ISSUE #1

U.S. Fish and Wildlife Service - Mountain-Prairie Region

STREAM LINES

FALL
2012

Fisheries Program Helps Restore Arctic Grayling on National Wildlife Refuge Lands

Region 6

Fisheries & Aquatic Resources Program

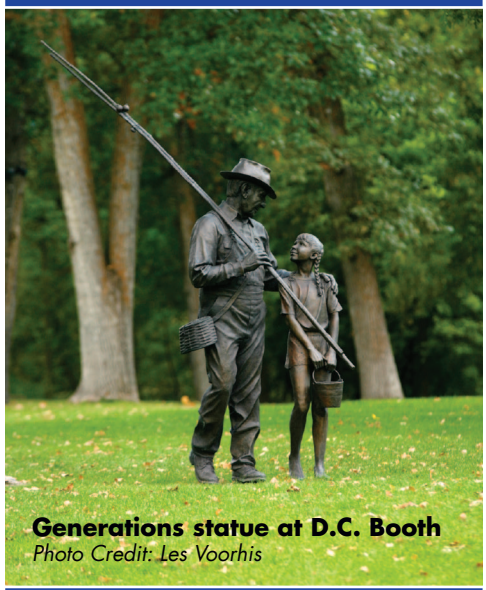
STREAM LINES

ISSUE #1

To submit suggestions or comments contact:

Carlos R. Martinez
423 Hatchery Circle
Spearfish, SD 57783

(605) 642-7730 x223
carlos_martinez@fws.gov



Generations statue at D.C. Booth
Photo Credit: Les Voorhis

Stream Lines is produced by the D.C. Booth Historic National Fish Hatchery and Archives, Spearfish, SD. Items included are selected from monthly reports and/or submitted by Mountain-Prairie Region (Region 6) fisheries offices. The findings and conclusions in the articles are those of the author(s) and do not necessarily represent the official views of the U.S. Fish and Wildlife Service. Photos included are used by permission and may be copyrighted.

Equal opportunity to participate in, and benefit from programs and activities of the U.S. Fish and Wildlife Service is available to all individuals regardless of race, color, national origin, sex, age, disability, religion, sexual orientation, status as a parent and genetic information. For information contact the U.S. Department of Interior, Office for Equal Opportunity, 1849 C Street N.W., Washington, DC 20240.

PAGE 03 **FEATURED ARTICLE**
Fisheries Program Helps Restore Arctic Grayling on National Wildlife Refuge Lands

05 Valentine National Wildlife Refuge Surveys

06 Visiting Scientist at Bozeman FTC Receives Fellowship Award

07 Fisheries Surveys on the Pine Ridge Indian Reservation

08 Dive Team Trains for Invasive Mussel Searches

09 Multi-agency Partnership Strives to Recover the Pallid Sturgeon

10 Lake Sturgeon Return to Valley City NFH

11 Research at Bozeman FTC Addresses Questions Related to Habitat Connectivity

12 Jackson NFH Water Supply Pipeline Replaced After 55 Years

13 Restoring our Heritage

15 Recycling an Aquatic Nuisance Species (ANS)

16 Mini Fyke Nets Improve Sampling on the Little Missouri River

17 Garrison Dam NFH Rebounds from the Flood of 2011

18 Intensive Culture Building at Baldhill Dam NFH Receives a Facelift

19 Fish Hatchery 5K

20 Volunteers from Valley City State University Assist with Stocking Northern Pike

21 Drought Year Brings Unique Challenges - Forges Partnership

22 Crystal Hudson Retired After 30 Years of Service

23 The Artwork of Bob Hines

26 Mountain-Prairie Region Fisheries Stations

STREAM LINES

Welcome to the Inaugural Issue of Stream Lines, the Mountain-Prairie Region's Fisheries Newsletter. This publication was initiated due to an increased need and acknowledgment for Fisheries in-reach and outreach. We hope to interest a variety of people to help them gain an understanding of the success of the Fisheries program by highlighting programs, projects, and accomplishments in Region 6.

It appears that the last Regional newsletter of this sort was the Anal Fin. The historical collection at the D.C. Booth Fish Hatchery and Archives has fifty-three issues of this defunct newsletter. Produced at the Fish Disease Control Center (FDCC) in Fort Morgan, Colorado, the issues date from 1978-1991. Volume 1, Number 1 dated September 1978 states that the newsletter represented Region 6 Hatcheries and Fishery Resources (HFR), with the intent to "…increase and improve communication of professional, technical and personal information between and among fishery resource field personnel."

