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SALT CEDAR AND RUSSIAN OLIVE CONTROL DEMONSTRATION ACT

MARCH 7, 2005.—Ordered to be printed

Mr. DOMENICI, from the Committee on Energy and Natural Resources, submitted the following

R E P O R T

[To accompany S. 177]

[Including cost estimate of the Congressional Budget Office]

The Committee on Energy and Natural Resources, to which was referred the bill (S. 177) to further the purposes of the Reclamation Projects Authorization and Adjustment Act of 1992 by directing the Secretary of the Interior, acting through the Commissioner of Reclamation, to carry out an assessment and demonstration program to control salt cedar and Russian olive, and for other purposes, having considered the same, reports favorably thereon without amendment and recommends that the bill do pass.

PURPOSE OF THE MEASURE

The purpose of S. 177 is to direct the Secretary of the Interior, through the Commissioner of Reclamation and in cooperation with the Secretaries of Agriculture and Defense, to assess the degree of infestation of salt cedar (Tamarix spp) and Russian olive (Eleagnus angustifolia), to document long-term management and funding strategies for addressing the infestation, to develop demonstration projects for effective management and control of salt cedar and Russian olive, and to analyze economical methods to use or dispose of the biomass resulting from their removal.

BACKGROUND AND NEED

Salt cedar and Russian olive are non-indigenous species that have aggressively invaded a significant portion of the American West. These species have caused dramatic changes in the composi-

tion and function of the natural communities they invade, most particularly the important riparian ecosystems of this arid region. These changes can adversely influence water flows, fire regimes, and sensitive species. For example, there is particular interest in documenting whether any particular management strategies result in accessible water savings.

There is no current national assessment of either management approaches and assessments of the extent of infestation are incomplete. While there are several existing salt cedar and Russian olive control programs—including programs managed by or funded through the Bureau of Reclamation—the focus of these programs is to remove or kill salt cedar, with relatively little attention given to long-term management strategies including re-vegetation and their potential impacts on water, soils, wildfire activity, and wildlife. Large-scale demonstration projects that test different control mechanisms and measure the effectiveness and effects of these projects, as well as their cumulative costs, can be a key to formulating effective regional strategies to deal with the infestation.

One important challenge to controlling the invasion of salt cedar and Russian olive has been dealing with the biomass of the vegetation that is removed. Finding economical means of using or disposing of this biomass is another key to formulating an effective regional strategy for dealing with the infestation.

LEGISLATIVE HISTORY

S. 177 was introduced on January 26, 2005, by Senator Domenici and referred to the Committee on Energy and Natural Resources. Senators Allard, Baucus, Bennett, Bingaman and Ensign are co-sponsors. No hearings were held on the measure. At the business meeting on February 9, 2005, the Committee on Energy and Natural Resources ordered S. 177 favorably reported.

During the 108th Congress, a similar measure, S. 1516, was introduced by Senator Domenici and Senator Campbell on July 31, 2003, and referred to the Senate Energy and Natural Resources Committee. Senators Allard, Baucus, Bingaman and Burns were co-sponsors of the measure. The Subcommittee on Water and Power held a hearing on the bill on September 23, 2003. S. Hrg. 108–211. At the business meeting on February 11, 2004, the Committee on Energy and Natural Resources ordered S. 1516, as amended, favorably reported. S. Rept. 108–235. S. 1516 passed the Senate, with an amendment, by unanimous consent on May 19, 2004.

COMMITTEE RECOMMENDATION AND TABULATION OF VOTES

The Senate Committee on Energy and Natural Resources, in open business session on February 9, 2005, by a unanimous vote of a quorum present, recommends that the Senate pass S. 177.

SECTION-BY-SECTION ANALYSIS

Section 1 states the short title.

Section 2 (a) directs the Secretary of the Interior to carry out a salt cedar and Russian olive assessment and demonstration program with three major components: an assessment of the extent of

infestation, the creation of demonstration projects, and an assessment of economic options for biomass disposal.

Subsection (b) directs the Secretary to assess the extent of salt cedar and Russian olive infestation and lists the requirements for conducting the assessment.

