

Riparian Vegetation Management Grant Program

Overview

Legislative Bill 701 was signed into law by Governor Dave Heineman on May 1, 2007. Sections 3 and 4 of the bill authorized the Director of Agriculture to receive applications for grants and award funding for projects that manage vegetation within the banks of a natural stream or within 100 feet of the banks of a channel of any natural stream. The Legislature indicated its intent to appropriate \$2 million annually for this purpose.

While LB 701 did not specify any requirement for reporting on the progress of this grant program, the Nebraska Department of Agriculture (NDA) felt it important to outline grant program activities to date due to the financial commitment of State funds and high level of interest in this program.

This report summarizes the results of the 2007-2008 fiscal year grants and provides background on, and a status report of, the 2008-2009 fiscal year grants.



The picture on the left is the Arikaree River at the confluence of the Republican River before invasive tree removal. The picture on the right is the same area after removal of saltcedar and Russian olive.

Photo Courtesy: Southwest Weed Management Area

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History

NDA has, for a number of years, had in place a structure to award weed management grants through the Noxious Weed and Invasive Plant Species Assistance Fund. Prior to the passage of LB 701, this authority had only been used to distribute funds that NDA had been awarded from the Nebraska Environmental Trust. This existing structure and grant process, as well as NDA's involvement with weed management entities as part of the Noxious Weed Program, meant NDA was a logical place to locate the LB 701 Riparian Vegetation Management Grant Program.

Timeline

NDA used the framework it had developed for disbursement of Environmental Trust grant program dollars as a basis for distributing the LB 701 grant dollars. The timeline for both grant cycles follows:

- April 26, 2007:** LB 701 passed by Legislature;
- May 1, 2007:** LB 701 signed by Governor Dave Heineman;
- May 30, 2007:** Call for grant proposals for 2007-2008 dollars disseminated to all County Weed Control Authorities, Weed Management Areas, and Natural Resources Districts (NRDs) in fully or overappropriated river basins; call for proposals news release sent out;
- July 1, 2007:** Deadline for submission of FY 07-08 proposals to the NDA;
- July 9-13, 2007:** Grant Review Team scores grant applications;
- July 19, 2007:** NDA awards FY 07-08 grants for approved projects; work begins;
- March 14, 2008:** Call for grant proposals for fiscal year 2008-2009 dollars disseminated to all County Weed Control Authorities, Weed Management Areas, and NRDs in fully or overappropriated river basins; call for proposals news release sent out;
- March 19, 2008:** Information meeting held in Grand Island for potential applicants;
- April 7, 2008:** Deadline for submission of FY 08-09 proposals to the NDA;
- April 14-18, 2008:** Grant Review Team scores grant applications;
- May 6, 2008:** NDA awards FY 08-09 grants for approved projects;
- July 1, 2008:** Work on FY 07-08 projects must be completed; work may begin on FY 08-09 projects.

Grant Selection

The Legislature was specific in direction of how the grant funds could be used and who could receive those funds. As outlined in LB 701, the grant dollars are to be used for the management of vegetation within the banks of a natural stream or within 100 feet of the banks of a channel of any natural stream. Such funds can only be used to pay for “activities and equipment as part of vegetation management programs that have as their primary objective improving conveyance of streamflow in natural streams.”

In addition, grants are only to be disbursed to weed management entities, local weed control authorities, and NRDs whose territory includes one or more fully appropriated or overappropriated river basins as designated by the Department of Natural Resources. Priority for the first year of grants was directed to fully appropriated river basins that are the subject of an interstate compact or decree.

The following summarizes the projects funded through the Riparian Vegetation Management Grant Program. It’s important to note that activities related to the FY 2008-2009 grants are ongoing.

Eastern Republican Riparian Improvement Project

Overview: This project is being led by the members of the Twin Valley Weed Management Area (TVWMA). It has received grant dollars in both funding cycles to control invasive riparian vegetation around Harlan County Reservoir and along the eastern Republican River and its tributaries within the eight counties of the TVWMA. Control efforts to date have included a full range of mechanical and chemical tools to control invasive plant species and control vegetation in stream channels to improve streamflow. Also, the project has been designed to increase public awareness of the impact that invasive plants have on riparian areas of the Republican River and its tributaries, and the best management practices that can be used to properly manage and maintain riparian areas.

