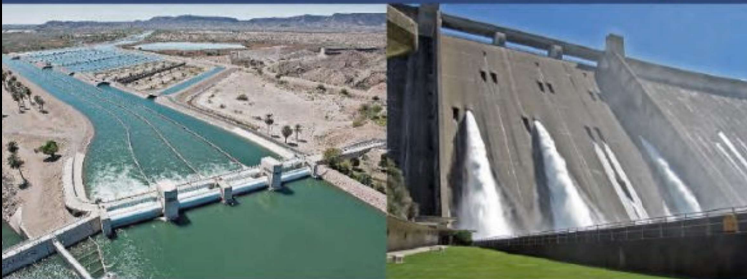
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Bureau of Reclamation Transparency Act



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Strategic Asset Management Plan



U.S. Department of the Interior

April 2020

Strategic Asset Management Plan

P.L. 117-58

Bipartisan Infrastructure Law

Signed into law
February 2022

IN THE SENATE OF THE UNITED STATES—117th Cong., 1st Sess.

H. R. 3684

To authorize funds for Federal-aid highways, highway safety programs, and transit programs, and for other purposes.

Referred to the Committee on _____ and
ordered to be printed

Ordered to lie on the table and to be printed

AMENDMENT IN THE NATURE OF A SUBSTITUTE intended
to be proposed by Ms. SINEMA (for herself, Mr.
PORTMAN, Mr. MANCHIN, Mr. CASSIDY, Mrs. SHAHEEN,
Ms. COLLINS, Mr. TESTER, Ms. MURKOWSKI, Mr. WAR-
NER, and Mr. ROMNEY)

Viz:

1 Strike all after the enacting clause and insert the fol-
2 lowing:

3 **SECTION 1. SHORT TITLE; TABLE OF CONTENTS.**

4 (a) SHORT TITLE.—This Act may be cited as the
5 “Infrastructure Investment and Jobs Act”.

6 (b) TABLE OF CONTENTS.—The table of contents for
7 this Act is as follows:

Sec. 1. Short title; table of contents.



BL Section 40901(2) Aging Infrastructure

\$3,200,000,000 for the Aging Infrastructure Account established by subsection (d)(1) of section 9603 of the Omnibus Public Land Management Act of 2009 (43 U.S.C. 510b), to be made available for [XM] activities in accordance with that subsection:

(A) **\$100,000,000** ... available for Bureau of Reclamation reserved or transferred works that have suffered a critical failure, IAW section 40904(a); and

(B) **\$100,000,000** ... available for the rehabilitation, reconstruction, or replacement of a dam in accordance with section 40904(b)

Funding Eligibility

- Work meets the definition of XM:
 - Major, non-recurring maintenance of mission critical asset
 - Purpose is to continue safe, dependable, reliable delivery of benefits
 - Costs are greater than 10% of annual O&M budget and \$100,000
 - Not eligible for SOD Section 4(c) funding
- Applicant is transferred works operator or paying project beneficiary
 - If works are transferred and applicant is not operator, execute 3-party contract
- Applicant submits a complete application within a formal application period.

Timeline

December 16, 2021

1st XM Application Period Begins

January 31, 2022

1st XM Application Period Ends

February/March 2022

XM Application Review

April 2022

Project Approval and Transmit Report to Congress

May 2022

Funding Selection Announcement

September 2022

MR&R Data due for Transparency Act Report to Congress

October 2022

2nd Annual XM Application Process Opens

March 2023

Asset Management Report to Congress Due

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Capital Improvement and Repair Needs (CIRN)


CIRN Enhancements

- Improved filtering options
- Incorporates changes requested by users
- Links to Reclamation requirements
- Capital Planning and Investment Control Reporting Alignment
- Additions:
 - Capital Investment (CI)
 - New Layout & Buttons
 - Activity Short Title
 - Region ID (former MMRUID)
 - Substantial Change (CMP 10-05)
 - Schedule Dates
 - Expanded Funding Sources
 - Planned/Actual
 - History Page



