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Bureau of Reclamation: History, Authorities, and Issues for Congress

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SUMMARY

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The Bureau of Reclamation (Reclamation), an agency within the Department of the Interior (DOI), is responsible for the management and development of many of the large federal dams and water diversion structures in the 17 conterminous states west of the Mississippi River. Reclamation is the country's largest wholesaler of water and the country's second-largest producer of hydropower (behind the U.S. Army Corps of Engineers). Reclamation facilities store up to 140 million acre-feet of water, which serves more than 10 million acres of farmland and 31 million municipal and industrial customers. In addition to water supplies, Reclamation facilities provide flood control, recreation, and fish and wildlife benefits in many parts of the West.

Congress created Reclamation in the Reclamation Act of 1902. The act authorized the Secretary of the Interior to construct irrigation works in western states to "reclaim" arid lands for agricultural purposes. Subsequent laws have built on and in some cases altered Reclamation's authorities, and Congress has authorized more than 180 individual *Reclamation projects*. Reclamation projects are unique in a number of ways. Among other things, these projects operate according to a *beneficiary pays* principle in which project beneficiaries must reimburse the government for their allocated share of project costs (some costs are considered *federal* in nature, with no reimbursement required). Reclamation projects also must obtain state water rights and operate according to state water law. As a result, state law and related considerations play a relatively large role in Reclamation project operations and management.

The earliest Reclamation projects were single purpose and focused primarily on irrigation development. Later projects were larger and more complex, and they operated for multiple authorized purposes. Reclamation constructed its largest and most well-known projects (such as the California Central Valley Project, Hoover Dam, and Glen Canyon Dam on the Colorado River and Grand Coulee Dam and the Columbia River Basin Project in Washington) after the beginning of the Great Depression. Congress chose to fund most of these large projects through the General Fund of the Treasury rather than the Reclamation Fund, which Congress had established under the 1902 act to finance most Reclamation projects. A number of events precipitated the gradual slowdown of Reclamation's construction program beginning in the 1970s, and the bureau has constructed few new Reclamation projects (most of them smaller in scale) since that time.

Reclamation has evolved considerably since its creation, and it remains an agency in transition. At Congress's direction, Reclamation has increasingly been involved in projects whose primary purpose is not reclaiming land for agricultural irrigation purposes. Some of Reclamation's new authorities include financial support for water reuse and recycling projects (i.e., the Title XVI Program), grants for water and energy conservation efforts (i.e., the WaterSMART Grants Program), and funding for rural water projects and water infrastructure associated with congressionally authorized Indian water rights settlements. How to balance new priorities with the upkeep of existing federal projects, and whether to facilitate new project development (and, if so, how), is a major consideration in discussions related to the bureau's future. These questions are particularly significant given Reclamation's nexus with state and local water resources development.

Congress regularly considers legislation related to individual Reclamation projects, as well as broader questions related to Reclamation and its mission. Persistent and recurring drought in the West, along with the 2016 enactment of Reclamation's first significant new authority in decades for water storage project construction (Section 4007 of the Water Infrastructure Improvements for the Nation Act [WIIN Act; P.L. 114-322]), has increased attention on the bureau's future direction. Congress may consider a number of issues related to Reclamation, such as how (or if) the bureau should be involved in new water resource project construction, how to address aging federal water facilities, and the status of proposed and ongoing Indian water rights settlements, among other things.

Contents

Figures

Tables

Contacts

Introduction

The Bureau of Reclamation (Reclamation), an agency within the Department of the Interior (DOI), is responsible for the management and development of many of the large federal dams and water diversion structures in the 17 conterminous U.S. states west of the Mississippi River. Reclamation and the U.S. Army Corps of Engineers (USACE) are the two principal federal agencies that own and operate water resources facilities.[1] Reclamation is the country's largest wholesaler of water and the country's second-largest producer of hydropower (behind USACE). In addition to water supplies, Reclamation facilities provide flood control, recreation, and fish and wildlife benefits in many parts of the West.

Congress has authorized more than 180 individual *Reclamation projects*. The goal of these projects was generally to "reclaim" arid western lands for irrigated agriculture and other types of development. Reclamation projects are unique in a number of ways. Among other things, these projects operate according to a *beneficiary pays* principle in which project beneficiaries must reimburse the government for their allocated share of project costs (some costs are considered *federal* in their nature, therefore no reimbursement is required). Most Reclamation projects also must obtain state water rights and operate in accordance with state law.

Reclamation has evolved over time, and it remains an agency in transition. Its earliest projects were single-purpose irrigation projects; later projects were more complex and served multiple authorized purposes. The bureau has constructed few new projects since the 1970s, but it has been increasingly involved in other project types (e.g., water reuse and recycling, water conservation, Indian water rights settlements, and rural water, among others). The primary purpose of most of these projects is not reclaiming land for agricultural purposes. How to balance these priorities with the upkeep of existing Reclamation projects, and whether to facilitate new project development (and, if so, how), has been of interest to Congress.

This report provides background on the Bureau of Reclamation, including its history and authorities. It also discusses selected issues before Congress, in particular those related to the bureau's most prominent areas of responsibility.

Background: The Bureau of Reclamation and the Era of Large Federal Water Projects

The Bureau of Reclamation has been an important entity in shaping federal development efforts in the western states and territories. Along with the USACE (whose founding dates to the Revolutionary War), it was one of two principal federal agencies involved in the majority of federally-sponsored water resources development in the 20th century. The below sections discuss Reclamation's history and evolution as a federal agency.

[1] For more information on the U.S. Army Corps of Engineers, see CRS Report R45185, *Army Corps of Engineers: Water Resource Authorization and Project Delivery Processes*, by Nicole T. Carter and Anna E. Normand.

Early History and the Reclamation Act of 1902

The legislative history of the Bureau of Reclamation dates to the mid-19th century enactments of the Homestead Act (1862) and the Desert Land Act (1877).[2] In the Homestead Act, Congress allowed settlers in western states and territories to receive up to 160 acres of land free if they lived on the land for five years and made improvements to it. In an effort to further encourage settlement in the West, Congress amended the Homestead Act in the Desert Land Act to offer more acreage than was previously offered, at a reduced price, to individuals that agreed to reclaim a tract of desert land with irrigated agriculture.[3] These efforts initially took the form of direct diversion from streams and other water bodies, but it soon became clear to planners that widespread settlement could be facilitated only through the development of large-scale irrigation infrastructure (e.g., water storage, conveyance, and pumping infrastructure). This realization led to a number of private and state-sponsored ventures throughout the West. The Carey Act of 1894 put official responsibility for overseeing irrigation development on the states and territories.[4] However, many of these efforts failed due to lack of funds, inadequate engineering skill, or other factors. Thus, supporters of irrigated agriculture in the West turned to the federal government for financing and technical support.

In the Reclamation Act of 1902 (the Reclamation Act), Congress for the first time approved federal efforts in the large-scale planning and construction of irrigation works for the storage, diversion, and development of waters in arid and semiarid western states.[5] Under the act, federal Reclamation projects were funded by a newly established Reclamation Fund in the United States Treasury. Initially, the fund received receipts from the sale of federal land in the western United States, along with repayments by beneficiaries for Reclamation's construction costs for water projects.[6] Authorized activities under the Reclamation Act were limited to 16 designated *Reclamation states* on lands west of the Mississippi River: Arizona, California, Colorado, Idaho, Kansas, Montana, Nebraska, Nevada, New Mexico, North Dakota, Oklahoma, Oregon, South Dakota, Utah, Washington, and Wyoming. A seventeenth Reclamation state, Texas, was added in 1906.[7]

Under the Reclamation Act, Congress allotted settlers up to 160 acres of lands to be irrigated by a Reclamation project, provided the lands were reclaimed for agricultural purposes and water users

[2] 12 Stat. 392; 19 Stat. 377.

[3] Due to inadequate rainfall, climate patterns, and problems with land and soil, most areas of the western U.S. were inhospitable to early agricultural development efforts without the aid of irrigation. Baseline hydrologic conditions of the West, along with other seminal observations related to irrigation development of the western states, were most famously detailed in John Wesley Powell's 1878 scientific report, *A Report on the Arid Region of the United States.* For more information, see John Wesley Powell, *Report on the Lands of the Arid Region of the United States, with a More Detailed Account of the Lands of Utah*, Washington, DC, 1878.

[4] 28 Stat. 372.

[5] 32 Stat. 388 (43 U.S.C. §391).

[6] See §5 of the Reclamation Act (43 U.S.C. §§392, 431, 439). Originally, the Reclamation Act contemplated that irrigators would repay the full cost of construction, but as the program evolved, it was recognized that these projects also served other purposes for which construction costs could be allocated (i.e., hydropower, municipal and industrial water supplies, etc.). This principle was officially recognized under the Reclamation Project Act of 1939 (43 U.S.C. §485h). Similar to the acreage allocation under the Homestead Act, the 160-acre limitation was established for reclamation projects in part to discourage land monopolies; it was amended by the Reclamation Reform Act of 1982 (P.L. 97-293), which increased the limitation from 160 acres to 960 acres.

[7] 34 Stat. 259. Texas was not included as a Reclamation state because it did not have federal lands. Legislation enacted in 1986 (P.L. 99-396) extended the act's provisions to the territories of American Samoa, Guam, the Northern Mariana Islands, and the U.S. Virgin Islands, although no reclamation projects have been constructed in those territories.

repaid the federal government for project construction expenses and associated operations and maintenance (O&M) costs.[8] Congress established a 10-year repayment period for Reclamation projects in the Reclamation Act and directed the payments into the Reclamation Fund for new and ongoing project investments by the bureau.[9] Pursuant to *reclamation law* (i.e., the body of federal law that informs the development and management of projects by the Bureau of Reclamation), interest payments were not required for the repayment of construction costs by agricultural beneficiaries.[10]

Another formative aspect of reclamation law under the 1902 act was a directive by Congress to defer to state law. Under Section 8 of the Reclamation Act, Congress stipulated:

> Nothing in this Act shall be construed as affecting or intended to affect or to in any way interfere with the laws of any State or Territory relating to the control, appropriation, use, or distribution of water used in irrigation, or any vested right acquired thereunder.