A contest to name the newsletter was announced, with an unspecified prize for the winner. Volume 2, Number 1 dated December 1978, published as the Anal Fin, announced Pat Dwyer as the contest winner. Although the contest prize was intended to be a trip to Hawaii, editorial staff knew that Pat was too hard working to go, so they chose an undisclosed alternate prize.

The last issue in the collection is Volume 14, Number 3, dated August 1991. At that time the newsletter was published quarterly, still out of the FDCC. Contributors and audiences extended beyond Region 6, as associate editors in Regions 1 through 7 are listed. There is no indication that it was to be the last issue produced.

At this time we do not know how frequently we will produce Stream Lines nor for how long. Perhaps we can break the Anal Fin's fourteen year streak.

Carlos Martinez is the Director of the D.C. Booth Historic National Fish Hatchery and Archives in Spearfish, SD.

In the process, we hope that future articles will satisfy our readers by providing them with quality information and tidbits on all aspects of our mission, leadership, foresight, history, notable achievements, and cutting edge activities.

Publications like Stream Lines only materialize through the contributions of many individuals. I would like to thank our initial authors, who took a calculated risk in submitting their work to a new, untested publication. We hope they are proud to be a part of the first issue.

I strongly encourage you to submit constructive criticism and ideas for topics. Your input is vital in helping us provide a quality product. As we launch this new publication, we welcome your feedback, and hope you will find Stream Lines to be a valuable resource. Enjoy!

Fisheries Program Helps Restore Arctic Grayling on National Wildlife Refuge Lands

Glenn Boltz, Northern Rockies FWCO

USFWS employee Paul Dummond holding an adult grayling (USFWS).

Arctic grayling (*Thymallus arcticus*) once existed throughout the Upper Missouri River drainage in Montana and represent the last known endemic population within the contiguous United States. Currently two life history forms persist that are isolated from each other; a fluvial (river dwelling) form in the Big Hole River and an adfluvial (lake dwelling but use streams to spawn) form in the Red Rock Lakes of the Centennial Valley.

Recently, the status of Arctic grayling was re-assessed to evaluate if it met the criteria as an endangered or threatened species under the Endangered Species Act (ESA). Through this review, an Upper Missouri River Arctic grayling Distinct Population Segment (DPS) containing both life history forms was established and added to the candidate species list under ESA (75 FR 54708-54753) in September, 2010.

Adult Arctic grayling, the product of remote site incubators, returning to Elk Springs Creek, Red Rock Lakes Red Rock Lakes National Wildlife refuge (USFWS).

Northern Rockies Fish and Wildlife Conservation Office (FWCO) biologists are actively involved in restoring spawning runs of the adfluvial form of Arctic grayling to historically used streams within Red Rocks Lakes National Wildlife Refuge (NWR) and to a nearby lake they formerly inhabited. Through the use of remote site incubators, we have successfully returned 130,000 grayling fry to Elk Springs Creek and 150,000 fry to Elk Lake over the past three seasons.

This form of Arctic grayling typically matures in two years and should return to their natal stream to join other year classes in establishing a sustainable spawning run. Plans call for continuing this restoration work over the next 3-5 years which is part of a larger effort to mitigate factors that affect the viability of the lake population and its long term survival.

Remote site incubator (top left) placed in a spring to ensure oxygenated water is supplied to the fertilized eggs (lower left). The resultant fry (top) hatch and are conveyed to the target stream via the spring's flow (USFWS).

The Northern Rockies FWCO has been working cooperatively with Red Rocks Lakes NWR and Montana Fish, Wildlife and Parks since 1998 to gather information on the status of the lake dwelling form of Arctic grayling residing in the Centennial Valley.

This conservation partnership is essential for developing adaptive management strategies and actions necessary to maintain or increase grayling abundance, as well as providing valuable data essential to the ongoing assessment of this DPS under endangered species legislation.

Valentine National Wildlife Refuge Surveys

Dan James, GPFWCO

The Great Plains FWCO has cooperatively worked with the Nebraska Game and Parks Commission to manage the fisheries on the Valentine NWR since 1978. During 2012, biologists and technicians completed 450 minutes of electrofishing, set 30 gill nets and 53 trap nets to complete surveys on six lakes within the Valentine NWR complex.