Subsection (c) directs the Secretary to identify and document long-term management and funding strategies to address the infestation, and directs the Secretary to provide grants to institutions of higher learning to support the development of these strategies.

Subsection (d) provides for the establishment of a demonstration program where a minimum of 5 demonstration projects will be initiated and lists the requirements for the demonstration projects.

Subsection (e) directs the Secretary to analyze economic methods for the use and disposal of biomass created as a result of removal of salt cedar and Russian olive, and lists the requirements of the analysis.

Subsection (f) establishes cost limitations and formulas for carrying out the legislation. The infestation assessment is limited to $4,000,000; the identification and documentation of long-term management strategies is limited to $2,000,000; the demonstration projects are limited to $7,000,000 per project; and the biomass analysis is limited to $3,000,000. It establishes that the infestation assessment, identification and documentation of long-term management strategies, and biomass analysis, along with any portions of the demonstration projects carried out on Federal lands be fully funded with Federal appropriations; demonstration projects carried out on non-Federal lands are to receive no more than 75 percent Federal funding for the first five years, but may reach 100 percent Federal funding for the purposes of long-term monitoring in subsequent years. Non-Federal cost-share may take the form of in-kind contributions, including services.

Subsection (g) requires the Secretary to cooperate with Federal agencies and others engaged in relevant research in carrying out the specific provisions of the legislation.

Subsection (h) directs the Secretary to subject the infestation assessment, identification and documentation of long-term strategies, demonstration projects, and biomass analysis to independent review.

Subsection (i) directs the Secretary to submit an annual report to Congress on the implementation of the legislation and to facilitate public access to the information resulting from carrying it out.

Subsection (j) authorizes $20,000,000 for fiscal year 2006 and $15,000,000 per year thereafter.

COST AND BUDGETARY CONSIDERATIONS

The following estimate of costs of this measure has been provided by the Congressional Budget Office:

FEBRUARY 11, 2005.

Hon. PETE V. DOMENICI,
Chairman, Committee on Energy and Natural Resources,
U.S. Senate, Washington, DC.

DEAR MR. CHAIRMAN: The Congressional Budget Office has prepared the enclosed cost estimate for S. 177, the Salt Cedar and Russian Olive Control Demonstration Act.

If you wish further details on this estimate, we will be pleased to provide them. The CBO staff contact is Julie Middleton.

Sincerely,

DOUGLAS HOLTZ-EAKIN.

Enclosure.

S. 177—Salt Cedar and Russian Oliver Control Demonstration Act

Summary: S. 177 would authorize the appropriation of $20 million for 2006 and $15 million for each subsequent fiscal year for a program to address the infestation of Salt Cedar and Russian Olive trees in the West. The Secretary of the Interior, acting through the Bureau of Reclamation, would provide grants to institutions of higher education to develop public policy expertise in long-term management strategies for these invasive species. In addition, the Secretary would fund at least five demonstration projects to assess methods for controlling Salt Cedar and Russian Olive trees. Finally, the Secretary would work with the Secretary of Agriculture to analyze methods of disposing of the biomass created as a result of the removal of these invasive species.

Assuming appropriation of the necessary amounts, CBO estimates that implementing S. 177 would cost $39 million over the 2006–2010 period. Enacting S. 177 would not affect direct spending or revenues. S. 177 contains no intergovernmental or private-sector mandates as defined in the Unfunded Mandates Reform Act (UMRA) and would impose no costs on state, local, or tribal governments.

Estimated cost to the Federal Government: The estimated budgetary impact of S. 177 is shown in the following table. The costs of this legislation falls within budget function 300 (natural resources and environment).

	By Fiscal Year, in Millions of Dollars—					
	2005	2006	2007	2008	2009	2010
CHANGES IN SPENDING SUBJECT TO APPROPRIATION						
Authorization Level	0	20	15	15	15	15
Estimated Outlays	0	2	5	8	11	13

For this estimate, CBO assumes that S. 177 will be enacted before the end of fiscal year 2005 and that the necessary amounts will be appropriated in each fiscal year, starting in 2006. Based on information from the Bureau of Reclamation and historical spending patterns for similar programs, CBO estimates that implementing this bill would cost $39 million over the 2006–2010 period.

