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New Support for the Fight Against Invasive Mussels

The U. S. Fish and Wildlife Service's (Service's) Pacific and Mountain-Prairie Regions, collaborating with other partners, have provided funding to enhance regional efforts to detect and prevent the spread of invasive mussels. These projects are aimed at implementing the new *Quagga – Zebra Mussel Action Plan for Western U.S. Waters (QZAP)* recently approved by the national Aquatic Nuisance Species Task Force (ANSTF).

In collaboration with the Pacific States Marine Fisheries Commission (PSMFC), the Service is supporting a University of Nevada Las Vegas (UNLV) study that aims to improve the ability of national parks, states, and other jurisdictions to decontaminate boats infested with settled or larval mussels. Although many voluntary and mandatory watercraft inspection and cleaning programs have surfaced in the West since the 2007 appearance of quagga mussels, most based on application of heated pressurized water, evidence of incomplete decontamination continues to haunt program managers. The UNLV project, led by Dr. David Wong, will systematically evaluate the efficacy of high-temperature spray water under a variety of real-world conditions to determine how 100% mortality can best be achieved.

“This research will be especially helpful for state and local agencies in their efforts to properly decontaminate watercraft using hot pressure wash” said Stephen Phillips, PSMFC’s aquatic invasive species senior program manager. “With pressure wash being widely utilized in the Western U.S., it is critical we are using the best science tested treatment methods available.”

Early detection and rapid response are critical back-up strategies to preventing the spread of mussels, and the Service is also funding a project designed to improve how laboratories detect microscopic mussel larvae within water samples. Three primary larval detection methods are currently used in the West: visual identification using a microscope, visual detection using a computer-aided camera system, and chemical detection of the genetic fingerprint unique to quagga and zebra mussels.

The Bureau of Reclamation, led by Dr. Kevin Kelly working in collaboration with Dr. Marc Frischer from the Skidaway Institute of Oceanography and Dr. Sandra Nierzwicki-Bauer from the Darrin Freshwater Institute, will coordinate a study that evaluates and compares these methods. The study team will prepare samples “spiked” with known quantities of mussel larvae and then distribute those samples “blindly” to over 20 participating laboratories. The resulting measurement of accuracy will help refine methods to minimize errors and help guide investment in expanding analysis capacity in the West.

“Detecting invasive mussels is a needle-in-the-haystack challenge, made particularly difficult when you are looking for a microscopic organism in large bodies of water,” explained Dr. Kelly. “This study will give us critical information to help refine sample analysis techniques for the upcoming water sampling season.”

“Research projects such as these are important to battling the proliferation of quagga and zebra mussels, which are unrelenting threats to our country’s waterways. Financing research to improve the effectiveness of prevention and control methods is a wise investment. This moderate commitment of funds will save countless dollars spent trying to eradicate these invaders once established,” said Steve Guertin, Mountain-Prairie Regional Director of the U.S. Fish and Wildlife Service.

These two new projects fall within an existing cooperative program to reduce the threat of non-native mussels and other aquatic invasive species under the national 100th Meridian Initiative. In fiscal year 2010, Congress added \$2 million dollars to the Service’s budget to enhance quagga and zebra mussel efforts.

“We are incredibly excited about the additional support to combat this economic and environmental problem. Quagga and zebra mussel prevention and control are imperative given that these pests are costing the U.S. billions of dollars annually not to mention the significant impact they are having on our native mussels and aquatic ecosystems,” said Robyn Thorson Pacific Regional Director of the U.S. Fish and Wildlife Service.

The Service and its partners are using a three-pronged approach to maximize the impact of these additional dollars. A portion of the funds will be directed toward inspection and decontamination stations on roads leading to Lake Tahoe in an effort to control the spread of these invasive mussels. Another portion will support specific quagga and zebra mussel activities addressed in ANSTF-approved State and Interstate Aquatic Nuisance Species Plans. Finally, the Service will direct the remaining funds toward projects directly supporting the highest priority actions in QZAP.

The mission of the U.S. Fish and Wildlife Service is working with others to conserve, protect and enhance fish, wildlife, plants and their habitats for the continuing benefit of the American people. We are both a leader and trusted partner in fish and wildlife conservation, known for our scientific excellence, stewardship of lands and natural resources, dedicated professionals and commitment to public service. For more information on our work and the people who make it happen, visit www.fws.gov.

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