In addition, water quality and turtle population monitoring were conducted. These surveys provide valuable information to assist with management of this popular sport fishery in Northern Nebraska.

Largemouth bass caught during electrofishing survey at Valentine NWR (USFWS).

Visiting Scientist at Bozeman FTC Receives Fellowship Award

Wendy Sealey, Bozeman FTC

Ms. Omolola Betiku, a faculty member at Obafemi Awolowo University, Nigeria, and currently a graduate student in Montana State University's Department of Animal and Range Sciences, was recently awarded a fellowship to support her PhD program from the Schlumberger Foundation (www.facultyforthefuture.net).

Omolola is pursuing her degree with guidance from Dr. Wendy Sealey, Research Physiologist, Bozeman Fish Technology Center (FTC) and Dr. Glenn Duff, Professor and Department Head, Montana State University, Department of Animal and Range Sciences. She is interested in finfish nutrition and diet development, and her present research at Bozeman FTC is focused on using alternative ingredients in formulating fish diets that support growth and health of fish.

Omolola Betiku learns about aquatic animal nutrition at Bozeman FTC (USFWS).

Previously, Omolola won the fellowship of the African Women in Agricultural Research and Development sponsored by USAID/Bill and Melinda Gates Foundation, which provided her the opportunity to participate in a 9-month Advanced Research Training in Aquaculture program. Through that program, she worked with Dr. Sealey to investigate the potentials of using algae oil in rainbow trout nutrition. Omolola presented her work at the 2011 Fish Feeds and Nutrition Workshop and the 2012 Aquaculture America Meeting.

Her intention is to apply knowledge gained through her PhD program and research at Bozeman FTC to promote and enhance sustainable fish-culture practices in Nigeria. Omolola has great passion to encourage more women to pursue careers in science. In June 2011, she was part of a team at the U.S. State Department that deliberated on how to encourage girls and women to get involved in science.

Fisheries Surveys on the Pine Ridge Indian Reservation

Dan James, Great Plains FWCO

During the summer of 2012, the Great Plains FWCO conducted electrofishing surveys on three reservoirs on the Pine Ridge Indian Reservation in Southwestern South Dakota. Surveys were completed with the help of Oglala Sioux Tribe biologists. The GPFWCO works with tribal biologists to coordinate recreational fish stocking needs, complete field surveys, and write fisheries survey reports to manage the recreational fisheries on the Pine Ridge Reservation.

Oglala Sioux Tribal biologist Rob Goodman with two largemouth bass caught during an electrofishing survey (USFWS).

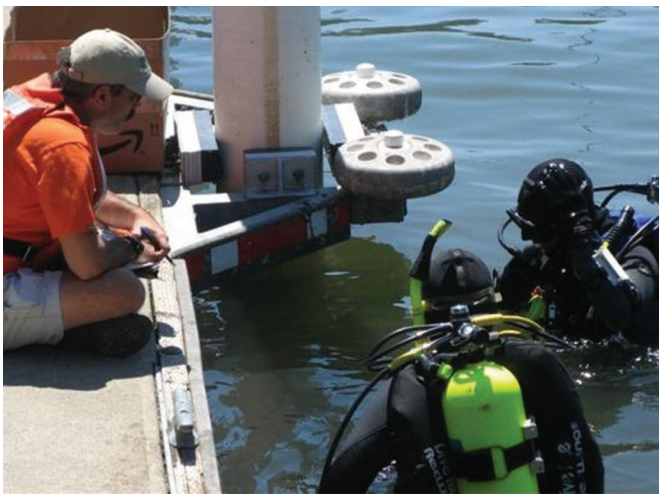
Dive Team Trains for Invasive Mussel Searches

Larry Lockard, Kalispell ES

Four members of the Region 6 Dive Team have recently completed a United States Geological Survey (U.S.G.S.) Course: Procedures for Conducting Underwater Searches for Invasive Mussels. The training was sponsored under the 100th Meridian Initiative which funds activities to prevent the spread of invasive mussels.

The transport and use of recreational watercraft throughout the Western United States could easily result in spreading mussels. Efforts by the States to prevent the spread of mussels are ongoing through operation of many Watercraft Inspection and Decontamination Stations. Service personnel in Montana were certified this year as "Level II Responders/Trainers" to conduct training of other Service personnel in Watercraft Inspection to help assure that the Service's movement of watercraft and the recreational use of Service waters does not contribute to the spread of invasive mussels.