Intergovernmental and private-sector impact: S. 177 contains no intergovernmental or private-sector mandates as defined in UMRA and would impose no costs on state, local, or tribal governments.

Estimate prepared by: Federal costs: Julie Middleton; impact on State, local, and tribal governments: Marjorie Miller; Impact on the private sector: Selena Caldera.

Estimate approved by: Peter H. Fontaine, Deputy Assistant Director for Budget Analysis.

REGULATORY IMPACT EVALUATION

In compliance with paragraph 11(b) of rule XXVI of the Standing Rules of the Senate, the Committee makes the following evaluation

of the regulatory impact which would be incurred in carrying out S. 177. The bill is not a regulatory measure in the sense of imposing Government-established standards or significant economic responsibilities on private individuals and businesses. Participation in the programs authorized by the bill by private individuals and businesses is strictly voluntary.

No personal information would be collected in administering the program. Therefore, there would be no impact on personal privacy.

Little, if any, additional paperwork would result from the enactment of S. 177, as ordered reported.

EXECUTIVE COMMUNICATIONS

The testimony provided by the Department of the Interior during the Subcommittee hearing on S. 1516 in the 108th Congress follows:

STATEMENT OF JIM TATE, SCIENCE ADVISOR TO SECRETARY OF THE INTERIOR GALE NORTON

Mr. Chairman and Members of the Committee, I am Jim Tate, Science Advisor to Secretary of the Interior Gale Norton. I want to thank you for providing the Department of the Interior (Department) the opportunity to testify before you regarding these bills which seek to promote the control and management of the invasive species like salt cedar, or tamarisk, and Russian olive. The Department supports the goals of both S. 1236, the Tamarisk Control and Riparian Restoration Act, and S. 1516, the Salt Cedar Control Demonstration Act. As discussed below, the Department is currently working with our partners to develop an integrated approach to management of tamarisk, and we are committed to working with you to ensure that tamarisk control efforts are efficient and effective. We are also concerned about the cost of the proposed programs, and note that they would have to compete with existing programs for limited resources.

Let me begin by providing you with some background on this issue, followed by brief comments on the legislation.

BACKGROUND

In the late 19th century, importation of several species of the genus Tamarix, commonly called tamarisk, and Russian olive came just as the Department began efforts to mediate land speculation and work closely with western governors and Indian tribes during the settlement of the West. The scientific expeditions of John Wesley Powell (which carried out the Geographical and Geological Survey of the Rocky Mountain region in 1874) set in motion the still-evolving paradigm that wise development informed by science provides the best hope for conservation and future use of our Nation's natural resources.

The Department is one of the Nation's principal conservation agencies, charged with protecting and providing access to our Nation's natural and cultural heritage. Today, Departmental authorities provide for the management and protection of resources in an area of the West now increasingly under pressure as population densities mushroom and water resources are increasingly stressed.

This region of the country also has seen the greatest impact from the species addressed in this legislation.

SCOPE OF THE PROBLEM

Russian olive is a hardy, fast-growing tree native to Europe and western Asia. It was introduced into the United States in the 19th century and was promoted as window and ornamental plantings. It grows along streams, in fields, and in open areas. It is shade-tolerant, and it grows well in a variety of soil and moisture conditions. While Russian olive is primarily found in the West, it also is present in the Eastern United States.

Tamarisk comprises a suite of several species also imported to the United States in the 19th century for use as windbreaks and erosion control plantings. Several species of tamarisk and their hybrids now cover approximately 1.6 million acres of riparian lands within all the seventeen western states (as far north as Montana). The spread of tamarisk is often supported by its extreme flammability. It rapidly produces dense biomass and, absent flooding or heavy rains, causes deposits of salt on the soil sufficient to suppress native plant seed germination and seedling growth.

Limited studies suggest that dense tamarisk stands can utilize more water on an annual basis than native cottonwood-willow plant communities. There can be more total surface area on the leaves of tamarisk plants than on cottonwood and native shrubs growing in a given area, and tamarisk continues to release water through the pores in its leaves during mid-day, whereas native cottonwoods shut this process down to conserve water. In addition, tamarisk growing in the streambed can also slow the water flow, allowing additional time for percolation of the water into the alluvium. Water released for irrigation purposes from an upstream reservoir may thus not get to its intended destination when tamarisk is blocking the channel.