Status Report: Prior to the FY 07-08 grant award, TVWMA officials already were active in the project area, surveying infestations and conducting outreach with riparian landowners. Because of these efforts, project coordinators were able to start helicopter applications to the streambed vegetation in September 2007, with ground applications a week later in areas that were not accessible by helicopter. Primary vegetation being targeted was phragmites, willows, cattail, and reed canarygrass, using an aquatic herbicide guaranteed for 90 percent root kill three years after application. The helicopter sprayed 1,102 acres of river channel vegetation, followed in October 2007 by helicopter treatment of 769 acres of vegetation within Harlan Reservoir lakebed.



Deep disking of high sandbars on the Republican River has increased the scouring effect during high stream flows.

Photo Courtesy: Twin Valley Weed Management Area

Mechanical work also was included as part of the FY 07-08 grant project. Excavators were used to remove woody debris and logjams from 52 miles of river channel below Harlan County Reservoir. In two experimental projects, heavy equipment was brought in to deep-disk invasive plant matter on 24 acres just west of the Red Cloud Bridge, and four islands loaded with invasive plant matter were burned in a quarter-mile segment of the river. Both of these experiments were an attempt to improve the scouring effect on sandbars during high water flows, and project partners said they believe the deep-disking proved to be a more effective treatment than burning.

The FY 07-08 grant work also included implementation of six fencing contracts with landowners who have riparian areas adjoining the river in order to facilitate vegetation management through grazing.

Phase two of this project, utilizing FY 08-09 grant funding, involves a 56-mile stretch of the river upstream from Harlan County Reservoir to the Cambridge Diversion Dam. Some work has started, including application of an aquatic herbicide on 98 acres of phragmites. Mechanical removal of debris and deep-disking are planned for later this winter.

Outreach and education to landowners and other interested parties has been an important part of both phases of this project. Five landowner information meetings have been held, as have been numerous public presentations to a variety of groups. Phase one involved the properties of 180 landowners, and all but one signed the easement agreement necessary to work on their property. Phase two has had similar success, with all but 4 of the 110 affected landowners signing the appropriate paperwork.

LB 701 funds spent per fiscal year:

FY 07-08	\$605,612
FY 08-09	\$244,908 (As of December 15, 2008)

Western Republican Riparian Improvement Project

Overview: This project is being led by the members of the Southwest Weed Management Area (SWMA). It has received grant dollars in both funding cycles for work that complements the activities being done on the eastern section of the Republican River. Vegetation control efforts include both chemical and mechanical tools in appropriate areas in and along the river west of the Cambridge Diversion Dam to the Colorado border. The primary targets of this project are saltcedar and phragmites control within the channel, and red cedar and Russian olive within the 100-foot corridor of the stream bank to improve wildlife habitat and grazing opportunities.

Status Report: Utilizing FY 07-08 funds, in the fall of 2007 project coordinators conducted mapping and surveying of invasive vegetative species, outreach to landowners on need for invasive control measures and the importance of maintaining improvements, and initial, limited chemical control measures. The bulk of this project included the mechanical removal of vegetation. Phragmites was treated on 40 miles of river during the first half of FY 07-08. From late winter through the end of the FY 07-08 grant period, 1,064 acres of invasive vegetation were removed from within the channel and the 100-foot riparian area of the channel on the Republican River and some of its tributaries.

The FY 08-09 grant dollars are being used to continue the progress made with the first-year grant dollars. Since the grant period began, through October 31, 2008, 849 acres has been cleared of invasive riparian vegetation, with efforts focused in Red Willow, Hitchcock and Dundy Counties. Spot treatment and monitoring of tree re-growth from earlier treated areas has been initiated and will continue to ensure adequate control. This mechanical work will be continued through the remainder of the grant period depending on available funds.

Landowner education and outreach also has been an important component of this project. SWMA leaders late this summer hosted a landowners' workshop designed to educate individuals on the variety of tools available for maintaining land improvements.