This requirement means that most Reclamation project water rights must be appropriated under state law and are subject to state adjudication and administration. As a practical matter, project-specific requirements may differ from state to state, and state water laws and regulations play a significant role in the operations and management of many Reclamation projects.

The Reclamation Service and the Evolution of Reclamation Law

The United States Reclamation Service (the precursor to the Bureau of Reclamation) was established within the U.S. Geological Survey (USGS) in July 1902. Initially, the Secretary of the Interior had the ability to expend funds on Reclamation projects as the Secretary saw fit based on the relevant investigations. From 1902 to 1907, Reclamation built about 30 projects in western states. In 1907, the Secretary separated the Reclamation Service from the USGS to create an independent bureau within the Department of the Interior.[11] The Reclamation Service was formally renamed the Bureau of Reclamation in 1923.

The earliest Reclamation projects were *single purpose* and focused primarily on irrigation development. Many projects encountered problems[12]; as a result, Congress eventually made a number of changes to Reclamation, including infusion of additional federal funds and revenue sources to the Reclamation Fund. Congress provided additional funds from the Treasury on multiple occasions, including $20 million in 1910 and $5 million in 1938.[13] In the Reclamation Extension Act, enacted in 1914, Congress sought to prevent overspending on future projects by making expenditures from the Reclamation Fund subject to annual discretionary appropriations.[14]

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[8] The Omnibus Adjustment Act of 1926 (44 Stat. 478) provided that recipients who owned land in excess of 160 acres could continue to receive reclamation project water on their lands, provided they entered into "recordable contracts" with the Secretary to sell these excess lands within 10 years.

[9] Payments to the federal government of these costs are commonly referred to as *reimbursable* costs, whereas other federal or public benefits for which no reimbursement is required are commonly referred to as *nonreimbursable*.

[10] Later legislation in the form of the Reclamation Project Act of 1939 (53 Stat. 1187, 43 U.S.C. §485) provided that repayment for non-irrigation project benefits, such as municipal and industrial water supplies and hydropower, could be repaid with interest.

[11] Bureau of Reclamation, "The Bureau of Reclamation: A Very Brief History," at https://www.usbr.gov/history/borhist.html. The Reclamation Service was renamed the Bureau of Reclamation in 1923.

[12] Problems with early projects included lands and soils that were unsuitable for irrigation, projects built in areas that could grow only low-value crops, and greater than expected construction costs, among other things.

[13] 36 Stat. 835 (43 U.S.C. §397); 46 Stat. 1507 (43 U.S.C. §391a).

[14] 38 Stat. 686 (43 U.S.C. §414).

Later, in 1924, a *Fact Finders Report* detailed a number of problems with early Reclamation projects; Congress enacted legislation later that year (popularly known as the "Fact Finders Act") that added additional requirements of both the bureau and potential contractors and made major changes to the Reclamation project development process.[15] Congress also authorized new incidental purposes and other revenue sources for Reclamation projects (**Table 1**). To shore up Reclamation Fund balances, Congress authorized revenues from the sales of Reclamation project water to land owners outside of project boundaries (authorized under the Warren Act of 1911),[16] 40% of onshore royalties from mineral and natural resource leasing on public lands (authorized in 1920),[17] and the full amount of Reclamation project hydropower revenues (authorized in 1938).[18]

Table 1. Major Reclamation Fund Revenue Sources

Source (*U.S. Code* Citation)	Description	Year Authorized	FY2019 Reclamation Fund Revenue (% of total)
Public Land Sales (43 U.S.C. §391)	95% of proceeds from public land and timber sales in western states	1902	$12 million (0.5%)
"Proprietary" Receipts from Reclamation Projects (Project Repayments, Water Contracts/Sales) (43 U.S.C. §391)	100% of receipts	1902/1911	$231 million (10%)
Reclamation Project Power Revenues (43 U.S.C. §392a)	100% of receipts	1938	$306 million (13%)
Natural Resource/Mineral Royalties (30 U.S.C. §191)	40% of bonuses, royalties, and rentals from onshore public lands (excluding Alaska)	1920	$1.761 billion (76%)

Sources: CRS, based on *U.S. Code*. Revenue data based on the FY2021 President's budget request appendix.

Over time, Congress also altered repayment terms and other associated requirements for Reclamation projects. The Reclamation Extension Act of 1914 extended the repayment period for Reclamation projects from 10 years to 20 years.[19] Legislation enacted by Congress in 1926 further extended the repayment period to 40 years.[20] Pursuant to the Reclamation Project Act of 1939, Congress authorized Reclamation to provide for relief of costs in excess of an irrigator's ability to pay (also known as *irrigation assistance* or *aid to irrigation*) and provided that this assistance could be covered by a project's excess hydropower and/or M&I water sales revenues.[21]

[15] 43 Stat. 701.

[16] 36 Stat. 925 (43 U.S.C. §523).

[17] 30 U.S.C. §191.

[18] 43 U.S.C. §392a.

[19] Reclamation Extension Act (43 U.S.C. §475).

[20] Omnibus Adjustment Act of May 25, 1926 (44 Stat. 636). This act also allowed previous projects to renegotiate their repayment pursuant to these new terms.

[21] 53 Stat. 1187 (43 U.S.C. §485).

That same act authorized *water service contracts*—a second type of short- or long-term water contract in addition to repayment contracts—for periods up to 40 years.[22] Legislation enacted in 1946 and 1958 provided authorities for new projects to receive nonreimbursable federal credit for activities related to the preservation of fish and wildlife.[23] In addition to these and other changes, in many cases Congress also has authorized unique project repayment terms or extensions applicable to specific Reclamation projects.

Congress also passed legislation to support Reclamation project repairs and improvements. In 1949, Congress authorized rehabilitation and betterment improvements to be repaid in accordance with existing construction repayment schedules and authorized ability-to-pay adjustments for those improvements.[24] Authorities enacted in 1955 and 1956 provided up to 50-year loans to irrigation districts for the construction of distribution systems on authorized Reclamation projects and projects similar to those of the reclamation program, respectively.[25]

Most individual Reclamation projects were authorized in specific acts of Congress. Reclamation constructed many of its largest projects beginning in the Great Depression, with Congress directing that project financing be provided through the General Fund of the Treasury in lieu of the Reclamation Fund. The 1928 Boulder Canyon Act authorized the construction of Hoover Dam and the All-American Canal,[26] and the Rivers and Harbors Act of 1937 authorized construction of the Central Valley Project (CVP) in California.[27] Congress authorized other large Reclamation projects during and after World War II, such as the Columbia Basin Project (1943),[28] the Pick-Sloan Missouri Basin Program (1944),[29] and the Colorado River Storage Project (1956).[30] The last major new Reclamation project construction authorization was the Colorado River Basin Project Act of 1968;[31] among other things, this act authorized the Animas-La Plata Project and the Central Arizona Project (CAP).

Reclamation in Transition

Numerous events precipitated a gradual slowdown of Reclamation's construction program in the 1970s and 1980s. Prior to this time, most Reclamation projects had been constructed with little or no environmental mitigation measures. New federal environmental requirements pursuant to the National Environmental Policy Act of 1969 and the Endangered Species Act of 1973 provided increased protections for the environment, while also increasing certain costs and administrative conditions associated with development of new Reclamation projects.[32] At the same time, many of the prime project sites (in terms of development and storage capacity) throughout the West had

[22] These contracts have been the norm at Reclamation's largest project: the California Central Valley Project. Legislation passed in 1956 (70. Stat. 483) provides for the renewal of these contracts upon the request of the contracting organization.

[23] 60 Stat. 1080, 72 Stat. 563.

[24] 63 Stat. 724.

[25] 69 Stat. 244, 71 Stat. 48.

[26] 45 Stat. 1057.

[27] 50 Stat. 844.

[28] 57 Stat. 140.

[29] 58 Stat. 887.

[30] 70 Stat. 105.

[31] 50 Stat. 844.

[32] National Environmental Policy Act of 1969 (42 U.S.C. §4321 et seq.); Endangered Species Act of 1973 (87 Stat. 884 (16 U.S.C. §§1531-1544).

been developed or designated for protection by that time. Where Reclamation pursued projects during this period, the projects were often rejected or significantly scaled back on economic and/or environmental grounds. The 1976 failure of Reclamation's Teton Dam in Idaho (which failed upon initial filling of the reservoir behind the dam) resulted in 11 fatalities and raised doubts among some as to the viability of large new federal dams and water storage projects. It also led to congressional enactment of the Reclamation Safety of Dams Act of 1978 (P.L. 95-578), which authorized Reclamation to make dam safety modifications at its dams.[33]

The Carter and Reagan Administrations both critically assessed USACE and Reclamation water resources projects. In 1977, the Carter Administration transmitted to Congress a "Hit List" of 19 water resource construction projects to be defunded, several of which were Reclamation projects.[34] Congress eventually agreed to eliminate funding for only a few of these projects, but the Administration's initiation of such a proposal was at the time viewed as significant.[35]

The Reagan Administration continued the trend of scaled-back construction requests. In 1988, it published a report, entitled *Reclamation Faces the Future*, which formally acknowledged a shift in the bureau's mission:

> The arid West essentially has been reclaimed. The major rivers have been harnessed and facilities are in place or are being completed to meet the most pressing current water demands and those of the immediate future.[36]

The Administration noted that no major project authorization legislation had been enacted since 1968 and that, "Reclamation's future role will entail a shift in emphasis—an acknowledgment that past goals have been met even as new challenges are emerging."[37] Reclamation stated that the focus of its program going forward would be operations and maintenance of existing projects, as well as other goals such as environmental enhancement and dam safety.[38]

Congress framed its directions for Reclamation in the 1980s and 1990s in two pieces of legislation. First, in Title II of P.L. 97-293, Congress enacted the Reclamation Reform Act of 1982 (RRA), which made major changes to reclamation law.[39] It altered the ownership limitation of 160 acres under the 1902 Reclamation Act, as amended, expanding it to 960 acres. At the same time, it expanded the applicability of the acreage limitation to *all* operator-owned lands (i.e., the acreage limitation was applied to leased lands, which previously were not subject to the limitation) and introduced the concept of *full-cost* pricing for water delivered to any lands owned in excess of the new limits.[40] The RRA had the general effect of making major changes to most

[33] See below section, "Dam Safety Modifications."