The growing abundance of tamarisk along western rivers has led resource managers to seek to control it in order to: (1) Increase the flow of water in streams that might otherwise be lost to evapotranspiration and percolation; (2) restore native vegetation along the banks and floodplains of rivers and shorelines of reservoirs or lakes; (3) reduce hazardous fuels; and (4) improve wildlife habitat.

As you know, the Department, through the Bureau of Reclamation, has a significant role in the distribution of water throughout much of the West and Southwest. Because of its significant impact on water resources alone, the Department has a strong interest in the control of tamarisk as part of its management efforts. For this reason, much of the remainder of my statement will focus on control efforts for this species.

CURRENT DEPARTMENTAL TAMARISK MANAGEMENT EFFORTS

Current Departmental programs and activities focus control and management efforts for tamarisk on areas with resources at risk. Some areas are so heavily infested that expert 'strike' teams have been used to remove the dense vegetation. For example, the U.S. Fish and Wildlife Service (FWS) is in the process of establishing such 'strike teams,' modeled after the National Park Service's (NPS) Exotic Plant Management Teams (EPMT), to combat

invasive species, including tamarisk, in the Southwest. Areas vital to wildlife resources are cleared using mechanical, chemical, and physical means. Comprehensive conservation plans are used to guide these efforts and to indicate the areas of highest priority for waterfowl, endangered species, or other wildlife habitat values. In some cases, resources potentially at risk from tamarisk incursion are spot-treated early enough to keep the plants away, thus avoiding costly control efforts. This early detection and rapid response model is receiving increased attention as a means of preventing the spread and establishment of tamarisk.

PLACE–BASED RESEARCH AND TESTING

Departmental land management operations focus significant funding for tamarisk control on refuges, national parks and monuments, and along irrigation canals under the jurisdiction of the Bureau of Reclamation. Bosque del Apache National Wildlife Refuge has served as a demonstration laboratory for control and management of tamarisk, including research and development of innovative methods for restoring native riparian vegetation and working with nearby private landowners and Indian Tribes to implement them. Biomass removal, intermittent flooding, chemical treatments, and other mechanical methods have all been tested and measured for effectiveness and efficiency. Cooperating with researchers from nearby universities and other research institutions, such as the Los Alamos National Laboratory, scientists and land managers have also tested methods to reduce the likelihood of later re-infestation by tamarisk.

Because of our role in the management of Western lands, we recognize the need for on the ground management of invasive species like tamarisk. However, we also recognize that there are areas where our control and restoration efforts will benefit from targeted research and development projects. More information is needed regarding the identification of areas or situations that would most likely respond to vegetative restoration projects once tamarisk removal has begun. Such information will also assist in the development of an integrated control and restoration plan—a 'best practices' plan that will provide land managers at all levels of government with options for removal, control, and restoration of lands infested with tamarisk.

PROGRAMS TO PROMOTE PRIVATE PARTNERSHIPS

Various programs within the Department seek to promote partnerships with private landowners to address problem species like tamarisk. One initiative that addresses these issues is the cooperative conservation component of the challenge cost share programs in the Bureau of Land Management (BLM), NPS and FWS. These programs emphasize building partnerships for the conservation of natural resources and provide expanded opportunities for land managers to work with landowners and others to form creative conservation partnerships. This initiative recognizes that nature knows no jurisdictional boundaries and that, through these partnerships, the Department's land managers can work with landowners and other citizen stewards to tackle invasive species, reduce erosion along stream banks, or enhance habitat for threatened and endangered species. Among other things, in FY 2003 we have fund-

ed through this initiative projects that are aimed at the eradication and control of tamarisk, Russian olive, and other invasive plants, and reclamation of impacted lands.

Another program is the FWS's Partners for Fish and Wildlife, which promotes private landowner cost-share projects for habitat restoration, including funds targeted for control of invasive plants and subsequent restoration. The Partners Program has worked with private landowners across the Nation to remove, burn, biologically control, and otherwise combat invasive plants on thousands of acres of wetlands and upland. Tamarisk control is a focus of technical and financial assistance in the Southwest.

