

**Statement of Scott Cameron,  
Principal Deputy Assistant Secretary for Policy, Management and Budget  
U.S. Department of the Interior  
before the Senate Energy and Natural Resources Committee  
Subcommittee on Water and Power  
on  
Invasive Species**

Chairman McSally, Ranking Member Cortez Masto, and Members of the Subcommittee, I am Scott Cameron, Principal Deputy Assistant Secretary for Policy, Management and Budget, within the U.S. Department of the Interior (Interior). Thank you for the opportunity to talk about invasive species at Reclamation facilities.

***History and Background***

Quagga and zebra mussels (also known as Dreissenids) arrived in the Great Lakes from Europe in the 1980s and spread to many eastern waterways, rivers, and lakes. Quagga mussels were discovered in Lake Mead, Lake Mojave, and Lake Havasu on the Colorado River in 2007, and zebra mussels were confirmed in San Justo Reservoir in California in 2008. Quagga mussels were later confirmed in Lake Powell in Utah and Arizona in 2013. Invasive mussels have since spread to reservoirs in southern Arizona and California, and the threat of expansion continues.

The primary way mussels are spread from one water body to another is on recreational boats that are used in infested water and then transported to another water body. The mussel larvae, called veligers, are microscopic and can survive in small amounts of water left on the boat and the juvenile and adult mussels can attach themselves to the boat and survive transport. Veligers can also be moved within connected waters by natural currents. Not all mussel introductions will lead to an infestation, as mussels require certain conditions and water quality to survive and reproduce. Once populations become established, mussels are difficult to eradicate, therefore efforts to prevent, contain, and control infestations are paramount. Meanwhile significant resources are being utilized to research new technologies that may eradicate infestations in the future.

Invasive species affect multiple sectors of society. Invasive species are accelerating degradation of infrastructure in every region of the country, creating tens of billions of dollars of unfunded liabilities for state and local governments. In the West, invasive quagga and zebra mussels pose serious economic and ecological threats. Invasive mussels clog hydroelectric facilities and irrigation systems, as well as damage aquatic ecosystems, threatening Americans' ability to experience the full benefits of hydropower and enjoy their rivers, lakes and streams for recreation. Mussel infestations threaten agriculture, navigation locks, and the biodiversity that supports much of the Western outdoor recreation industry. Invasive mussels also may disrupt ecosystems to the degree that they may cause new listings under the Endangered Species Act (ESA).

Rural communities and those dependent on tourism are especially vulnerable. The already economically challenging job of providing clean drinking water to small rural communities will be complicated by higher annual operating costs necessary to protect the water infrastructure from mussels. Rural communities dependent on irrigated agriculture experience higher maintenance costs on farms from mussels clogging pumps, expensive pivot and drip irrigation systems, and canals. Experience in some areas has shown that a hydroelectric dam infested with invasive mussels may need to spend \$500,000 a year in extra maintenance to control the damage posed by these pests, costs that then get passed on to consumers and businesses.

### ***Impact of Mussels on Bureau of Reclamation Infrastructure***

Invasive species represent a growing threat to Bureau of Reclamation infrastructure. The spread of invasive mussels has become a major concern as quagga and zebra mussels have continued to spread throughout the West, infesting Reclamation reservoirs and water intakes, power plants, and facilities of other water providers. The Columbia River Basin is the last major uninfested watershed in the United States, where regional estimates suggest a full-blown infestation would cost its citizens \$500 million annually in lost economic production, higher electric rates, and risk more endangered species complications. As a result, Reclamation's FY 2021 budget includes \$7.8 million to combat and prevent the spread of invasive species throughout Reclamation facilities and structures, including \$5.6 million directed towards the prevention, early detection and monitoring, containment and control of quagga and zebra mussels at existing facilities.