CIRN Homepage

Capital Investment and Repair Needs (CIRN)



BUREAU OF RECLAMATION

CIRN Home

Extraordinary Maintenance (XM)

Deferred Maintenance (DM)

Safety Of Dams Modifications (SOD)

Capital Investments (CI)

Return to SharePoint Home Page

CIRN Home (Activities for All Major Categories)

Advanced Filter:

Filter By Field

Condition

Value

Apply Adv. Filter

Clear Adv. Filter

Clear search boxes, sorting, and adv. filter, then refresh activities:

Refresh & Clear

Refresh Without Clearing

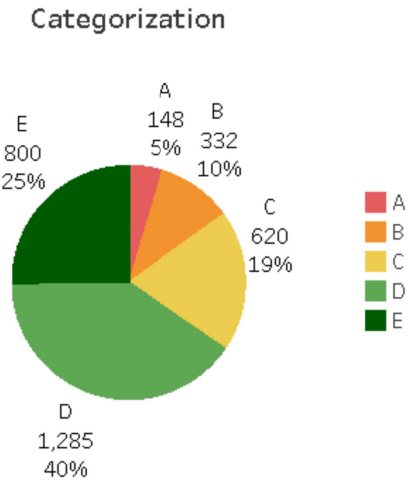
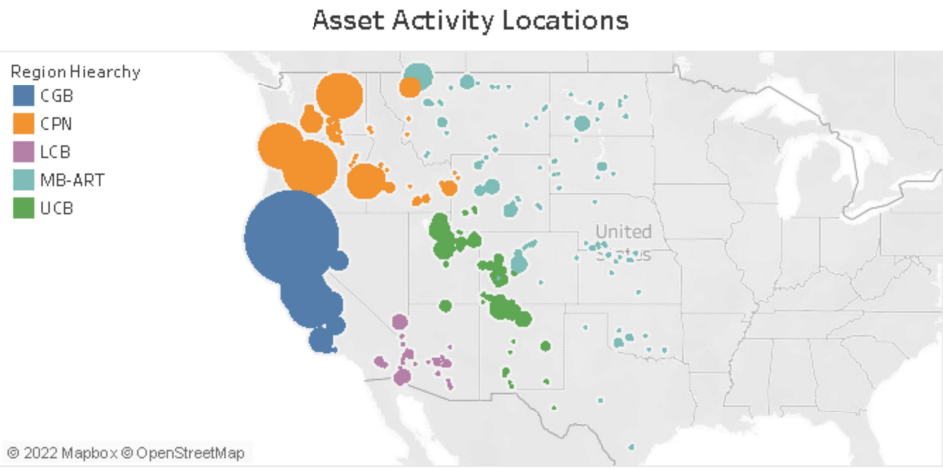
CIRN ID	Short Title	Major Category	Asset Name	Project Name	Region	Area or Field Office	RPUID	Rating	Status	Est. Total Cost	
90900004	Shop Replacement	DM	Norton Dam, Reservoir, Garage, Shop	P-S MBP, ALMENA UNIT	MB-ART	NKAO	R04920002008	E	Incomplete	\$350,000	Open
90900003	Replace Station Service Transformers and Switchgear	DM	Glen Canyon Power Facility	CRSP, GLEN CANYON UNIT	UCB	POWER	R0557000000600S	C	In Progress	\$2,394,356	Open
90900002	At spillway Gate 2, repair the broken electrical grounding cable located at the left side gate guide.	DM	KESWICK DAM	CVP, MISCELLANEOUS PROJECTS	CGB	NCAO	R0214009200S	E	Deleted	\$7,500	Open
90900001	Grand Coulee - Warehouse 3 Replacement.	XM	WAREHOUSE 3	GRAND COULEE DAM OPERATIONS OF	CPN	GCPO	R52220103008	C	Incomplete	\$11,209,350	Open
90800009	Install a wireless remote operating system that would permit closure of the wheel-mounted penstock guard gates from the Mt. Elbert Pumped-Storage Powe	DM	MT ELBERT FOREBAY DAM, RESERVOIR (Offstream ZE)	FRYINGPAN-ARKANSAS PROJECT	MB-ART	ECAO	R0382613000S	D	Incomplete	\$90,000	Open
90800008	Lake Sherburne - Repair the hydraulic oil leak from the hoist for the regulating gate "B"	DM	LAKE SHERBURNE DAM, LAKE (Swift Current Creek HE)	MILK RIVER PROJECT	MB-ART	MTAO	R0015120000S	E	Deleted	\$25,000	Open
90800007	Left abutment rock removal and repair/replace broken rock arrester	DM	KORTES DAM, RESERVOIR (N Platte River, CG)	P-S MBP, KORTES UNIT	MB-ART	WYAO	R0545766000S	C	Incomplete	\$5,400,000	Open
90800006	Steel Outlet Works Pipe Painting	DM	GLENDO DAM, DIKES, RESERVOIR (North Platte River ZE)	P-S MBP, GLENDO UNIT	MB-ART	WYAO	R0449659000S	D	Incomplete	\$75,000	Open
90800005	Spillway Concrete Repair (Alcova Dam Concrete	XM	ALCOVA DAM, RESERVOIR (North	KENDRICK PROJECT	MB-ART	WYAO	R0144182100S	C	Completed	\$5,100,000	Open