The control and management of tamarisk is part of the BLM's Partners Against Weeds Strategy Plan, BLM's Strategic Plan, and the National Fire Plan. The Partners Against Weeds program funds cooperative efforts with landowners to control invasive species. It also funds cooperative outreach and education projects with schools and local and county governments. In one important project, the BLM plans to work with several groups, including Clark County and the communities of Bunkerville and Mesquite in southern Nevada, to remove tamarisk along portions of the Virgin River floodplain. As I noted above, because of its properties, tamarisk poses a potential fire risk to homes, ranches, farms, and recreational facilities in the wildland-urban interface.

This project involves mechanical removal of tamarisk in the project area. The goal of the project is to move away from the tamarisk-fueled, high intensity fires that are now typical of the area concerned and to restore native vegetation, such as the relatively inflammable grasses, sedges, shrub communities, cottonwoods, and willows: Current planning calls for 95 acres of treatment in FY 2004, with an additional 100 acres per year during the following 7–8 years.

The NPS, U.S. Geological Survey (USGS), and the Bureau of Reclamation partner with the Agriculture Research Service and the U.S. Forest Service, both within the Department of Agriculture, and university scientists to develop and test biological control agents, including the beetles used for biological control of tamarisk in the West, to conduct studies of stream flow management for vegetation control, and on studies of hybridization and environmental tolerances to better predict the potential future spread of tamarisk.

USGS scientists can help identify site potential for water salvage, revegetation, and wildlife value, and develop protocols and measures for prioritizing sites for control or revegetation. The USGS also has partnerships with state-and county weed departments, the National Aeronautics and Space Agency (NASA), and the Tamarisk Coalition aimed at mapping currently invaded sites and identifying new invasions. The USGS also has ongoing studies mapping tamarisk in Western Colorado and Southern Utah, relating its distribution to environmental factors at USGS stream gauging stations throughout the West, assessing vegetation changes over time in tamarisk habitat on the lower Colorado River, and promoting restoration of native vegetation through water management.

The Bureau of Reclamation leads, along with USDA's Agricultural Research Service, the Saltcedar Biological Control Consor-

tium, a task force comprised of over 40 agencies. The Bureau of Reclamation, in collaboration with Los Alamos National Laboratory, also develops new technologies for determining the amount of water lost from the Rio Grande River due to tamarisk.

CROSSCUT BUDGET FOR FISCAL YEAR 2004

The Administration is also working toward an interagency approach to invasive species control. The President's Budget Request for Fiscal Year (FY) 2004 contains a performance budget crosscut on tamarisk. Agencies would work together to develop common performance measures. Under this performance umbrella, new and base funds will be applied in the Departments of Interior and Agriculture to control and manage the spread of tamarisk in the Southwest. Within the Department, the BLM proposes to control 2,750 acres of tamarisk with a $500,000 funding increase. The Bureau of Reclamation, utilizing $600,000 in new funding, proposes to control 22,000 acres of tamarisk. The FWS has proposed an increase of $640,000 for treatment of tamarisk and other species on refuge lands, and the NPS, utilizing $200,000 in base funding, proposes to treat 1,000 additional acres. A proposed funding increase of $100,000 will help the Bureau of Indian Affairs control tamarisk on 4,000 acres. Finally, USGS proposes an increase of $300,000 for two additional research projects in direct support of land management efforts, including the development of protocols and measures to prioritize sites for control and revegetation efforts.

In addition, both Interior and Agriculture agencies are working together with our state and local partners to develop and implement control technologies as part of an integrated approach to pest and weed management. New chemical and biological control methods for tamarisk are being tested under strictly controlled conditions because the endangered southwest willow flycatcher occupies areas now infested with tamarisk that were once occupied by stands of native willows and cottonwoods. The federal agencies are providing support for a multi-pronged approach to tamarisk control utilizing prevention, early detection and rapid response, and other control and management activities to limit the introduction and spread of tamarisk into new areas of the Southwest.