[34] The "Hit List" originally included 32 projects, initially proposed by the Ford Administration, that the Carter Administration proposed to delete from the FY1978 Budget. The list was later reduced to 19 projects, 5 of which were reclamation projects.

[35] For more information, see Donald J. Pisani, "Federal Reclamation in the Twentieth Century: A Centennial Retrospective," Bureau of Reclamation, at https://www.usbr.gov/history/Symposium_2008/Historical_Essays.pdf, and Paul E. Scheele, "President Carter and the Water Projects: A Case Study in Presidential and Congressional Decision-Making," *Presidential Studies Quarterly*, vol. 8, no. 4 (fall 1978), pp 348-364.

[36] Bureau of Reclamation, *Reclamation Faces the Future*, (U.S. Department of the Interior: 1988), p. 1. Hereinafter, *Reclamation Faces the Future*.

[37] *Reclamation Faces the Future*, p. 5.

[38] *Reclamation Faces the Future*, p. 4.

[39] 43 U.S.C. §390aa note.

[40] Prior to enactment of the legislation, some individual farms receiving Reclamation water were operated by owners who also leased lands receiving federal project water. Prior to the Reclamation Reform Act of 1982 (43 U.S.C. §390aa note), Reclamation did not count leased acreage toward ownership restrictions.

Reclamation contracts. In some cases, the RRA changes increased costs to reclamation contractors by making it more difficult to irrigate more than 960 acres with federally subsidized project water.

In the Reclamation Projects Authorization and Adjustment Act of 1992 (P.L. 102-575),[41] Congress set a new course for Reclamation that realigned some of the bureau's priorities and attempted to further mitigate some projects' effects on the environment. Title XXXIV of that act, the Central Valley Project Improvement Act (CVPIA), made major changes to the management of Reclamation's largest project, the CVP in California.[42] These changes generally benefited fish and wildlife, but they also resulted in less water delivered and higher water and power rates for CVP contractors; the changes were thus contentious. Congress included other significant changes in P.L. 102-575, such as direction to operate Glen Canyon Dam (one of Reclamation's largest dams on the Colorado River) to protect and mitigate for adverse impacts to Grand Canyon National Park.[43] In addition, Congress authorized a presidential review and report on federal activities in western states that directly or indirectly affect the use of surface or subsurface water resources.[44]

Although construction of new traditional Reclamation projects generally has not occurred in recent years, Congress has approved other new Reclamation construction efforts since the 1970s. For instance, Congress approved Reclamation involvement in rural water projects and the construction of some new water infrastructure pursuant to congressionally approved water rights settlements with Indian tribes.[45] Congress also authorized Reclamation to provide financial assistance to nonfederal entities for water conservation-related activities, including assistance for site-specific nonfederal water reuse and recycling project study and construction under P.L. 102-575, as amended, and grant assistance for water and energy conservation projects under P.L. 111-11. Several of these authorities were consolidated via Secretarial Order in 2010 into Reclamation's WaterSMART (Sustain and Manage America's Resources for Tomorrow) Program.[46] Most recently, in the Water Infrastructure Improvements for the Nation Act (WIIN Act; P.L. 114-322), Congress provided Reclamation with its first significant new authorization for water storage project construction in more than three decades. That act authorized an alternative financing structure and process for building new or augmented federal and nonfederal water storage projects.

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[41] 43 U.S.C. §371 note.

[42] Among other things, the Central Valley Project Improvement Act (CVPIA) formally established fish and wildlife purposes as an official project purpose of the Central Valley Project (CVP) and called for a number of actions to protect, restore, and enhance these resources. The legislation also created a fund, the Central Valley Project Restoration Fund, to finance restoration activities with fees from project water and power contractors, and it dedicated 800,000 acre-feet of project yield for fish and wildlife purposes. For more information on the CVP in general and CVPIA in particular, see CRS Report R45342, *Central Valley Project: Issues and Legislation*, by Charles V. Stern and Pervaze A. Sheikh.

[43] This authorization serves as the basis for the Glen Canyon Dam Adaptive Management Program. For more information, see CRS Report R45546, *Management of the Colorado River: Water Allocations, Drought, and the Federal Role*, by Charles V. Stern and Pervaze A. Sheikh.

[44] 106 Stat. 4694. The final report, authored by the Western Water Policy Review Advisory Commission, met opposition from some Members of Congress, and most of its recommendations were not acted on. For more information, see Western Water Policy Review Advisory Commission, *Water in the West: Challenge for the Next Century*, June 1998.

[45] For more on Rural Water and Indian Water Rights Settlements, see below section, "Other Project Types."

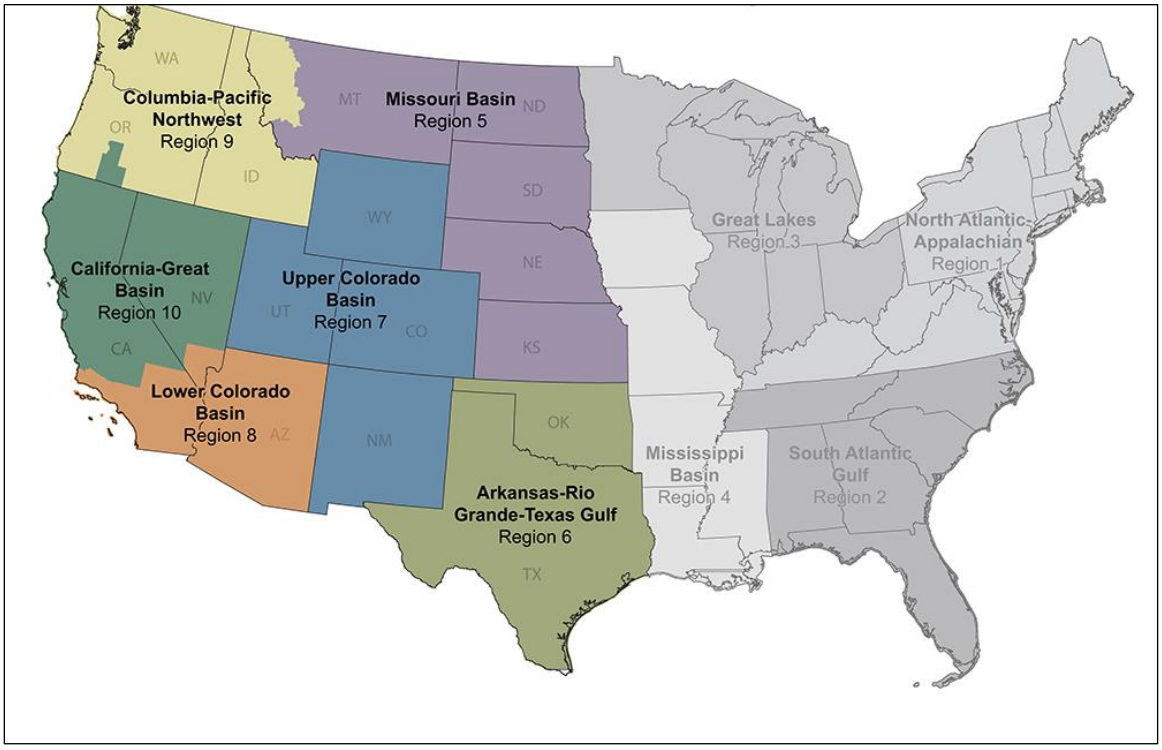
[46] Secretarial Order No. 3297, "Department of the Interior WaterSMART Program- Sustain and Manage Americas Resources for Tomorrow," February 22, 2010. For more information, see below section, "WaterSMART Program and Other Related Projects."

Reclamation Today: Organizational Structure, Infrastructure Assets

Reclamation projects are spread out over six regions in the 17 western states (**Figure 1**).[47] The bureau is headed by the Commissioner of Reclamation, a Senate-confirmed presidential appointee that reports to the Assistant Secretary of the Interior for Water and Science. Reclamation's primary congressional authorizing committees are the House Natural Resources Committee and the Senate Energy and Natural Resources Committee. Congress typically funds Reclamation activities through discretionary appropriations to Reclamation in annual Energy and Water Development and Related Agencies appropriations bills.[48]

Figure 1. Reclamation Regional Boundaries

Reclamation regions within the Department of the Interior's Unified Regional Boundaries



Source: Bureau of Reclamation, https://www.usbr.gov/main/offices.html.

Reclamation estimated that the total replacement value of its water resource facilities was $99 billion as of 2015.[49] These infrastructure assets include 491 dams (including 363 high and significant hazard dams), 338 reservoirs, and more than 8,000 miles of canals and other

[47] Some Reclamation regions have recently been renamed and were subject to boundary changes under the 2018 Department of the Interior-wide regional reorganization. (Previously, Reclamation was divided into five regions that were specific to the bureau.) For more information, including a crosswalk of old and new regions, see Department of the Interior, "Unified Regional Boundaries," at https://www.doi.gov/employees/reorg/unified-regional-boundaries.

