



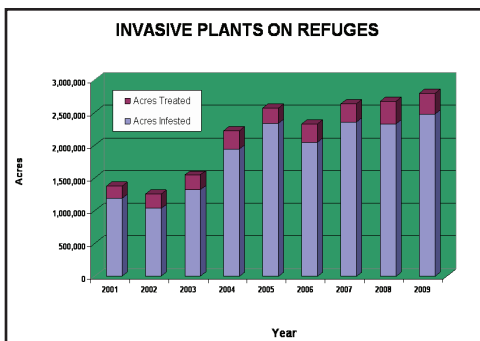
Invasive Species Program

National Wildlife Refuge System

Fiscal Year 2009 Update

Invasive Species Management in the National Wildlife Refuge System

Invasive species continue to alter habitat on refuge lands and challenge biologists and managers in the National Wildlife Refuge System (NWRS). The number of acres reported to be infested with invasive plants rose from 2.3 million acres in FY2008 to just under 2.5 million acres in FY2009, according to the Refuge Annual Performance Planning database (RAPP). While the NWRS is committed to eradicating and controlling these invaders, in FY2009 we treated slightly less than we did in FY2008, dropping from 15 percent to 13 percent treatment of lands infested with invasive plants. On a positive note, fewer invasive animal populations (3,894) were reported on refuge lands in FY2009 than in previous years.



Number of Acres Infested and Treated on NWR's 2001-2009. Data Source: RMIS and RAPP.

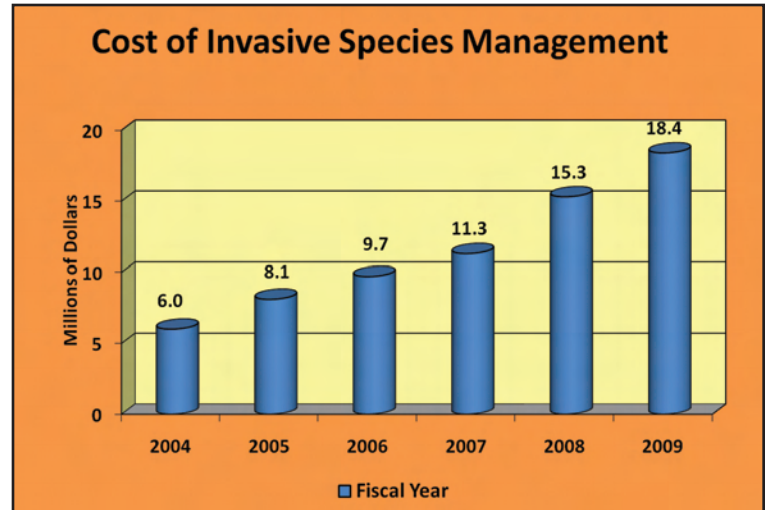
Increasing Costs of Management

As in previous years, the costs associated with invasive species management in the NWRS continue to climb. These costs are tracked using an Activity-Based Costing (ABC) system that records all transactions, including salaries. In FY2009, the NWRS reported \$18.4 million spent on invasive species management activities. This amount is up from \$6 million in 2004. These data are consistent with the findings of the recent

U.S. Government Accountability Office (GAO) report that showed that when refuge managers were asked, "what management actions had increased the most in cost," invasive plant management was the number one reported action ("Wildlife Refuges: Changes in Funding, Staffing and Other Factors Create Concerns about Future Sustainability," 2008).

ARRA Funding

The U.S. Fish & Wildlife Service (FWS) received \$280 million from the American Recovery and Reinvestment Act (ARRA). Numerous invasive species projects were supported with these funds. Additionally, many youth-oriented projects that focused on invasive species removal were funded. A list of ARRA projects is available on the www.recovery.doi.gov website. In Alaska, where many invasive plants are in their earliest stages of establishment, FWS partnered with the Alaska Association of Conservation Districts and other state groups to employ an early detection/rapid response strategy to locate and control new invasive plant infestations, such as common tansy, white sweetclover, and spotted knapweed. In other states, such as Montana, North Dakota, Colorado, and Utah, youth groups were hired to assist refuges with invasive plant removal. For example, at Rocky Mountain Arsenal NWR, the Mile High Youth Corps (MHYC) invasive weed removal crew



Costs of Invasive Species Management on National Wildlife Refuges from 2004-2009. Data Source: ABC

surveyed 162 acres of habitat suspected of containing houndstongue. In addition to houndstongue, they hand pulled and sprayed Scotch thistle, musk thistle, and mullein. These weeds outcompete natives for sunlight, nutrients, water, and space and reduce the amount of foraging habitat for wildlife.



