



White Sulphur Springs

National Fish Hatchery

Conserving America's Fisheries



Mission

Working with partners to restore and maintain fish, mussels and other aquatic resources at self-sustaining levels for the benefit of the American public. Our seven priority areas include Partnerships and Accountability, Aquatic Species Conservation and Management, Public Use, Leadership in Science and Technology, Aquatic Habitat Conservation and Management and Workforce Management.

Hatchery Information

Established in 1900 to produce fish for the American Public, WSSNFH became part of the National Broodstock Program in 1976. Since that time, 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 adult freshwater mussels threatened by pollution and raise baby mussels to improve wild populations.



Contact Information

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Public Use *Freshwater Folk Festival Makes a Big Splash!*



Festival Photos by David Garst

The 3rd Annual Freshwater Folk Festival, hosted by The Friends of the White Sulphur Springs National Fish Hatchery, was a smashing success. The sights, sounds and smells of Appalachian art and dance, local cuisine and top-notch musicianship filled the air while biologists and concerned citizens from governmental agencies, non-profit groups and local watershed associations provided hands-on activities for children designed to promote understanding, appreciation, and conservation of freshwater resources. Thanks to our sponsors, outreach volunteers and the tireless efforts of the Friends of the WSSNFH, the entire day was provided free to the public. ~ *Matthew Patterson*



Trees with Attitude: Trillium Performing Arts Collective



The Packway Handle Band

Aquatic Species Conservation

Endangered northern riffleshell spawn at WSSNFH!

Adult northern riffleshell, a federally endangered species, spawned and became gravid in refugia at WSSNFH this past spring. Seizing on this momentous occasion, biologists with WSSNFH began research to improve propagation and culture methods for this rare freshwater mussel. Comparisons of different algal cell densities in the culture containers indicated that low cell concentrations actually increased juvenile growth and survival. Northern riffleshell were cultured with unprecedented success (growing to 1-3 mm in 2 months), opening the door for success with other closely related endangered mussels.

~ *Rachel Mair*



Photos by Rachel Mair

Partnerships

WSSNFH biologists are working with their partners (VA Department of Game and Inland Fisheries and Harrison Lake National Fish Hatchery) to propagate the notched rainbow mussel, a species found in the Atlantic slope drainages of VA, NC and SC. Juveniles were produced at WSSNFH and grown to 1-4 mm in 2 months. After 2 months, 1,500 juveniles were transferred to Harrison Lake National Fish Hatchery for grow-out. If grow-out is successful, this partnership will significantly increase the USFWS's mussel production capabilities.

~ *Rachel Mair*



Photo by Rachel Mair

Leadership in Science and Technology

Biologists at WSSNFH utilize state-of-the-art technology to produce algae, a key food resource for adult and juvenile freshwater mussels. This technology, developed by Varicon Aqua Solutions, is a self-contained bioreactor (Biofence®) that uses automated controls to feed growth media and CO₂ to the culture, allowing algae to be harvested continuously without



Photo by Matthew Patterson.

opening the system and exposing it to contamination. The long, narrow tubes increase light exposure, significantly improving growth rates. Despite high initial set-up costs, the automated Biofence system pays for itself in reduced labor costs and allows WSSNFH to provide algae to other hatcheries across the country.

~ *Matthew Patterson*

Cooperation with Native Americans

Joyce Barkley, a member of the Mohawk Tribe of Akwesasne ("Land where the partridge drums"), is currently researching the sub-chronic effects of atrazine exposure on freshwater mussel physiology. Her work on this persistent organic pollutant is part of her doctoral thesis and is jointly funded by Virginia Tech and the U.S. Fish and Wildlife Service. Joyce also has experience working as the Wetlands Coordinator for the Mohawk Tribe of Akwesasne and Project Manager for the U.S. Environmental Protection Agency.

~ *Matthew Patterson*



Photo by Craig Arquette.

Free to the Public!

Tours

Tours are available to the public Monday - Friday, 8AM to 3 PM. Call 304-536-1361 1 week in advance to schedule a tour.



Photo by L.E. McKinney for The Times of Greenbrier County.

Friends of the WSSNFH



Friends of the WSSNFH help by organizing the Freshwater Folk Festival, education and fundraising. For information about joining the Friends Group, please visit their website:

www.wsshatcheryfriends.org



Fun Fish Facts

The World's Smallest Fish!



Paedocypris progenetica
Photo by Maurice Kottelat, Cornol/Raffles Museum.

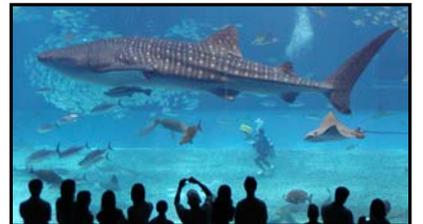
The world's smallest fish, a member of the carp family, also happens to be the world's smallest vertebrate (just a fancy name for an animal with a backbone). The scientific name for this little guy is

Paedocypris progenetica and females can be as small as 0.3 inches in length. The skeletal bones around the head are so small the brain is left with little or no protection. If that wasn't strange enough, they also live in strange places. Living on the Indonesian Island of Sumatra, *Paedocypris progenetica* can be found in water nearly 100 times more acidic than rainwater.



World's smallest vertebrate. Photo courtesy of Raffles Museum.

In case you are wondering, the world's largest fish, the whale shark, can weigh over 20 tons (40,000 pounds).



Whale shark. Photo courtesy of Churaumi Aquarium.

To receive this monthly newsletter via e-mail send your request to: matthew_patterson@fws.gov