[48] More information on Reclamation appropriations is available through the CRS appropriations status table at https://www.crs.gov/AppropriationsStatusTable/index.

[49] U.S. Department of the Interior, Bureau of Reclamation, *Infrastructure Investment Strategy*, May 2015, athttps://www.usbr.gov/infrastructure/docs/Infrastructure_Investment_Strategy_Final_Report_1SEP15.pdf.

conveyance infrastructure, as well as 53 hydroelectric power plants.[50] Reclamation's facilities have a collective storage capacity of 140 million acre-feet and serve one in every five farmers in the West.[51] Several of Reclamation's dams and reservoirs are among the largest in the world. Grand Coulee Dam, on the Columbia River (**Figure 2**), is the second largest concrete dam in the world (in terms of volume), and the largest hydropower producing dam in the United States; on the Colorado River, Hoover Dam and Glen Canyon Dam (the second and fourth tallest dams in the United States, respectively) impound Lake Mead and Lake Powell, the country's two largest reservoirs (in terms of storage capacity).

In addition to the infrastructure it owns, Reclamation supports many nonfederally-owned and developed facilities, and it awards financial assistance for projects that provide benefits throughout the West. According to the Department of the Interior, in FY2017, Reclamation generated $63 billion in economic impacts, $45 billion of which was attributed to its role in irrigation production.[52] In addition to the bureau's annual budget ($1.66 billion in enacted budget authority in FY2020), more than $800 million in activities is typically funded by water and power contractors for project operations, maintenance, and other related work.

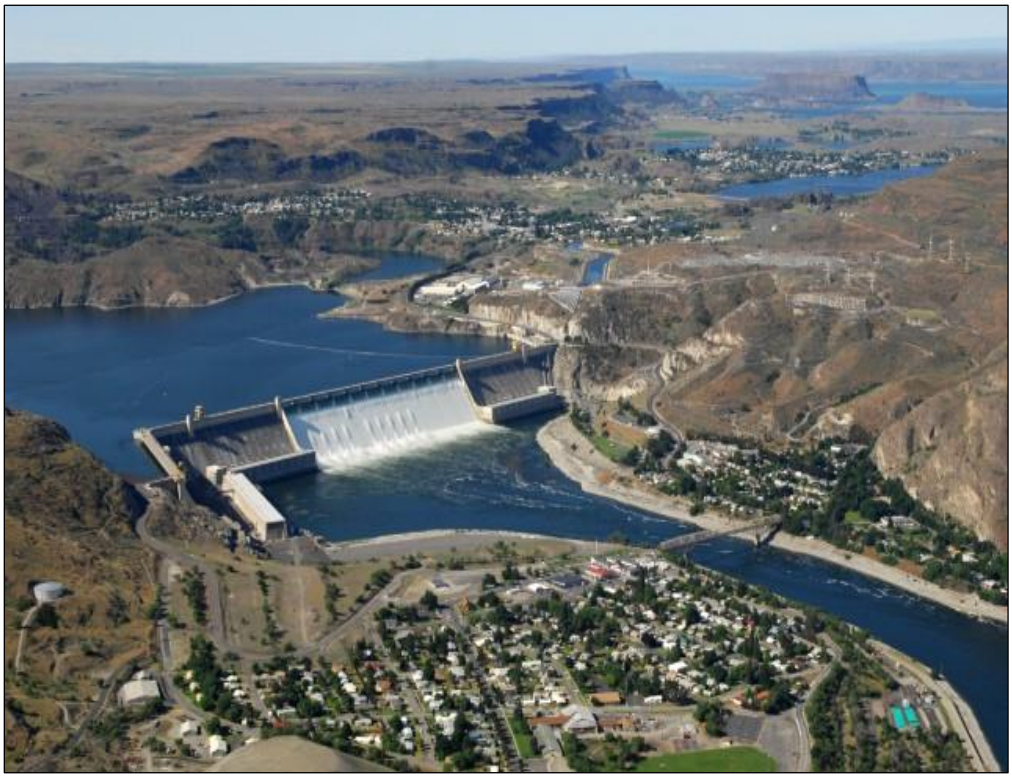
The remainder of this report discusses Reclamation's major project types and related issues for Congress.

[50] Bureau of Reclamation, "About Us- Fact Sheet," at https://www.usbr.gov/main/about/fact.html.

[51] Bureau of Reclamation, "About Us- Fact Sheet," at https://www.usbr.gov/main/about/fact.html.

[52] U.S. Department of the Interior, Office of Policy Analysis, *Economic Report, FY2017*, October 19, 2018, https://www.doi.gov/sites/doi.gov/files/uploads/fy_2017_econ_report_final_11_1_18.pdf. Hereinafter "*FY2017 Economic Report.*"

Figure 2. Grand Coulee Dam on the Columbia River



Source: Bureau of Reclamation

Reclamation Projects and Programs

Reclamation's primary project types generally can be divided into the following areas:

- "traditional" single purpose or multipurpose water supply projects;
- federal or nonfederal water storage projects under Section 4007 of the WIIN Act;
- dam safety modification projects;
- rural water projects;
- Indian water rights settlements; and
- grants for nonfederal projects that encourage investment in alternative water supplies (e.g., water reuse and recycling [Title XVI Program], water and energy efficiency [WaterSMART grants], and desalination).

Reclamation also possesses multiple other programmatic authorities that are beyond the scope of this report. Cost-share structures and authorities for some of these projects are summarized in **Table 2**.

Table 2. Cost Share for Selected Reclamation Projects and Programs

Project/Assistance Type	Owner	Authority	Initial Federal Cost Share	Federal Share Reimbursable?
Traditional Single or Multipurpose Reclamation Projects	Federal	Reclamation Act of 1902, as amended	100%	Yes[a]
WIIN Act §4007 Surface or Groundwater Storage Projects	Federal or Nonfederal	Section 4007 of the WIIN Act	50% (Federally led) 25% (Nonfederally led)	No[d]
Reclamation Dam Safety Modifications	Federal	Reclamation Dam Safety Act of 1978, as amended (43 U.S.C. §506 et seq.)	85%	No
Title XVI Water Recycling/Reuse	Nonfederal	Title XVI of P.L. 102-575, as amended	Up to 25%[b]	No
Desalination Projects	Nonfederal	Section 4009 of WIIN Act	Up to 25% [b]	No
Rural Water Projects	Federal	Various[c]	Average of 75%-80% (Non-Tribal Projects); 100% (Tribal Projects)	No
WaterSMART Grants	Nonfederal	Section 9504(e) of P.L. 111-11, as amended (42 U.S.C. §10364)	50%	No

Source: Compiled by the Congressional Research Service (CRS).

Notes: WIIN Act = Water Infrastructure Improvements for the Nation Act (P.L. 114-322).

a. Beneficiaries must repay their allocated share of federal costs. Agricultural beneficiaries do not pay interest on their share of repayment.

b. Depending on the specific project, dollar limits may apply in lieu of cost share.

c. To date, all rural water projects have been authorized by individual acts of Congress.

d. Pursuant to Section 4007 of the WIIN Act, one of the conditions for federal assistance is that the Secretary of the Interior determines that in return for the federal cost share, at least a proportionate share of the project benefits are "Federal benefits." Reclamation law generally considers these federal benefits to be nonreimbursable; thus, the federal share of these projects is assumed to be nonreimbursable.

Traditional Reclamation Projects

Reclamation owns about 180 "traditional" Reclamation projects in the 17 western states. As discussed above, the congressional authorization of individual Reclamation projects generally has occurred pursuant to the Reclamation Act of 1902 and amendatory laws. Development of these Reclamation projects has been limited to geographically specific congressional authorizations for projects. Reclamation projects generally share several characteristics:

- **Geographically Specific Congressional Authorization.** Most Reclamation projects are first authorized for study by Congress. Subsequently, Reclamation completes its studies and recommends project designs for congressional

construction authorization.[53] Typically, these authorizations are approved by the authorizing committees (i.e., the House Natural Resources Committee and the Senate Energy and Natural Resources Committee), which reference study documents and recommendations that were transmitted to Congress.[54]

- **Beneficiaries Pay.** The federal government initially funds 100% of construction costs, to be repaid by beneficiaries (e.g., irrigation contractors, municipal governments) for their estimated share of a project's costs, generally over a 40 to 50 year term (but, in some cases, other repayment periods). In most cases, the federal government is not repaid for its full investment in these projects.[55] Beneficiaries also are responsible for paying their share of project-level O&M expenses.
- **Projects Are Federally Owned, But Non-Federal Entities Often Play a Role in O&M.** Reclamation projects are initially owned and operated by the federal government (these projects are generally referred to as *reserved works*). Once construction costs have been repaid in full, responsibility for O&M of the project may be transferred to project beneficiaries (these projects are commonly known as *transferred works*), but projects remain federally owned (and subject to federal oversight and regulation) unless Congress explicitly authorizes transfer of ownership. The process of divesting (i.e., transferring ownership) of qualifying assets to nonfederal users is known as *title transfer*.[56]

Despite the overall drop-off in major construction project authorizations since the early 1970s, the approach of obtaining new or amended geographically specific congressional authorizations for Reclamation projects remained the norm as recently as 2010, when the Omnibus Lands Act of 2009 (P.L. 111-11) was enacted.[57] In part due to congressional earmark moratoriums dating to 2012, Congress has refrained from enacting site-specific authorization and appropriations for Reclamation projects since that time. However, Congress enacted a new process for approving and financing Reclamation water storage projects in Section 4007 of the WIIN Act.