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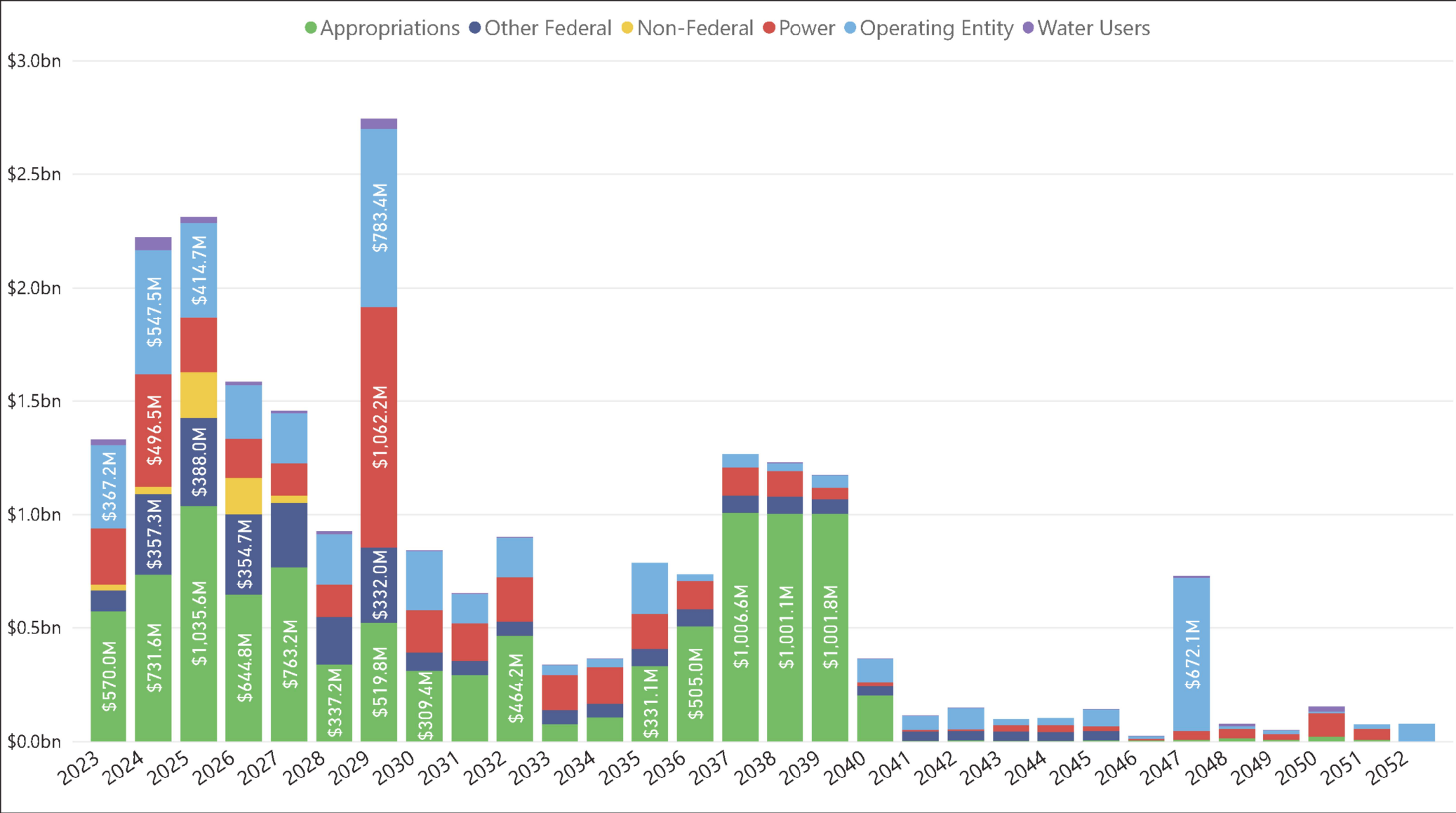
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Region Hierarchy	Major Category							
	DM		SOD		XM		Grand Total	
	Number of Activities	MR&R Planned	Number of Activities	MR&R Planned	Number of Activities	MR&R Planned	Number of Activities	MR&R Planned
CGB	616	\$186.5M	2	\$972.5M	604	\$8,331.5M	1,222	\$9,490.4M
CPN	68	\$56.3M	4	\$1,062.3M	525	\$5,404.4M	597	\$6,523.0M
LCB	18	\$19.6M			260	\$656.0M	278	\$675.6M
MB-ART	115	\$19.5M	4	\$186.0M	280	\$852.7M	399	\$1,058.2M
UCB	4	\$2.9M	3	\$354.7M	682	\$2,204.5M	689	\$2,562.1M
Grand Total	821	\$284.7M	13	\$2,575.5M	2,351	\$17,449.2M	3,185	\$20,309.4M