LB 701 funds spent per fiscal year:

FY 07-08	\$814,616
FY 08-09	\$663,432 (As of December 15, 2008)

Lake McConaughy Saltcedar Control “Surround and Drown” Plan

Overview: This project was led by members of the West Central Weed Management area. It received funding in the FY 07-08 grant cycle. The goal of this project was to control a significant saltcedar infestation that had inundated the lakebed as the lake receded due to drought. The project treated targeted invasives using chemical, mechanical, and biological control methods, in a designated area of the perimeter to prevent further spread of the vegetation. The invasives below the treated area were to be contained until the lake refilled, flooding and killing the remaining vegetation. While project leaders knew this uncontrolled vegetation would continue to use water, they felt it would be most efficient use to allow this vegetation to flood since Central Nebraska Public Power and Irrigation District projected winter flows would raise the water level nine feet. This approach meant 3,000 acres of vegetation was killed without treatment.

Status Report: The first phase of this project was completed during 2007, and included herbicide treatment in late August of 2,010 acres of saltcedar and other woody vegetation on the 12,000 acres of exposed lakebed. During 2008, project partners monitored the effectiveness of the spraying. Initial observations indicate a very high control rate; however, final determination of control will not take place until the end of the growing season in 2010. Effectiveness of these treatments will continue to be monitored closely as the chemical product guarantee is for 90% root kill three years after application. Annual monitoring of the area for new infestations will be conducted, and appropriate control measures will be implemented.

An additional 115 acres of saltcedar were treated during 2008 in areas that were not treated or were missed in 2007. This additional work was conducted with funds from the Nebraska Attorney General's Office and other partners. The mechanical removal of 162 acres of dead woody vegetation in the Martin Bay area was to be done in early December 2008, with funds from these same sources. The removal of vegetation on two other areas that are used for nesting by Interior Least Tern and Piping Plover is scheduled to take place after the growing season of 2009.

The final phase of the project will be completed in the fall and winter of 2009-2010, which will include the removal of standing dead vegetation on 1,230 acres in three areas that have been determined to be beneficial for endangered species habitat and/or public recreational access.

LB 701 funds spent:

FY 07-08\$347,833

High Plains Invasive Species Project

Overview: This project is being led by members of the High Plains Weed Management Association (HPWMA). It has been awarded funds in both funding cycles. In FY 07-08, project leaders focused on education and awareness to landowners on invasive plant control strategies, survey work on riparian wetlands for invasive populations, and some control measures in cooperation with landowners in selected areas. Russian olive, saltcedar, and phragmites were the primary targeted species. For FY 08-09 HPWMA was awarded funding for invasive vegetation control in the channel of the north Platte River from the Wyoming border to the Garden/Keith County line.

Status Report: During FY 07-08, project partners treated 55 acres of saltcedar and Russian olive on five sites. One location will serve as a demonstration site, and the treated brush will be removed once the herbicide has controlled the root system. At an additional location, the treated brush will be left in place and monitored to determine the length of time it will take for the dead brush and trees to fall and naturally disperse.

During FY 08-09, HPWMA was awarded funding to address invasive plant species in the channel of the North Platte River. Targeted species include Russian olive, saltcedar, and phragmites. The proposed treatment area covers approximately 125 river miles. Control tactics include aerial application of an aquatic herbicide utilizing a helicopter service to treat 378 acres of phragmites and saltcedar, and ground application in specified areas to complement the aerial application was completed on 14 acres. Weather factors this fall, including an early frost, limited aerial and ground applications.

LB 701 funds spent per fiscal year:

FY 07-08\$55,087
FY 08-09\$133,503 (As of December 15, 2008)



An aquatic vehicle spot- treats invasive plants in the North Platte River channel near the Wyoming/Nebraska border.