New Authority for Water Storage Projects: WIIN Act Section 4007

Title II, Subtitle J of the WIIN Act included new authority under Section 4007 that authorizes federal support for new or expanded water storage projects, including projects constructed by nonfederal entities.[58] In contrast to the traditional approach of 100% of costs funded up-front by

[53] In contrast to projects supported by the USDA, authorized reclamation project distribution systems typically do *not* encompass on-farm improvements.

[54] In some cases, congressional authorizing directions may have deviated from Reclamation recommendations.

[55] Agricultural contractors generally are not charged interest on their repayment, and some have their repayment obligations reduced based on their ability to pay. Additionally, a portion of most projects' costs are considered *nonreimbursable* because they are classified as federal in nature (e.g., recreation, fish and wildlife enhancements). As a result, the amount repaid to the federal government by users typically has been significantly less than the initial cost of construction, and the federal subsidy for project costs has varied widely among individual projects.

[56] In the past, Congress individually authorized project title transfers. However, under a new process authorized in Title VIII of the John D. Dingell, Jr. Conservation, Management, and Recreation Act (P.L. 116-9), Reclamation has the authority to transfer titles administratively for projects, subject to certain conditions. For more on the title transfer process, see CRS In Focus IF10924, *Title Transfer for Bureau of Reclamation Facilities*.

[57] Geographically specific projects authorized under that legislation were for the most part federal projects that were smaller in scope, or nonfederally-led Title XVI projects (see below section, "WaterSMART Program").

[58] For more information on this legislation, see CRS Report R44986, *Water Infrastructure Improvements for the Nation (WIIN) Act: Bureau of Reclamation and California Water Provisions*, by Charles V. Stern, Pervaze A. Sheikh, and Nicole T. Carter.

the federal government (with beneficiaries responsible for repaying their share of project benefits), the WIIN Act authorized maximum federal support of 50% of total costs for certain approved federal water storage projects, as well as a maximum of 25% federal support for approved nonfederal surface and groundwater storage projects. Additionally, the act required the nonfederal shares for both types of financing to be provided up-front in order for federal support to be made available. Federal construction funding for these projects is contingent on a number of determinations, including that in return for the federal cost share, at least a proportionate share of the project benefits are found to be federal benefits. Thus, unlike traditional Reclamation projects, there is no expectation of repayment of the initial federal investment in these projects.

The authorization process for Section 4007 projects also differs from that traditionally used for other Reclamation projects. For a project to qualify for funding under the WIIN Act, Reclamation must find that project feasible, and the project must have a cost-sharing partner. In addition, Reclamation must recommend that project to Congress, and Congress must mention the project by name in enacted appropriations legislation. As a result, the process of funding Section 4007 is typically carried out in three steps:

1. Congress appropriates funding for Section 4007 projects to Reclamation.
2. Reclamation recommends specific projects to receive this funding.
3. Congress decides whether to refer to these projects by name in subsequent appropriations legislation, thereby providing formal approval for allocations and enabling project-level expenditures.

Following initial appropriations for this authority in FY2017, Reclamation recommended seven projects to receive $33 million in FY2017 funding for WIIN Act Section 4007 projects in early 2018.[59] Congress agreed to these recommendations in the FY2018 Energy and Water Development appropriations bill (P.L. 115-141). In February 2019, Reclamation recommended another round of project-level allocations to receive $75 million in FY2017 and FY2018 appropriated funds.[60] In enacted appropriations for FY2020, Congress agreed with all of the Administration's recommendations, with the exception of $57 million proposed for the Shasta Dam and Reservoir Enhancement Project. Thus, as of early 2020, Congress had appropriated $469 million for Section 4007 projects, but only $51 million of this funding had been released to specific projects. The remainder was awaiting further action by Reclamation and/or Congress.

Dam Safety Modifications[61]

Reclamation's dam safety program, authorized by Reclamation Safety of Dams Act of 1978, as amended,[62] provides for inspection and repairs to qualifying projects at Reclamation dams. Projects authorized under this authority have a different cost-share structure than that used for traditional Reclamation construction and rehabilitation projects (including initial construction of some dams). Reclamation first conducts dam safety inspections through the Safety Evaluation of Existing Dams program. Corrective actions, if necessary, are carried out through the Initiate

[59] Bureau of Reclamation, Report to the House and Senate Committees on Appropriations, Distribution of Fiscal Year 2017 Funding for Water Conservation and Delivery – P.L. 114-322 (Section 4007), Water and Related Resources, Bureau of Reclamation and Discussion of Criteria and Recommendations, January 2018.

[60] Letter from Timothy R. Petty, Assistant Secretary for Water and Science, to The Honorable Marcy Kaptur, Chairwoman, Subcommittee on Energy and Water Development, February 13, 2019.

[61] For more information about Reclamation dam safety projects, see CRS Report R45981, *Dam Safety Overview and the Federal Role*, by Anna E. Normand.

[62] 43 U.S.C. §§506 et seq.

Safety of Dams Corrective Action (ISCA) program. With ISCA appropriations, Reclamation funds modifications on priority structures based on an evolving identification of risks and needs.

Based on amendments enacted in 1984 (P.L. 98-404), Reclamation requires a 15% cost share from sponsors for dam safety modifications when modifications are based on new hydrologic or seismic data or changes in state-of-the-art design or construction criteria that are deemed necessary for safety purposes. In 2014, P.L. 114-113 amended the Reclamation Safety of Dams Act to increase Reclamation's authority, before needing congressional authorization to approve a modification project, from $1.25 million to $20 million. It also authorized the Secretary of the Interior to develop additional project benefits, through the construction of new or supplementary works on a project in conjunction with dam safety modifications, if such additional benefits are deemed necessary and in the interests of the United States and the project. Nonfederal and federal funding participants must agree to a cost share related to the additional project benefits.[63]

Other Project Types

In addition to traditional Reclamation projects, Congress has authorized Reclamation to carry out other projects and programs. Some of these authorities are discussed below.

Rural Water Projects

Congress has authorized Reclamation to incorporate M&I water resource benefits into larger projects that serve various purposes (e.g., irrigation, power). Separate from these projects, Congress has expressly authorized Reclamation to undertake the design and construction of *rural water supply* projects intended to deliver potable water supplies to geographically specific rural areas and communities.

From 1980 through 2009, Congress specifically authorized Reclamation to undertake the design and construction, and sometimes the O&M, of specific projects intended to deliver potable water supplies to rural communities located in Reclamation states. Primarily, these projects were in North Dakota, South Dakota, Montana, and New Mexico. The rural communities include tribal reservations and nontribal rural communities with nonexistent, substandard, or declining water supply or water quality. Many rural water projects are large in geographic scope—taking water from one location, where it is available in quantity and quality, and moving it across large distances to tie to existing rural systems. Although M&I portions of Reclamation water supply facilities typically require 100% repayment with interest, Congress has authorized providing some or all federal funding for rural water projects on a nonreimbursable basis (i.e., a de facto grant). For example, the federal government pays up to 100% of the cost of tribal rural water supply projects, including O&M. For nontribal rural water supply projects, the federal cost share has averaged 75% to 80%.

The Rural Water Supply Act of 2006 (P.L. 109-451) created a structured program for developing and recommending rural water supply projects. This program was to replace the previous process of authorizing projects individually—often without the level of analysis and review (e.g., feasibility studies) consistent with Reclamation's other projects. Under the Rural Water Supply Program, Congress authorized Reclamation to work with rural communities and tribes to identify M&I water needs and options to address such needs through appraisal investigations and feasibility studies. Congress would then consider feasibility studies recommended by the

[63] The costs associated with developing the additional project benefits are to be allocated exclusively among beneficiaries of the additional project benefits and to be repaid consistent with provisions of federal reclamation law (43 U.S.C. §371 et seq.).

Administration before authorizing specific project construction in legislation. Ultimately, Reclamation did not recommend and Congress did not authorize any project through this process, and the authority for the program expired in 2016.

Reclamation continues to construct rural water projects (and provide O&M assistance for some tribal components) that were initiated outside of the Rural Water Supply Program. In 2012, Reclamation developed prioritization criteria for budgeting these projects: inclusion of tribal components; amount of financial resources committed; urgency and severity of need; financial need and potential economic impact; regional and watershed approach; and meeting water, energy, and other priority objectives.[64] Reclamation stated that the criteria are intended to reflect both the priorities identified in the statutes that authorized individual projects and the goals of the Rural Water Supply Act of 2006.

As of early 2020, Reclamation reported that $1.3 billion was needed to complete construction of authorized, ongoing rural water projects.[65] Enacted funding for rural water supply projects in FY2019 provided $132.7 million for six authorized rural water projects, which was $98.7 million above the FY2019 budget request.[66] For FY2020, the Administration requested $27.8 million and Congress appropriated an additional $117.4 million above the request for Reclamation to allocate to ongoing rural water projects in a work plan for the enacted bill.[67]

Indian Water Rights Settlements[68]

Indian water rights are vested property rights and resources for which the United States has a trust responsibility. The Supreme Court first recognized Indian water rights in *Winters v. United States* in 1908.[69] Under the *Winters* doctrine, when Congress reserves land (i.e., for an Indian reservation), Congress implicitly reserves water sufficient to fulfill the purpose of the reservation.

Since the *Winters* decision, disputes have arisen between Indians asserting their water rights and non-Indian water users, particularly in the western United States. In that region, the establishment of Indian reservations (and, therefore, of Indian water rights) generally predated settlement by non-Indians and the related large-scale development by the federal government of water resources for non-Indian users. In most western states, water allocation takes place under a system of prior appropriation in which water is allocated to users based on the order water rights were acquired.