Invasive mussels pose significant challenges for Reclamation because they are prolific breeders that permanently settle on or within water and power facility infrastructure. Maintaining and operating power and water supply and delivery facilities, water recreation, and other water-dependent industries in mussel-infested water bodies is significantly more complex and expensive. Mussels also affect public recreation, aquatic ecosystems, and water quality. Shell fragments degrade swim beaches, watercraft inspection and decontamination requirements increase time and cost for boaters, and populations of game and ESA-listed fish can be affected. A single adult dreissenid mussel can filter approximately a liter of water each day, reducing the availability of algae and zooplankton for native and endangered mollusks and other aquatic organisms, including fish. Extensive filtration has also increased water clarity, leading to the proliferation of aquatic weeds that can further affect the ecosystem.

### ***Reclamation's Response***

Reclamation is utilizing a variety of strategies to help reduce the spread and impacts caused by mussels to Reclamation facilities and structures. Efforts include partnerships for watercraft inspection and decontamination; early detection and monitoring; facility vulnerability assessments; research on mussel control and monitoring technologies; and public outreach and education.

Reclamation created an invasive mussel corporate task force to coordinate a Reclamation-wide approach to managing quagga and zebra mussels. By developing a corporate strategy, Reclamation integrates the various strategies to meet its needs and facilitates communication and

dialogue within Reclamation. Additionally, Reclamation established a mussel monitoring and detection program in 2009. Their aim is to detect the first stages of mussel exposure at Reclamation reservoirs, and to develop protective measures to prevent a full infestation or mussel spread.

### ***Department of the Interior and Reclamation Investment***

In 2017, the Department of the Interior announced its initiative, *Safeguarding the West from Invasive Species*. This is a set of actions developed through collaboration with the Western Governors' Association and Federal, State, and Tribal representatives to protect areas in the West from the economic and ecological threats posed by quagga and zebra mussels. It includes dozens of actions that Interior bureaus are undertaking to prevent, contain, and control invasive mussels in collaboration with other partners.

Interior's accomplishments under *Safeguarding the West* are described in two progress reports, one in 2018 and a second in 2019. Another report will be released this year. Interior will continue to fulfill its commitments in *Safeguarding the West* and work with partners to meet the most pressing needs to protect western waters from invasive mussels and other aquatic invasive species.

Through the *Safeguarding the West* initiative, Interior strengthened partnerships, improved communication, leveraged existing investments, and brought additional resources to bear in Fiscal Years (FY) 2017 through 2020. Interior spent \$9.0 million in FY2017 to prevent, contain, and control invasive mussels nationwide, including \$4.2 million for the Bureau of Reclamation. Interior spent \$13.7 million in FY2018; this included \$7.8 million for Reclamation. Reclamation's increase supported a variety of activities that emphasized containment of mussels in the Lower Colorado Region and prevention in the Pacific Northwest.

In FY2019, Interior spent \$17 million on mussels and nearly \$16 million was specifically appropriated for FY2020. Of those amounts, \$8.2 million and \$4.1 million were identified for Reclamation activities, respectively. Reclamation allocated an additional \$1.35 million in its FY2020 spend plan to prevent the spread of invasive mussels.

Reclamation's FY2021 budget request to combat and prevent the spread of invasive mussel species falls under extraordinary maintenance activities. The FY2021 budget includes \$5.6 million for the prevention, early detection and monitoring, containment, and control of invasive mussels at Reclamation facilities, in conjunction with other Federal and State partners. Quagga and zebra mussel infestations are highly destructive to water and power infrastructure and directly affect operating costs and costs to water and power consumers, and they also impair recreational opportunities. The FY2021 budget request for invasive species increased approximately \$1.4 million over FY2020 enacted amounts.

In addition to financial investments, in 2017, Reclamation launched a prize competition seeking innovative solutions for the 100-percent eradication of invasive quagga and zebra mussels from large reservoirs, lakes, and rivers in a cost-effective and environmentally sound manner. Reclamation continues to work with the winner of the Prize Challenge to develop the proposed control solution.

### ***Conclusion***

The spread of invasive species, particularly mussels, at Reclamation facilities as mentioned, represents a growing risk to Reclamation infrastructure. Invasive mussel infestations pose significant logistical and economic challenges for local communities, recreationists, and water managers by potentially disrupting water deliveries, increasing facility maintenance cost, and impacting the local ecosystem. Thank you for the opportunity to share Reclamation's views and work on invasive species.