

White Sulphur Springs National Fish Hatchery Newsletter



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Leadership in Science and Technology

Rachel Mair Honored with Inaugural Rachel Carson Award for Scientific Excellence

U.S. Fish and Wildlife Service Director H. Dale Hall recently recognized the outstanding contributions of Service employees to science-based management of the Nation's fish and wildlife resources by announcing the Service's first ever science awards. Rachel Mair, a biologist at WSSNFH, was announced as the inaugural individual recipient of the Rachel Carson Award for Scientific Excellence, an honorary award that recognizes Service employees who exemplify the best in scientific contribution and application to achieve extraordinary results in fish and wildlife conservation. Rachel received this prestigious award for her work to develop highly successful and efficient culture systems and feeding regimes for the culture and propagation of endangered freshwater mussels. She led a team to design and develop a new culture system to meet water quality, food quality, and food quantity requirements for freshwater mussels in captivity. Freshwater mussels are among the most threatened species nationally and globally. For example, the Northern riffleshell is currently found in only 5 percent of its historic range. The federally endangered northern riffleshell, James spiny mussel and oyster mussel were all successfully cultured at White Sulphur Springs as a result of Rachel's commitment and expertise. In recognition of Rachel's accomplishments, White Sulphur Springs National Fish Hatchery will receive \$50,000 in additional operational funds.

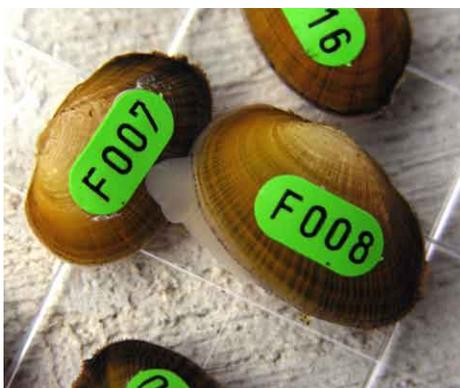


Ryan Hagerty, USFWS

Rachel Mair receiving the first-ever Rachel Carson award from Director Dale Hall.

Partnerships for Aquatic Species Conservation

Save the Bay: WSSNFH, VDGIF and Harrison Lake NFH Partner to Release the First Propagated Freshwater Mussels to the Chesapeake Bay Watershed



Rachel Mair, USFWS

On November 3, 2008, by filtered moonlight, starlight, car light, and flashlight, biologists with the Virginia Department of Game and Inland Fisheries (VDGIF) released over 300 sub-adult *Villosa constricta* (the notched rainbow) in Johns Creek, Craig County, Virginia. The notched rainbow mussels were produced by WSSNFH in 2007 and then transferred to Harrison Lake NFH to test the hatchery's ability to grow freshwater mussels. This was the second release of propagated mussels to the Chesapeake Bay Watershed. In June 2008, WSSNFH released 35 sub-adult notched rainbow mussels in John's Creek, the first ever release of propagated mussels to the Chesapeake Bay Watershed. Restoring the filtration capacity of native mussel beds to the rivers and streams of the Chesapeake Bay Watershed is part of an effort to clean up the water before it ever reaches the Bay. All mussels were grown to at least 16 mm in length and tagged prior to release to allow biologists to return to the release site and monitor survival.

Subadult *Villosa constricta* raised at WSSNFH and tagged for release.

Connecting People with Nature

Phase I of the WSSNFH Pilot Outdoor Classroom Complete



The Festival Amphitheater will be home to the Freshwater Folk Festival and other community events.

Phase I of the WSSNFH Pilot Outdoor Classroom, The Festival Amphitheater, is complete. The amphitheater is handicapped accessible and includes a beautiful natural wood bandshell, stage and environmentally friendly benches (seating is available for 120 people) made from recycled plastic materials. The new facility will be available to the public for outdoor concerts, plays and movies and will serve as the centerpiece for the 5th Annual Freshwater Folk Festival in October 2009, being held in conjunction with the 100th Anniversary of White Sulphur Springs. The amphitheater also will serve as a centerpiece for the pilot Outdoor Classroom which will include wetland habitats and a wetland boardwalk, hiking trails, handicapped accessible walking trails, stream restoration demonstration projects and the aquarium of the Appalachians. If your group has an interest in using the amphitheater, please contact the hatchery at 304-536-1046.