COORDINATED TAMARISK CONTROL AND REVEGETATION WORKSHOP

As a means of deciding how to spend the FY 2004 funds proposed in the President's Budget for tamarisk control, the Department is considering a strategy workshop to be held in the West sometime this fall. The purpose would be to gain stakeholder input for a roadmap containing common protocols (decision criteria) and best practices for tamarisk control and management. The roadmap would provide guidance for selecting on-the-ground projects and research efforts with the twin goals of generating increased water supply and restoring ecosystems through long-term tamarisk control, revegetation, and habitat recovery.

DEPARTMENTAL VIEWS ON S. 1236 AND S. 1516

I hope that this overview has provided you with a picture of what the Department is doing to manage the control of tamarisk and

other harmful exotic species. With the above discussion in mind, let me briefly turn to the legislation.

S. 1236 would require the Secretary of the Interior (Secretary), through the Bureau of Reclamation, to complete an assessment of the extent of tamarisk invasion in the western United States. In addition to identifying the states affected by tamarisk, including a gross-scale estimation of acreage within the identified states, the assessment would include both past and ongoing research on tamarisk control methods, and the estimated costs of destruction, biomass removal, and restoration and maintenance.

The Secretary would also establish a State Tamarisk Assistance Program to provide grants to affected states. Grants would be awarded to states in amounts to be determined by the Secretary based on infestation in a particular state. Those states would then be responsible for designating a lead state agency to administer the program and to work with listed entities, including the National Invasive Species Council, the Invasive Species Advisory Committee, representatives from relevant tribes, and others in the state, to establish priorities for awarding cost-share grants to projects to control or eradicate tamarisk. Tile bill carries a limitation (10 percent) on the use of grant monies for administrative expenses, and would require the lead state agency to provide the Secretary with a report at the completion of funded projects.

S. 1516, the 'Salt Cedar Control Demonstration Act,' would also establish a two-pronged approach. First, it would require the Secretary, through the Bureau of Reclamation, to complete a detailed assessment of the extent of infestation by salt cedar and Russian Olive in western states. The assessment would include past and present assessments and management options to control these species; the feasibility of reducing water consumption; methods and challenges in land restoration; and the estimated costs of destruction, biomass removal, and restoration and maintenance. Finally, the assessment is to identify long-term funding strategies that could be implemented by federal, state, and private land managers. Second, S. 1516 would also require the Secretary to initiate demonstration projects to determine the most effective control methods for these species, and it provides criteria to be included in the project designs.

We fully support the concepts advanced by these bills. In general, we view a comprehensive assessment positively, and believe such an approach helps federal land managers develop a more coordinated, long-term approach to addressing the problems associated with these species. We also recognize the importance of carrying out strictly controlled projects that will quickly provide us with practical control methods that can be used by land managers on the ground.

As noted above, however, the Department is already working with our partners to develop and implement an integrated approach to management of tamarisk. Moreover, we have a concern about the overall cost of the proposed legislation. S. 1236 would authorize $20 million for fiscal year 2004, with additional necessary sums thereafter, while S. 1516 would authorize $50 million on the same terms. While the Administration's cross cut budget evidences our commitment to control invasive species like those addressed here, the program established under this legislation would have to

compete with other priority activities within the context of the President's Budget. Finally, the Department notes that the demonstration projects called for in S. 1516 can be achieved within existing authorities.

CONCLUSION

In closing, I want to assure the Committee that the Department is prepared and committed to identifying, assessing, and acting to curb the economic and ecological impacts of tamarisk and Russian olive in the West. We will continue to work with our partners, and we agree with the intentions of both bills to more systematically develop an effective control strategy. Our goal is to ensure the protection of our water resources and the restoration of important wildlife habitat.

We share the Committee's concerns and interest in this issue, and offer to work with the Committee to ensure that any legislation promotes an efficient and effective control strategy. Mr. Chairman, this concludes my statement and I am happy to answer any questions that you might have.

CHANGES IN EXISTING LAW

In compliance with paragraph 12 of rule XXVI of the Standing Rules of the Senate, the Committee notes that no changes in existing law are made by the bill S. 177, as ordered reported.

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