Photo Courtesy: High Plains Weed Management Association

Invasive Species Control in the Central Platte River

Overview: This project is being led by members of the Platte Valley Weed Management Area (PVWMA), consisting of 11 counties in south-central Nebraska. PVWMA was awarded funding for FY 08-09 to combat invasive vegetation in the Platte River channel from the Lincoln/Dawson County line working downstream to Elm Creek. Prior to FY 08-09, PVWMA hosted seven public meetings to inform the landowners about phragmites, control techniques, and grant opportunities and to garner the landowner support for control efforts. Project leaders indicate these meetings were well attended and had positive feedback from the landowners with regards to the planned control efforts. PVWMA also secured \$100,000 from the Central Platte NRD and \$13,750 from Ducks Unlimited for mechanical work to remove downstream choke points, improve water conveyance, and increase wildlife habitat.

Status Report: In August, a photo-point monitoring plan was implemented using a GPS-enabled digital camera from aerial flights to document infestations of phragmites along the river system. Aerial aquatic herbicide application was conducted in September. A total of 1,938 acres of phragmites was treated along 45 river miles. Highway bridge approaches were treated using ground application where aerial application was not feasible.

A follow-up flight, using the GPS-enabled camera to document results of the project, is scheduled for spring 2009.

PVWMA is also involved in a research project being conducted by the University of Nebraska – Lincoln to develop best management options for controlling phragmites. Results of this project may be used to develop future management practices applicable throughout the state.

LB 701 funds spent:

FY 08-09\$268,944 (As of December 15, 2008)

Platte River Restoration Project

Overview: This project is being led by members of the West Central Weed Management Area (WCWMA) consisting of five counties. WCWMA received funds in FY 08-09 to treat invasive vegetation in sections of the North Platte, South Platte, and Platte River systems. Project leaders identified three priority areas that needed immediate attention: Platte River, Diversion Dam to Lincoln/Dawson County line; North Platte River, Diversion Dam to Hershey; and South Platte River, Diversion Dam to five miles west of the Highway 83 Bridge. These priority areas were all identified as choke points in the river, which reduced conveyance of water during normal and high river flows.

Status Report: Invasive vegetation on a total of 56 river miles was treated in September. Aerial application of an aquatic herbicide was made to 2,694 acres in the river channel in the three priority areas. Because of the high number of river bridges (interstate, highway, county, railroad and city), more precise application was required to complete the project so Lincoln County Weed Control provided staff and equipment to treat areas that could not be reached using aerial applications.

WCWMA included an education component to this project. Project leaders hosted two landowner meetings within the treatment area, where they answered questions and addressed issues or concerns from landowners.

LB 701 funds spent:

FY 08-09\$363,613 (As of December 15, 2008)

Monitoring Efforts

NDA Noxious Weed Program staff members continue to participate in grant project meetings and monitor control efforts. All grant project coordinators have communicated well with Department staff and appear to have good outreach to private landowners affected by the projects. NDA staff members have attended and participated in several public awareness meetings in each project area.

In addition to NDA's involvement in the grant program, LB 701 assigned the Nebraska Game and Parks Commission a role in assisting grant recipients with implementing projects. Commission staff has helped review the grant applications and has provided written notification to project coordinators to assist them in understanding their responsibilities under the Nongame and Endangered Species Conservation Act. Game and Parks has helped identify which threatened or endangered species may be found in a specific project area and offered commission staff to assist if needed for surveys or recommendations regarding how to avoid disturbing the species that may inhabit an area. Commission staff created a protocol to follow for each project area and provided contact information for the appropriate staff member for questions or assistance if needed.

There are high levels of interest in this grant program, so to aid in a successful outcome, numerous entities have been involved in the grant projects and the monitoring process. Collaboration is important for statewide weed management, and NDA has had the opportunity to work with regional weed management areas, natural resources districts, wildlife and environmental organizations, irrigation districts, University of Nebraska officials, and other state and federal agencies.

Of course, monitoring by NDA will be ongoing as these projects continue.

What's Next

NDA will continue to work with and monitor existing grant projects through the end of the fiscal year. The Riparian Vegetation Management Grant Program is funded through June 30, 2009. NDA will be prepared to continue its efforts should new funding become available for FY 09-10.

Since July 1, 2007, these projects have made tremendous progress in attempting to deal with a huge problem. The volume of private landowners involved in these grant projects is enormous, so again, public awareness is a key component to ensure effective and stable control methods are applied and the results are beneficial to the river basins as a whole. Public support continues to be the most valuable tool available for a successful program.

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