When prevention efforts fail, early detection of invasive mussels may provide an opportunity to implement rapid response management actions to minimize the impact. Control and eradication efforts are more likely to be successful if they are implemented when the density of mussels is low and area of infestation is small.



Marc Blouin(USGS) trains two SCUBA divers in invasive mussel detection and survey techniques at Columbia River, Oregon (USFWS).

Outboard motor colonized with Quagga mussels at Lake Mead, Nevada (USFWS).

Early implementation of containment and eradication efforts requires getting reliable information to confirm the location and extent of the infestation. The most direct way to get this information is through the use of properly trained SCUBA divers. Using standardized techniques, the SCUBA divers can verify the presence of invasive mussels, document the extent of the infestation, and quantify the intensity of the mussel colonization.

Quagga mussels colonized on pieces of PVC pipe submerged in Lake Meade, Nevada for 18 months (USFWS).

Adult pallid sturgeon being prepared for transport to Gavins Point National Fish Hatchery after being captured during spring monitoring efforts (USFWS).

Multi-agency Partnership Strives to Recover the Pallid Sturgeon

Dane Shuman, Great Plains FWCO

The Great Plains Fish and Wildlife Conservation Office, located in Pierre, South Dakota, completed its 10th sampling season as part of the Pallid Sturgeon Population Assessment and Associated Fish Community Monitoring Program. This program provides information to detect changes in pallid sturgeon and native fish populations in the Missouri River basin to enable science-based management decisions.

Data collected includes pallid sturgeon spatial distribution, growth, condition, and survival as well as the relative abundance of other fishes of the Missouri River. This collaborative river-wide program includes the Missouri Department of Conservation, Montana Fish Wildlife & Parks, Nebraska Game & Parks Commission, South Dakota Game Fish & Parks, U.S. Geological Survey- Columbia Environmental Research Center, U.S. Army Corps of Engineers, and three USFWS Fish and Wildlife Conservation Offices (Missouri River, Great Plains, and Columbia). In the past 10 years during extreme and normal hydrological conditions 871 endangered pallid sturgeon have been captured by the Great Plains FWCO alone, consisting primarily of hatchery propagated fish (95%).

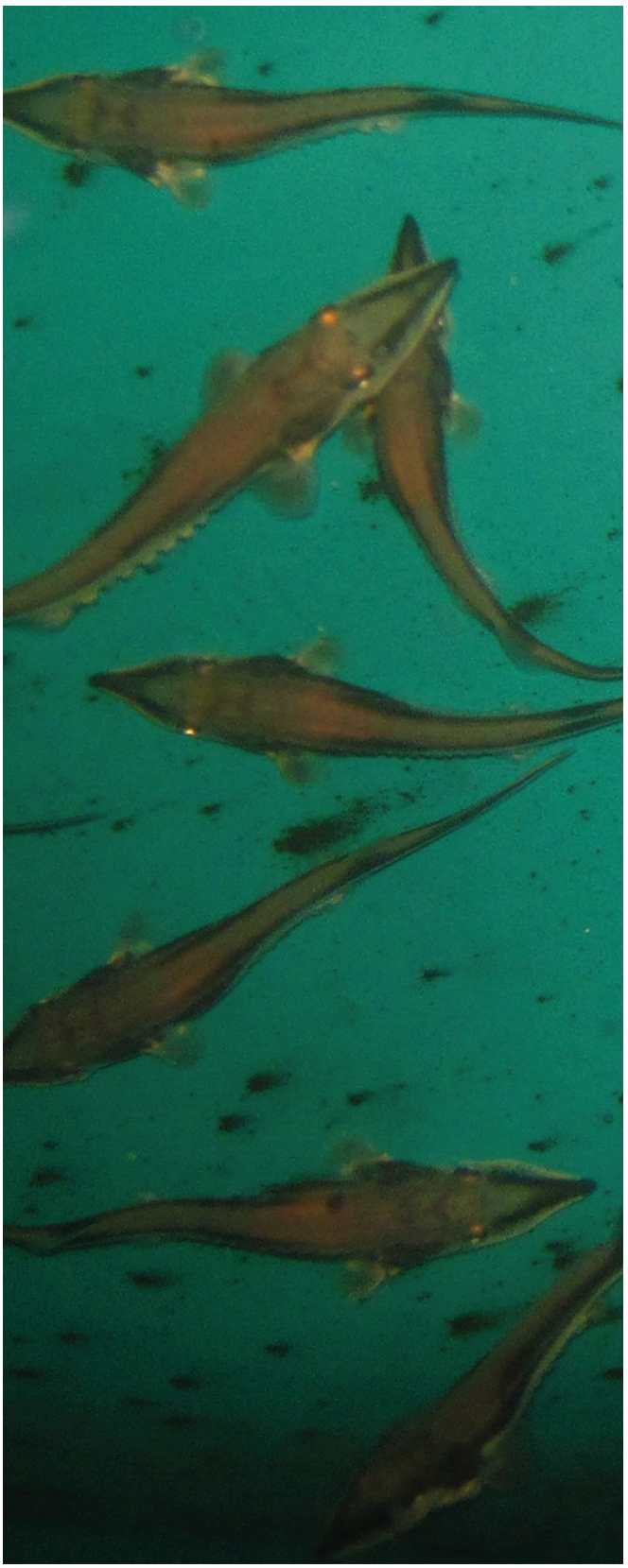
To obtain detailed research reports regarding the Long-Term Pallid Sturgeon Population Assessment Program please visit our website at: http://www.fws.gov/greatplainsfishandwildlife/publications.html