MHYC invasive weed removal crew removing houndstongue using sharpshooter shovels.

NEW! Large Invasive Species Eradication Projects

Additional funding has been made available for large invasive species eradication projects on refuge lands. In FY2009, these funds were awarded to Palmyra Atoll NWR for a rat eradication project. Palmyra Atoll is home to 29 species of birds, including one of the largest red-footed booby colonies in the world. As the only suitable nesting site in 450,000 square miles of the central Pacific Ocean, it is critical foraging and breeding habitat for thousands of seabirds. Rats on islands are known to have had a significant impact on seabird populations and are thought to be responsible for numerous extirpations and population declines. At Palmyra, rats have been observed preying on seabird eggs, chicks, and adults. They also directly compete with the birds and other native wildlife by eating insects and other terrestrial invertebrates.

Invasives & Volunteers Program Update

The NWRS's Invasives & Volunteers Program continues to engage large numbers of volunteers in invasive species management activities on refuge lands across the country. Beginning in FY2010, management of this program will shift from the national office to the NWRS regional offices. Since 2005, more than 5,600 volunteers have contributed 86,800 hours to the treatment, inventory, and restoration of over 415,000 acres of refuge land. As one successful example of volunteer partnerships, funding from the program has enabled Boy Scout Troop 224 of Willmar, MN to assist staff at Weber Waterfowl Production Area



Boy Scouts with a pile of buckthorn they pulled out by the roots

with the removal of invasive woody vegetation. Invasive plants, such as buckthorn, degrade grassland and oak savanna habitat for migratory birds that depend on these habitat types. Using loppers and handsaws, Scouts cut back invasive plants and staff members treat the stumps with herbicide. After removal of the vegetation, more than 50 species of native plants are seeded and planted. Over 800 hours of volunteer service have been provided by the Scouts on 115 acres since 2007.

Updates from Around the Refuge System

Early Detection and Rapid Response: Ridding the Florida Keys of the Gambian Pouched Rat

In partnership with USDA-Wildlife Services, the NWRS has supported the eradication of the giant Gambian pouched rat from the Florida Keys since 2007. Native to Africa, the Gambian pouched rat is one of the largest rodents in the world weighing an average of three pounds and measuring 20-35 inches from head to tail. The rats are omnivorous and could cause hundreds of thousands of dollars in agricultural damage if allowed to proliferate. The eradication effort has been a progression of accomplishments, including the ongoing post-bait monitoring phase, which employs motion-activated cameras, live traps and data gathered from residents via a rat hotline (a phone number set up for residents to report rat sightings).



The Gambian pouched rat is one of the world's largest rodents.

Liberating Paul's Lake with the removal of salt cedar at Muleshoe NWR

Since 2003, staff at Muleshoe NWR in western Texas have been treating salt cedar. The greatest challenge has been gaining access to the shoreline when the

winds are favorable for foliar herbicide applications. However, improvements in herbicides and equipment, combined with persistent control efforts and follow up monitoring, have paid off in habitat improvements, benefiting shorebirds, waterfowl, sandhill cranes, and prairie chickens. Paul's Lake used to dry up every summer; but with the removal of salt cedar, the spring-fed playa now provides open water habitat all year long. In conjunction with this effort, a Partners for Fish & Wildlife program has been working to control salt cedar on neighboring private lands, thereby removing seed sources from the local playa lake watershed.



Treating salt cedar with herbicide at Muleshoe NWR

Restoring Montezuma NWR with Biocontrol

In 1951 there were sparse stands of purple loosestrife on the Montezuma NWR. By 1980, this invasive plant covered 1,500 acres (of 3,200 acres of refuge wetlands) completely preventing refuge staff from lowering water levels to expose mudflats and provide crucial habitat to migratory shorebirds. In 1996, a biological control program was initiated on the refuge, and beetles and weevils were released to combat the purple loosestrife. Today, purple loosestrife exists on less than 10 percent of refuge wetlands, and refuge staff can manage wetlands for migratory birds and other wildlife.

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