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[64] Bureau of Reclamation, Assessment of Reclamation's Rural Water Activities and Other Federal Programs that Provide Support on Potable Water Supplies to Rural Communities in the Western United States, October 7, 2014, at https://www.usbr.gov/ruralwater/docs/Rural-Water-Assessment-Report.pdf. Hereinafter Reclamation, Assessment of Reclamation's Rural Water Activities.

[65] Bureau of Reclamation, "FY2021 Budget Stakeholders' Briefing," February 10, 2020.

[66] The rural water projects included the Mni Wiconi Project, Pick-Sloan Missouri Basin Program – Garrison Diversion Unit, Rocky Boy's/North Central Montana Rural Water System, Fort Peck Reservation/Dry Prairie Rural Water System, Lewis and Clark Rural Water System, Eastern New Mexico Water Supply – Ute Reservoir. Bureau of Reclamation, *Budget Justification and Performance Information Fiscal Year 2019*, 2018, at https://www.usbr.gov/budget/2019/FY_2019_Budget_Justifications.pdf. Bureau of Reclamation, *FY2019 Distribution of Additional Funding*, https://www.usbr.gov/budget/2019/FY%202019%20Additional%20Funds%20Worksheet %20Final.pdf.

[67] Bureau of Reclamation, *Budget Justification and Performance Information Fiscal Year 2020*, 2019, at https://www.usbr.gov/budget/2020/FY%202020%20Bureau%20of%20Reclamation%20Budget%20Justifications.pdf. The Further Consolidated Appropriations Act, 2020 (P.L. 116-94), included appropriations for Reclamation under Division C, the Energy and Water Development and Related Agencies Appropriations Act, 2020. The explanatory statement accompanying the bill includes a table recommending allocations of additional funding for ongoing work, such as rural water projects, under Reclamation's Water and Related Resources account.

[68] For more information about these projects, see CRS Report R44148, *Indian Water Rights Settlements*, by Charles V. Stern.

[69] Winters v. United States, 207 U.S. 564, 575-77 (1908).

Under the *Winters* doctrine and the western system of prior appropriation, the water rights of tribes often are senior to those of non-Indian water rights holders because Indian water rights generally date to the creation of the reservation. However, despite the priority of Indian reserved water rights, non-Indian populations frequently have greater access to and allocations of water through infrastructure. This discrepancy leads to disputes that typically have been litigated or, since the late 1970s, resolved by negotiated settlements (commonly referred to as *Indian water rights settlements*).

Negotiated settlements often involve tradeoffs for tribes, water users, and governmental entities. In several cases, Congress authorized Reclamation to construct infrastructure to help provide tribes with *wet water* (i.e., access to actual water, rather than just water rights) that was finalized by parties in the negotiation and settlement process. Since the first settlement was enacted in 1978 (the Ak-Chin Water Rights Settlement, enacted in P.L. 95-328), Congress has enacted 32 settlements into law. Overall, 36 settlements have been federally approved (including those which were administratively approved), with total estimated federal costs in excess of $5.8 billion. Individual settlements have varied widely in their costs to the federal government, from no federal funding required to hundreds of millions of dollars in federal support.

In 2010, Congress also authorized a new fund for Reclamation, the Reclamation Water Settlements Fund, under Title X of P.L. 111-11. The fund may provide up to $120 million per year for authorized Indian water rights settlements, without further appropriations (i.e., mandatory funding), from FY2020 to FY2029.

WaterSMART Program and Other Related Projects

Reclamation combines funding for multiple agency-wide programs promoting water conservation into a single program—the WaterSMART (Sustain and Manage American Resources for Tomorrow) program. The program is part of the Department of the Interior's focus on water conservation, reuse, and planning, and it is notable for its departure from Reclamation's traditional model of project-based funding. Within Reclamation, WaterSMART includes funding for the following six sub-programs:[70]

- WaterSMART Grants, which provide funding for water and energy efficiency projects, as well as water marketing strategy development;
- The Title XVI Water Reclamation and Reuse Program, which funds study and construction of authorized water recycling and reuse projects;
- The Drought Response Program, which provides assistance to water managers in developing and updating comprehensive drought plans, implementing drought resiliency projects, and undertaking emergency response actions;
- The Basin Studies Program, which evaluates water supply and demand in individual basins and identifies and implements strategies to address water supply and demand imbalances;
- The Cooperative Watershed Management Program, which funds projects by watershed groups that provide local solutions to address water management needs; and

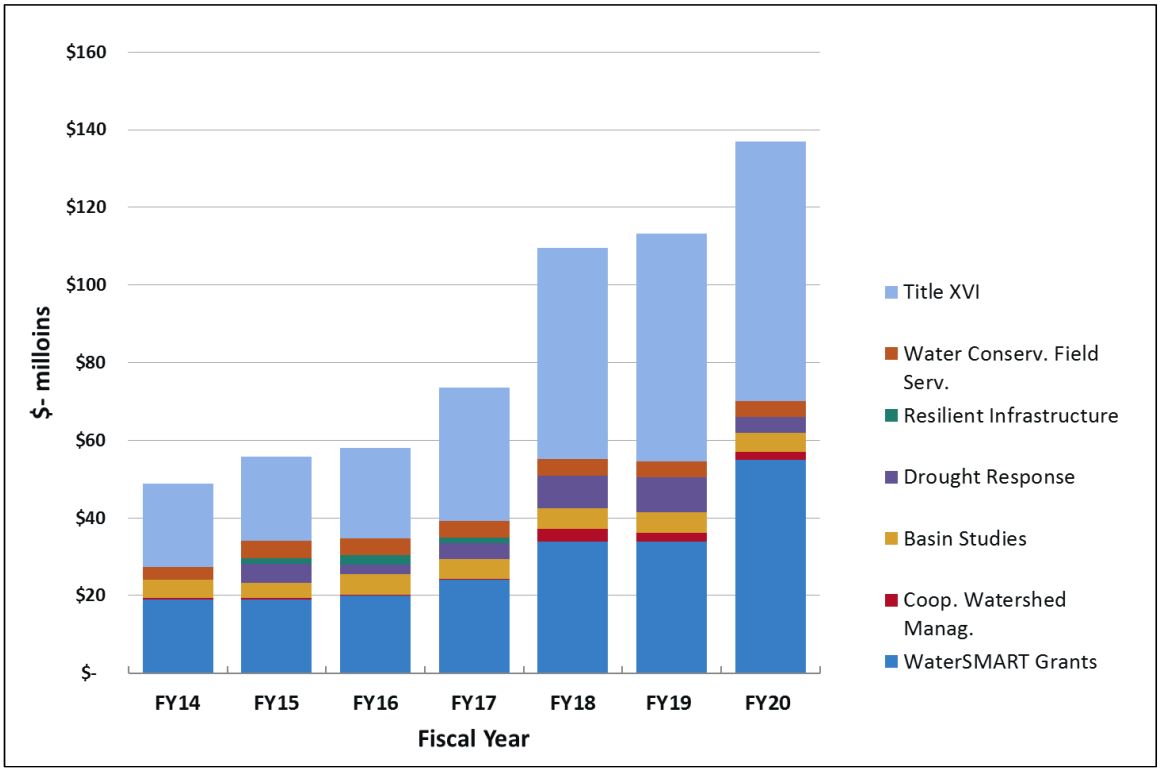
[70] In some prior years, funding was also included for "Resilient Infrastructure," another programmatic line item within WaterSMART. However, Congress has approved no such funding since FY2017.

- Water Conservation Field Services, which provides technical and financial assistance for the development of water conservation plans and design of water management improvements.

Of these programs, the largest are WaterSMART Grants and the Title XVI Water Reclamation and Reuse Program, which received a total of $401 million and $579 million, respectively, in appropriations from FY2009 through FY2020. Congress authorized several of WaterSMART's sub-programs, including WaterSMART Grants, parts of the Drought Response Program, the Basin Studies Program, and the Cooperative Watershed Management Program, in Subtitle F of Title IX of the Omnibus Public Land Management Act of 2009 (P.L. 111-11). Other WaterSMART sub-programs, such as Title XVI and the Water Conservation Field Services Program, were authorized prior to the 2010 establishment of WaterSMART.[71] Most WaterSMART efforts require cost sharing of at least 50% to leverage nonfederal resources in addition to federal funding. Recent funding levels for the WaterSMART Program are shown below (**Figure 3**).

Figure 3. Bureau of Reclamation WaterSMART Program Appropriations

(FY2014-FY2020 nominal dollars)



Source: CRS, based on enacted appropriations data.

[71] The Water Conservation Field Services Program was originally established by Reclamation in 1996 to implement the Preferred Alternative in Reclamation's Environmental Impact Statement on Implementation of the Reclamation Reform Act of 1982 (P.L. 97-293). Reclamation also cites Section 9504(e) of P.L. 111-11 as guiding its program implementation. Reclamation's Title XVI program was originally authorized in Title XVI of P.L. 102-575 and has been amended over time.

Section 4009 of the WIIN Act

Section 4009 of the WIIN Act added new authorities for Reclamation to assist in the construction of desalination projects and made major changes to Reclamation's Title XVI Program.[72] In Section 4009(a), Congress expanded Reclamation's role in desalination facilities (which had previously been limited to support for research and development) by authorizing the Secretary of the Interior to provide federal funding of up to 25% of the total cost of an eligible desalination project. The authority included public facilities for the desalination of seawater and/or brackish water. Prior to receiving this support, nonfederal parties must submit feasibility studies of individual projects to Reclamation for approval. For Title XVI projects, Congress authorized a similar process in Section 4009(c), whereby nonfederal studies of previously unauthorized Title XVI projects are submitted to Reclamation for review and potential approval for future federal funds (i.e., without project-specific authorization by Congress). Similar to the authorization and funding process for Section 4007 projects, Reclamation must recommend project-specific funding allocations for both categories of Section 4009 projects, and Congress provides final approval for these allocations by mentioning projects by name in enacted appropriations legislation. From FY2017 through FY2020, Congress appropriated a total of $42 million and $70 million for Section 4009(a) desalination and Section 4009(c) Title XVI projects, respectively.