Lake Sturgeon Return to Valley City NFH

Kurt Eversman, Valley City NFH

Valley City National Fish Hatchery is working with Genoa National Fish Hatchery and the states of Wisconsin and Minnesota to recover lake sturgeon in the Rainy River. Staff at the hatchery received lake sturgeon eggs at the beginning of May 2012. Working cooperatively with the aforementioned partners, the staff was able to acquire additional lake sturgeon for use in research, focusing on diet trials and water quality.

Hatchery staff are interested in developing a partnership with the membership of the Red River Fisheries Steering Committee with the hope of receiving a commitment of support in FY13. Recent removal or passage of several lowhead dams on the Red River has facilitated the potential restoration of this once endemic species and provided an opportunity for the Fish and Wildlife Service through the Valley City NFH to restore a native fishery.



Valley City Lake Sturgeon (USFWS).

Research at Bozeman FTC Addresses Questions Related to Habitat Connectivity

Kevin Kappenman, Bozeman FTC

Through support from a diverse partnership of local and regional stakeholders, Bozeman Fish Technology Center (FTC) is a test-bed facility for research addressing a wide range of questions related to habitat connectivity for aquatic species. Current research led by Kevin Kappenman (Fishery Research Biologist, Bozeman FTC), Dr. Matthew Blank (Research Engineer, Western Transportation Institute, College of Engineering, Montana State University), and Dr. Thomas McMahon (Professor of Fisheries, Department of Ecology, Fish and Wildlife Ecology and Management Program, Montana State University) focuses on developing scientifically valid information on swimming abilities of little-studied native fishes of the Great Northern and Plains & Prairie Potholes Landscape Conservation Cooperative areas. Studies are conducted at Bozeman FTC in recently acquired open-channel flume, swim chamber, and artificial stream research systems, where variables such as water velocity, temperature, and substrate can be controlled and manipulated, and fish swimming performance and behavior can be monitored. Results will have application in several areas, including assessment of potential fish barriers, design of fish passageways, and population viability modeling of species experiencing changes in aquatic habitats.

Another objective of this interdisciplinary research program is to provide graduate and undergraduate students the opportunity to learn from professional engineers and biologists, and thereby gain a broader base of knowledge for more effective future participation in solving fishery and landscape conservation problems.

Graduate student David Dockery monitors the swimming performance of wild sauger in Bozeman FTC's open-channel flume (USFWS).

Jackson NFH Water Supply Pipeline (USFWS).

Jackson NFH Water Supply Pipeline Replaced After 55 Years

Elizabeth Sunshine, Jackson NFH

Peterson Springs has served as the main water supply since the establishment of Jackson NFH in 1957. The natural gravity flow springs run for two miles along the National Elk Refuge through a steel pipeline that corroded over time and reduced output. In July, the 18" pipeline was replaced by 24" high-density polyethylene.