Matthew Patterson, USFWS

Leadership in Science and Technology

WSSNFH Shares Propagation Technology with VDGIF, AWCC and Virginia Tech



Rachel Mair, WSSNFH, discusses the new mussel culture systems with visiting scientists.

Matthew Patterson, USFWS

In December, scientists with the Virginia Department of Game and Inland Fisheries, the Aquatic Wildlife Conservation Center and Virginia Polytechnic Institute and State University visited WSSNFH to investigate the technology being used to grow baby freshwater mussels. The scientists were interested in the new “upweller” juvenile culture systems that have significantly increased growth rates for a range of mussel species including two federally endangered species, the northern riffleshell and oyster mussel. The culture systems, patterned after upwellers used in saltwater clam culture, draw water and algae up through a mesh screen holding the juvenile mussels. The scientists also were interested in the automated feeding system that delivers algae to the upwellers. The automated feeding system helps increase growth rates by providing food to the fast-growing, filter-feeding juvenile mussels 24 hours a day.



Juvenile mussels held in “upwellers”.

Matthew Patterson, USFWS

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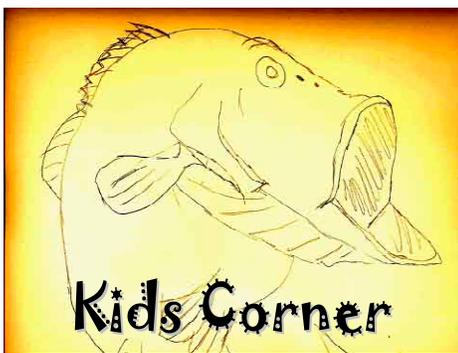
Columbian and Canadian Government Scientists Visit Biofences at WSSNFH

Over the past several months, scientists from both the Columbian and Canadian governments have visited WSSNFH to see the Biofences in action. While WSSNFH biologists use the Biofence to grow food for freshwater mussels, the visiting scientists are interested in using the Biofences to help stem global warming. They hope to convert algae into biofuel and utilize algae’s natural ability to trap carbon dioxide, a greenhouse gas. Scientists travel long distances to visit WSSNFH because no other facility in the world has as much experience operating, maintaining and growing algae in the Biofence.



Biofence algae culture at WSSNFH

Matthew Patterson, USFWS



Who is Rachel Carson?

Rachel Carson, credited with launching the contemporary environmental movement, started working for the U.S. Fish & Wildlife Service (then called the U.S. Bureau of Fisheries) in 1935. Her famous book, *Silent Spring*, documents the harmful effects of pesticides on the environment and lead to the banning of DDT, a commonly used pesticide. DDT poisoning caused the eggs of many wild birds, including the Bald Eagle, to become dangerously thin. Eggs that were not crushed by the parents often did not hatch, due to high levels of DDT. Thanks to Rachel Carson, the banning of DDT helped Bald Eagles to recover and be removed from the endangered species list in 2007.

Think about the impact one person can have on the world as you color this Bald Eagle, the official National Emblem of the United States.



A portrait of Rachel Carson.



Rachel Carson and wildlife artist Bob Hines in the Florida Keys.

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Hatchery Mission

Our mission is working with the community of White Sulphur Springs and our partners to be good stewards of both the environment and the historical significance of White Sulphur Springs National Fish Hatchery by 1) providing recreational fishing opportunities, 2) recovering fish, mussels and other wildlife and their habitats and 3) promoting awareness and appreciation of our cultural and natural resources, for the benefit of all people.

Hatchery Information



Rainbow trout eggs ready for shipment.

Established in 1900 to produce fish for the American Public, WSSNFH became part of the National Broodstock Program in 1976. Since then we have shipped millions of disease-free rainbow trout eggs to hatcheries across the country. In 1995, the hatchery added a new program, freshwater mussel conservation. Today, we provide shelter for mussels threatened by pollution and raise baby mussels to improve wild populations.



1.5 year-old northern riffleshell (a federally endangered mussel) raised at WSSNFH.

Hatchery Tours

Tours are available free to the public M- F, 8AM to 3 PM. Call (304) 536-1361 one week in advance to schedule a tour.

For more information:

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<http://www.fws.gov>
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