Selected Issues for Congress

Congress regularly considers matters related to Reclamation. Persistent drought in parts of the West and the enactment of the WIIN Act's Sections 4007 and 4009 authorities, as well as other recent developments, such as the increasing surplus balances in the Reclamation Fund, have spurred broader congressional discussions of Reclamation's missions and its future role. In the 116th Congress, two bills propose broad Reclamation policy changes: S. 1932, the Drought Resiliency and Water Supply Infrastructure Act, and draft legislation (currently unnumbered) circulated for public comment by Representative Huffman.[73] Numerous other bills target specific Reclamation programs, projects, or authorities for change. Some of the issues and legislation in this debate are discussed below.

Extension of WIIN Act Section 4007 Authority

One overarching question for Reclamation is how (or if) the bureau should support the construction of new water supply infrastructure, in particular new surface water storage infrastructure. The last major Reclamation water storage project constructed was the Animas La Plata Project on the Colorado/New Mexico border; it was originally authorized under the Colorado River Basin Project Act of 1968 (P.L. 84-485) and constructed from 2002 to 2009.[74] Outside of Indian water rights settlements and rural water projects, Congress generally has not authorized Reclamation to construct major new water storage projects in the last 30-40 years.

[72] Prior to the WIIN Act, Reclamation support for desalination efforts was limited to research and development efforts, along with limited demonstration efforts under Title XVI that indirectly supported desalination (e.g., brine disposal for brackish water desalination). Although Title XVI efforts under the WIIN Act are included in the WaterSMART Program, Desalination Program activities are not included in WaterSMART.

[73] Specifically, Rep. Huffman announced a discussion draft of his proposed bill, the FUTURE Drought Resiliency Act, in January 2020. For more information, see https://huffman.house.gov/future-drought-act.

[74] Although originally authorized in 1968, final construction and implementation was not authorized until the Colorado Ute Settlement Amendments Act of 2000 (P.L. 106-554).

The status of the Section 4007 water storage authorities enacted in the WIIN Act could be important in determining the bureau's future direction. When enacted, Section 4007 was the first new major water storage project construction authority in years. It was notable for its deference to nonfederal project sponsors to lead or contribute to activities traditionally led by the federal government. The process set up under Section 4007 was also notable for its departure from the traditional congressional approval process for Reclamation projects, in which Congress enacts project-specific authorizations.

Although the financing structure for WIIN Act projects requires less of an overall federal investment than was necessary for many past Reclamation projects, the lower relative up-front federal subsidy also appears likely to shrink the pool of projects using these authorities compared with those that benefited from traditional Reclamation projects. Six of the nine water storage projects that were funded through early 2020 were located in California; two were located in Washington, and one was located in Idaho. That is, 3 of the 17 reclamation states appear likely to benefit from Section 4007 funding in the near term.

Some members of Congress have proposed extending and/or amending the Section 4007 authority in the 116th Congress. For instance, S. 1932 would extend that part of the WIIN Act for five years (through FY2025) and authorize $670 million for new ground and surface water storage projects under this section. Separately, a draft bill introduced by Representative Huffman would set up a new annual reporting process to inform congressional authorization deliberations for "major" federal projects, as well as nonfederal water storage projects. Under this legislation, certain nonfederal water storage projects (specifically, nonfederally sponsored projects costing less than $250 million) would not be subject to this reporting process and would not require explicit authorization by Congress. The legislation would increase the authorization of appropriations for Section 4007 storage projects to $750 million and extend this authority through FY2025.

Supporters have advocated for continuing Section 4007 authority for several reasons. They argue that new construction will increase water availability in the West and help to address the water resource effects of climate change, and thus it warrants federal prioritization. They also note that significantly more funding is required to complete the projects that have initially received WIIN Act funds. Some oppose the extension of the Section 4007 authority and believe there should be little or no federal role in projects that otherwise would be the responsibility of nonfederal entities. Some opponents would prefer that Congress focus on promoting alternatives that are more environmentally friendly, such as water conservation and water reuse.

If Congress chooses to extend the WIIN Act Section 4007 authority, it would signal to some that Reclamation will continue to have an active role in new water development projects. At the same time, it might suggest that this role is likely to be more of a supporting capacity than has traditionally been the case. If Congress opts not to extend the authority, it may choose to focus on other Reclamation mission areas to reduce Reclamation involvement and continue to transition Reclamation projects and responsibilities to nonfederal users. Congress also might decide to complete some projects that have been initially funded through the WIIN Act on an ad hoc basis or to use other financing authorities to support new projects (see below section, "Financing Infrastructure").

Support for New Title XVI, Desalination Projects

Title XVI has been a popular option for funding water reuse and recycling projects in the West since the first projects were authorized under that authority in 1992. In Section 4009 of the WIIN Act, Congress set up a process that allowed for the approval of the first large set of new Title XVI

construction projects since 2010. In that same section, Congress also authorized federal support for nonfederal desalination projects at a similar level to that provided to Title XVI Projects (i.e., a 25% federal cost share), with projects to be approved through a similar reporting process. Reclamation published the first report under the Section 4009 authority in 2017, and Congress approved additional new projects via the WIIN Act reporting by Reclamation in 2018 and 2019.[75] Similar to the authority for water storage projects under Section 4007, Section 4009 was notable for its deference to nonfederal interests; Section 4009 allows nonfederal entities to carry out studies and receive approval for federal support by Reclamation based on a limited set of criteria. Congress in turn may appropriate and approve the release of funding for individual projects after they have been recommended by Reclamation.

In the 116th Congress, several bills propose to extend Section 4009 of the WIIN Act. S. 1932, for example, would authorize $160 million and $80 million in new funding for WIIN Act Title XVI and Desalination projects, respectively. Draft legislation introduced by Representative Huffman would authorize $500 million and $260 million for these projects, respectively. Both pieces of legislation would extend the Section 4009 authorities through 2024 and increase the per-project federal cap for newly funded Title XVI projects from $20 million to $30 million.

Although some support Title XVI and/or desalination projects, others question whether they should be a priority of the bureau. Opponents sometimes point out that these projects largely benefit urban areas, in particular those in California.[76] For their part, supporters note that by avoiding new consumptive uses of freshwater supplies, these projects have the potential to be more environmentally friendly than traditional water storage projects. They also add more relatively drought-resilient water supplies to many fast-growing areas of the West that also depend on water from traditional Reclamation projects. Although the cost-effectiveness of most water reuse and some desalination projects compares favorably with similarly located traditional water storage projects in terms of project yield per acre-foot, some projects may not be cost competitive.[77]

Aging Infrastructure

Aging infrastructure represents a significant challenge for Reclamation. Most of the bureau's facilities are 60-100 years old, and the total replacement value of these facilities as of 2015 was estimated to be $99 billion.[78] As these facilities age, the beneficiary-pays model poses a notable challenge for upkeep of Reclamation facilities. Most Reclamation contractors do not own the facilities from which they benefit and therefore may have difficulty financing their share of project repairs.[79] Reclamation faces challenges not only in obtaining the requisite funding from Congress for aging infrastructure projects but also in structuring repayment requirements in a way

[75] These reports are posted online at https://www.usbr.gov/watersmart/title/index.html.

[76] As of 2020, 37 of the 56 projects approved under Section 4009 of the WIIN Act were located in California. This is similar to the ratio of traditional Title XVI projects: 37 of the 53 pre-WIIN Act authorized Title XVI projects were located in California.

[77] For general information on the range of costs for different water supply options in California, see Henry McCann, Alvar Escriba-Bou, and Kurt Schwabe, Public Policy Institute of California, *Just the Facts: Alternative Water Supplies*, February 2018, at https://www.ppic.org/publication/alternative-water-supplies/.

[78] Bureau of Reclamation, *Infrastructure Investment Strategy*, May 2015, p.1, at https://www.usbr.gov/infrastructure/docs/Infrastructure_Investment_Strategy_Final_Report_1SEP15.pdf.

[79] To provide borrowers with financial support, some creditors require collateral in the form of the borrower's infrastructure assets. If the borrower does not possess the assets for which it is borrowing funding, it can be difficult to obtain financing.

that will not be overly burdensome for its contractors. Congress has expressed interest both in how Reclamation estimates and accounts for its infrastructure needs and in how it plans to address aging infrastructure in the future.

Reclamation generally groups aging infrastructure and related needs into the overarching project category of *major repair and rehabilitation* (MR&R). This category includes both dam safety needs and federal- and contractor-funded needs for upgrades to water and power infrastructure. In early 2020, Reclamation estimated that its five-year extraordinary maintenance and rehabilitation needs were $3.8 billion.[80] This estimate includes dam safety appropriations and reserved works (both of which are funded via discretionary appropriations) and needs expected to be funded by water and power users and not by federal appropriations.[81] Reclamation is also working on a broader strategy to estimate and account for its aging infrastructure needs, as required under the Reclamation Transparency Act, enacted in Subtitle G, Title VIII of P.L. 116-9.

It impossible to predict what portion of Reclamation's short- and long-term MR&R needs will go unmet. However, recent experience indicates that Reclamation will continue to request funding for a significant share of its MR&R needs, that unforeseen expenses are likely to arise, and that some contractors will have difficulty repaying their shares of some of these large rehabilitation expenses without federal aid. Some may question the prospect of additional federal spending for these projects and contractors. At the same time, infrastructure failures could pose a significant threat to the public in the form of physical and/or economic damages.