In addition, the concrete head structure was replaced by a sealed manifold to reduce debris and possible contamination. The project was not completed without a fair share of headaches. Seeping water from the nearby hillside caused several landslides that delayed progress.

Restoring our Heritage

Marc Jackson, Gavins Point NFH & Aquarium

Gavin's Point National Fish Hatchery is one of several hatcheries involved in mitigation efforts to restore paddlefish populations in the Missouri River system. Paddlefish restoration began several decades ago when populations began to decline due to the effects of dam construction, habitat degradation, contaminants, and overfishing.

In 2012, the station successfully spawned and released twenty-three wild adult paddlefish back into the Missouri River. The Gavins Hatchery is now rearing 60 thousand fry in addition to transferring some of the fry to other hatcheries in the river system.

The paddlefish program is a successful collaboration of the USFWS, South Dakota Game, Fish, and Parks, & Nebraska Game & Parks. As a result of this successful partnership and restoration program, a limited paddlefish snagging season was opened in South Dakota this year for the first time in over 30 years.

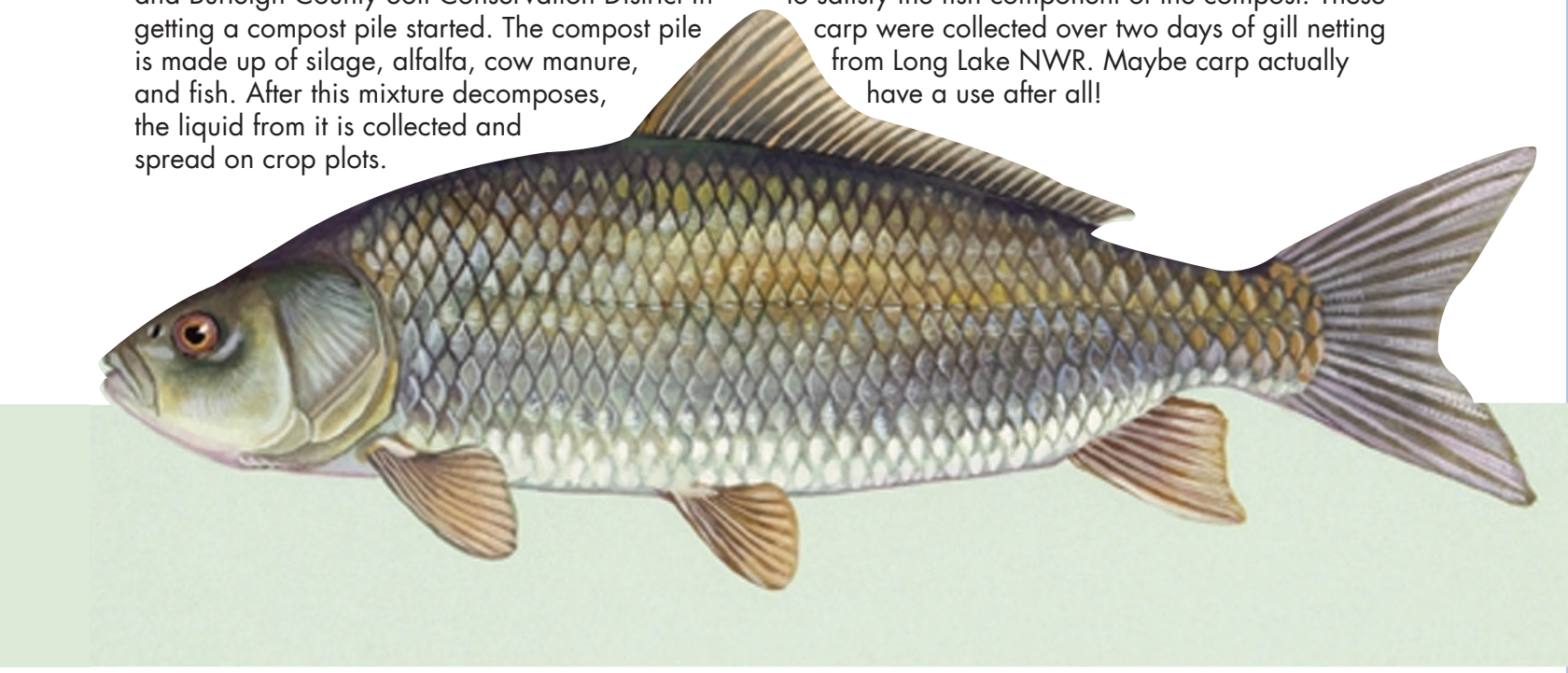
Service employee releasing brood female paddlefish (USFWS).