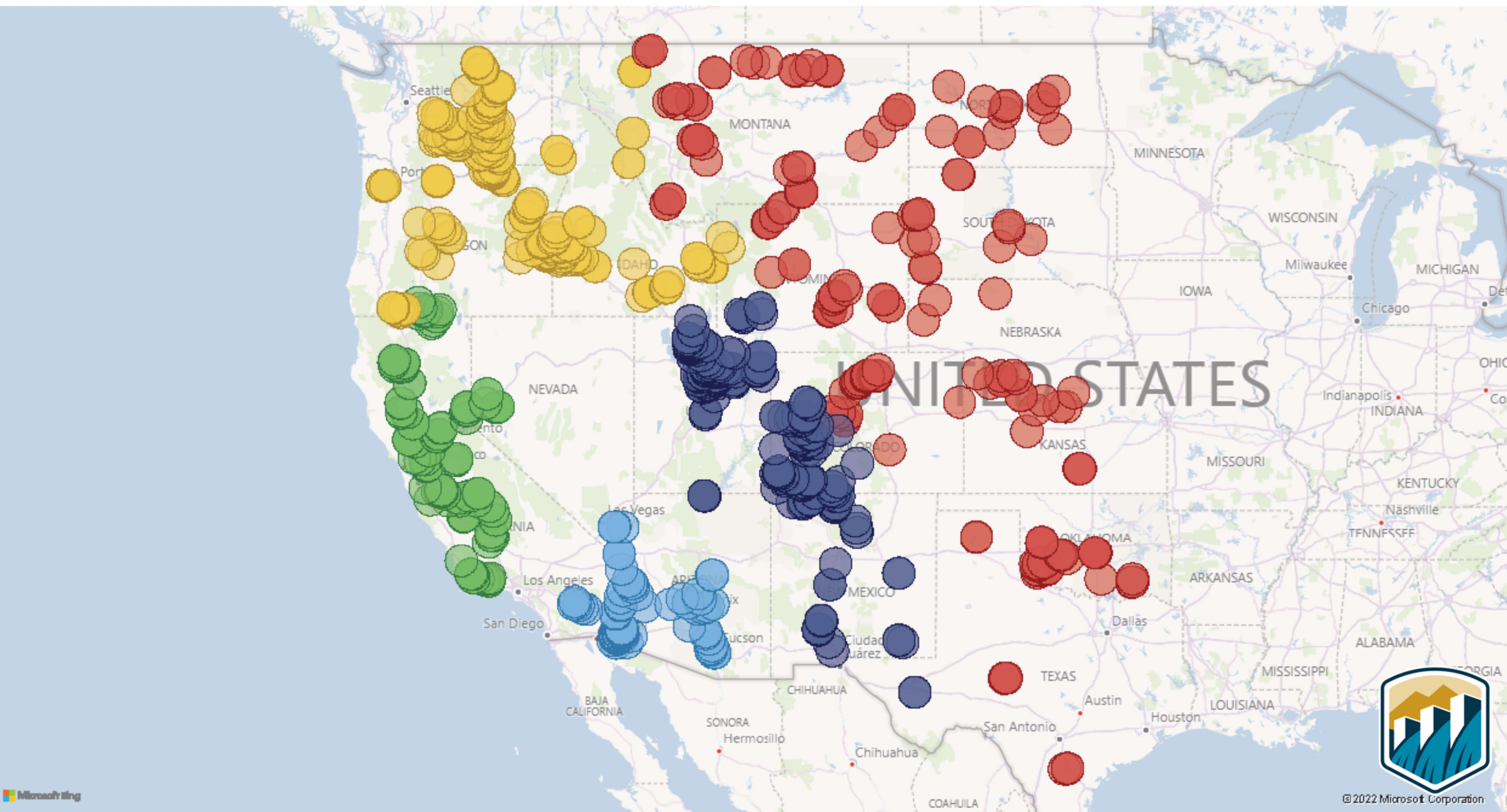
Asset Classification	Number of Activities	MR&R Planned
Null	37	\$115,954
All Other	26	\$30,247
Comfort Station/Restrooms	2	\$500
Communication Systems	14	\$16,032
Dormitories/Barracks	3	\$250
Family Housing	18	\$4,668
Flood Control and Navigation	121	\$4,429,430
Industrial	73	\$494,457
Industrial (other than buildings)	12	\$27,515
Laboratories	11	\$4,938
Office	74	\$75,358
Other Institutional Uses	21	\$20,457
Parking Structures	4	\$1,672
Power Development and Distribution	599	\$2,287,464
Reclamation and Irrigation	1,764	\$12,220,820
Recreational (other than buildings)	250	\$250,276
Roads and Bridges	11	\$14,146
Service	44	\$14,664
Service (other than buildings)	21	\$84,152
Storage (other than buildings)	3	\$650
Utility Systems	23	\$167,630
Warehouses	53	\$48,120
Weapons Ranges	1	
Grand Total	3,185	\$20,309,408



30 Year Funding Horizon



Region ● CGB ● CPN ● LCB ● MB-ART ● UCB



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Next Steps in Our Asset Management Journey

- **Second Application Cycle for Aging Infrastructure Funding (Fall 2022)**
- **Second Asset Management Report to Congress (Spring 2023)**
- **Improved Strategic Asset Management Plan (2023/2024)**
- **Complete overhaul of Reclamation's Computerized Maintenance Management System (2023-2027)**
- **Training and Socialization of Asset Management Principles (Continuous)**



**Chris Vick, P.E.
Asset Management
Bureau of Reclamation**

<https://usbr.gov/bil>

<https://usbr.gov/assetmanagement>



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