Recent Congresses have introduced proposals that would attempt to address Reclamation's aging infrastructure. In the 116th Congress, both S. 2044 and H.R. 4659 would create a new account in the Treasury, to be known as the Aging Infrastructure Account, to receive appropriations for non-dam safety related extraordinary operations and maintenance work on reserved or transferred Reclamation projects, as well as repayment by users for these costs. Congress first authorized federal assistance for these costs under Sections 9603-9605 of P.L. 111-11, but to date the bureau has not provided such assistance, in part due to lack of requests from users. Earlier in the 116th Congress, Title VIII, Subtitle A of P.L. 116-9 authorized a new programmatic title transfer process, whereby Reclamation is able to transfer ownership for certain facilities that have been repaid, without additional approvals from Congress.[82] By facilitating transfer of ownership to nonfederal users, some hope this authority will aid these same users in obtaining financing for infrastructure upgrades.

Indian Water Rights Settlements

Indian water rights settlements have made up some of the largest new Reclamation project authorizations in recent years. Congress authorized nine new settlements from 2010 to 2016, and five of these settlements each authorized federal costs in excess of $100 million. The Reclamation Water Settlement Fund, a fund containing mandatory appropriations authorized by Congress in 2010, is expected to make available $120 million per year from FY2020 to FY2029 (to fund some of these costs). The remainder of funds needed to complete new and ongoing settlements is assumed to come from discretionary appropriations.

In the 116th Congress, H.R. 1904 and S. 886 both would extend the aforementioned $120 million per year in mandatory funds for the Reclamation Water Rights Settlement Fund. H.R. 1904 would

[80] Bureau of Reclamation, "FY2021 Budget Stakeholders' Briefing," February 10, 2020.

[81] In the past, needs funded by federal appropriations have accounted for roughly one-third of Reclamation's major repair and rehabilitation backlog.

[82] See footnote 56.

make these amounts available in perpetuity, whereas S. 886 would extend deposits to the fund through FY2039 (i.e., a 10-year extension) and would provide that the Secretary of the Interior may not expend more than $90 million per year on a single settlement. Congress may weigh whether mandatory funding is the preferred long-term approach for funding these settlements and, if so, which settlements should be prioritized for funding. Although some might view this funding as a responsibility of the federal government that will continue in perpetuity, others may prefer that congressional oversight for these settlements be maintained through the annual discretionary appropriations process.

In addition to the status of the Reclamation Water Settlements Fund, Congress continues to consider major new and amended Indian water rights settlements that the Administration has negotiated. S. 3019, the Montana Water Rights Protection Action, would authorize one of the largest Indian water rights settlements to date, the Confederated Salish and Kootenai Water Compact in Montana. Other legislation under consideration in the 116th Congress would authorize new settlements with the Navajo Utah (S. 644, S. 1207) and the Hualapai Tribe of Arizona (H.R. 2459, S. 1277), as well as amendments to the 2010 Aamodt Settlement Litigation Act (H.R. 3292, S. 1875). Congress may debate the merits of each of these individual settlements, as well as the overall approach to authorizing new settlements.

Financing Infrastructure Construction and Repairs

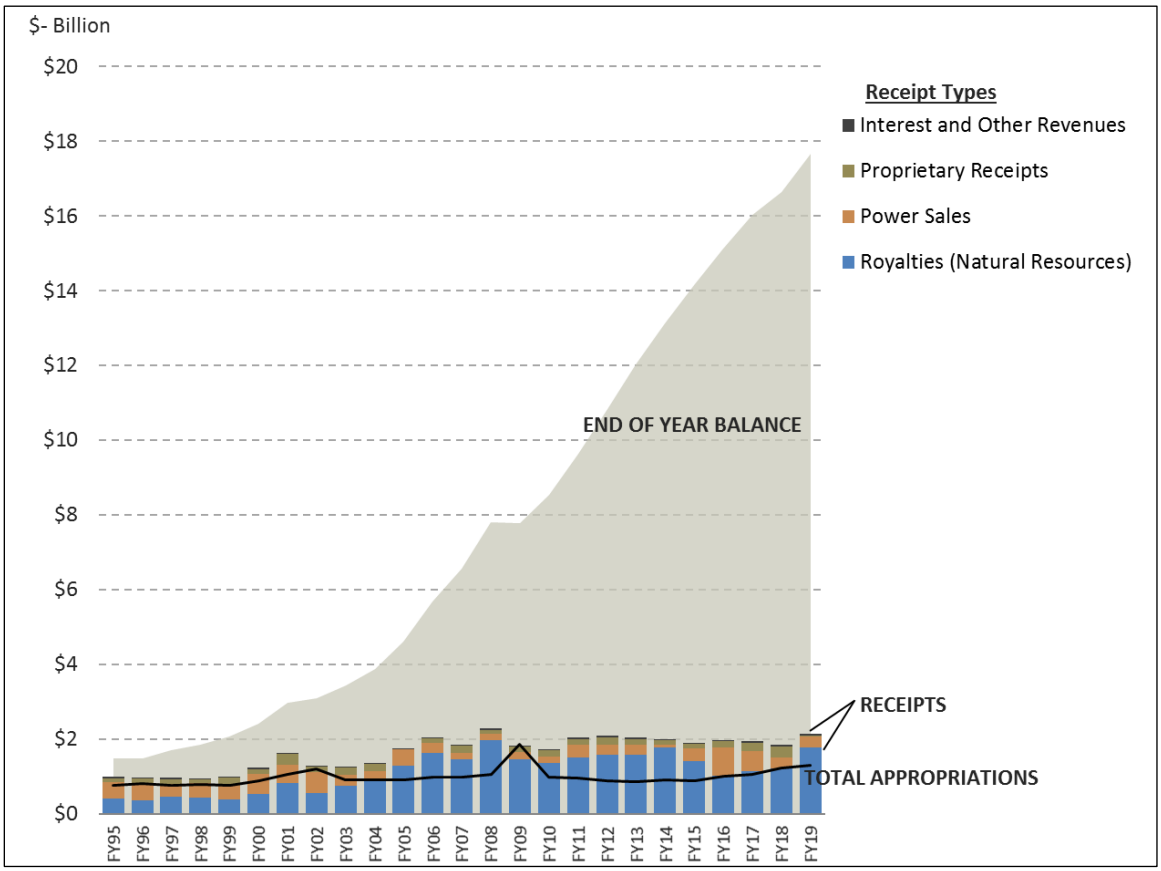
Some in Congress have expressed interest in proposals to finance various priority Reclamation activities. In addition to regular funding through the annual discretionary appropriations process, some have proposed using additional Reclamation Fund revenues and "alternative finance" loan programs that would promote public-private-partnerships at Reclamation projects.

Proposals to Use the Reclamation Fund

A number of Members have introduced proposals to use additional funding from the Reclamation Fund to fund priority Reclamation activities. The Reclamation Fund typically has had less than half of its incoming receipts appropriated as spending in recent years (**Figure 4**), largely due to an increase in receipts from energy and natural resource royalties on western lands. Proposals for dedicated funding from the Reclamation Fund have taken the form of both mandatory and discretionary funding in several areas, including new water storage, aging infrastructure, and construction of new rural water and Indian water rights settlements.

Figure 4. Reclamation Fund Balances, FY1995-FY2019

(nominal dollars)



Source: CRS, based on Reclamation budget data as of 2020.

In the 116th Congress, H.R. 2473, the Securing Access for the Central Valley and Enhancing Water Resources Act (SAVE Act), proposes to annually redirect $300 million that otherwise would be credited to the Reclamation Fund, without further appropriation, from FY2030 to FY2060. This funding is to be made available for (1) authorized surface and groundwater storage projects, (2) authorized water reclamation and reuse projects, and (3) WaterSMART program water efficiency/conservation grants. Additionally, as noted, H.R. 1904 and S. 886, both titled the Indian Water Rights Settlement Extension Act, would extend the $120 million per year in mandatory funding that was appropriated through FY2029 in P.L. 111-11. Without this change, these funds accrue to the Reclamation Fund.

Reclamation Infrastructure Finance and Innovation Act Proposals

Members have put forward other proposals for financing water supply projects that do not involve the Reclamation Fund in recent years. Dating to the 113th Congress, a number of bills have been proposed that would authorize Reclamation to provide financing and encourage public-private partnerships (sometimes referred to as *alternative financing*) for western water resource infrastructure. These proposals—which typically are referred to as Reclamation Infrastructure Finance and Innovation Act (RIFIA) proposals—generally have been modeled after the Environmental Protection Agency's Water Infrastructure Finance and Innovation Act (WIFIA) authority, enacted in Section 5025 of the Water Resources Reform and Development Act of 2014

(P.L. 113-121).[83] They typically propose a cap on competitively awarded federal project financing (e.g., up to 49% of project costs may be financed) that must be repaid over time by project sponsors. The arrangement is seen as particularly advantageous in a federal legislative context, because WIFIA loans provide a large amount of credit assistance relative to the amount of budget authority required in annual discretionary appropriations.[84] The current WIFIA authority authorizes a wide range of eligible projects, potentially including many of the water supply projects that would be most likely to pursue RIFIA financing. However, a separate RIFIA program would focus more exclusively on western water supply projects and thus potentially would avoid competition for financing with municipal water supply projects that have more established creditworthiness. In the 116th Congress, both S. 1932 and H.R. 2473 would authorize pilot RIFIA programs for Reclamation. The bills would authorize $150 million for RIFIA expenses from FY2021 to FY2025. Depending on the credit subsidy cost assumed and assuming full appropriation and interest by borrowers, these funds could be leveraged into more than $1 billion in federal funding for projects.

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[83] For more information, see CRS Report R43315, *Water Infrastructure Financing: The Water Infrastructure Finance and Innovation Act (WIFIA) Program*.

[84] Only the credit subsidy cost of these loans is required in congressional appropriations, resulting in significantly leveraged federal funding.