Recycling an Aquatic Nuisance Species (ANS)

Everett Nelson, Missouri River FWCO

In mid-October of 2011, staff of the Missouri River Fish & Wildlife Conservation Office assisted the Natural Resources Conservation Service (NRCS) and Burleigh County Soil Conservation District in getting a compost pile started. The compost pile is made up of silage, alfalfa, cow manure, and fish. After this mixture decomposes, the liquid from it is collected and spread on crop plots.

The yield results in these plots have been very positive. The fisheries personnel were able to supply 1,015 pounds of common carp (*Cyprinus carpio*) to satisfy the fish component of the compost. These carp were collected over two days of gill netting from Long Lake NWR. Maybe carp actually have a use after all!



Cyprinus Carpio (USFWS).

Mini Fyke Nets ImproveSampling on the Little Missouri River

Tyler Berger, Missouri River FWCO

The Missouri River Fish and Wildlife Conservation Office (FWCO) has concluded it's 2012 sampling of the Little Missouri River in western North Dakota. This marks the second year the FWCO has used mini fyke nets as additional gear to seining. Mini fyke nets have added to the catch and continue to increase the number of species that are sampled in the river.

Three new species captured in 2011 include: Yellow Perch, Yellow Bullhead, and Bigmouth Buffalo. In 2012 White Bass, Bluegill, and White Crappie were added to our ever growing list of inhabitants of the Little Missouri River.

The addition of the mini fyke nets to our sampling has helped identify what species use the river and has given us a better understanding of how many species can occupy a single river. This river-wide sampling has been occurring since 1997 and will provide an excellent baseline to evaluate landscape scale changes to the watershed as a result of changing land use practices, including energy development.

Little Missouri River (USFWS).

Garrison Dam NFH Rebounds from the Flood of 2011

Rob Holm, Garrison Dam NFH

The Missouri River Flood of 2011 certainly left a mark on the Garrison Dam NFH. After the flood, the lake used by the hatchery to fill 40 hatchery ponds was consumed by the floodwaters and was morphed into a Missouri River backwater – lowering the water elevation 20 feet and leaving the Hatchery's intake high and dry.

Temporary pumping was contracted out this spring enabling the hatchery to make use of the East Unit ponds which produced 6,250,000 walleye fingerlings for mitigation and recreational fish stockings in North Dakota and Wyoming.

(USFWS)

(USFWS)

Intensive Culture Building at Baldhill Dam NFH Receives a Facelift

Rob Holm, Garrison Dam NFH

Before and after views of the Baldhill Dam NFH intensive culture building (USFWS).

The intensive culture building at Baldhill Dam NFH has recently been reconfigured to accommodate the propagation of lake sturgeon for a restoration effort on the Red River of the North and for refugia holding of several mussel species. The building is now equipped with 54 three-foot circular tanks, 6 five-foot circular tanks, 6 twelve-foot raceways, and 6 sixteen-foot raceways.

The building was also equipped with a 1.5 hp regenerative blower which provides atmospheric oxygen to support aquatic animal life in the event of water loss or oxygen depletion issues from Baldhill Reservoir. A Sensaphone capable of monitoring critical fish culture equipment has also been installed. The major reconfigure of the intensive building at Baldhill Dam NFH will expand our ability to incubate eggs, rear native, threatened and endangered species and conduct research to complement North Dakota's native aquatic species.

CONSERVING AMERICA'S fisheries

Fish Hatchery 5K

Ed Stege, Leadville NFH

In June the Leadville National Fish Hatchery served as the venue for the 8th Annual Fish Hatchery 5K. The race features a scenic cross country style course that winds through subalpine forest near and around the Evergreen Lakes and lower Rock Creek area.

The event is sponsored by the Leadville-Lake County Sports Hall of Fame. Proceeds are used to purchase fishing poles for the station's Pathways to Fishing program. This year 106 finishers braved the high elevation (9,800 feet) trail, with a winning time of 17 minutes 31 seconds.

Volunteers from Valley City State University Assist with Stocking Northern Pike

Kurt Eversman, Valley City NFH

Students from Valley City State University spent the day helping staff from the Valley City National Fish Hatchery stock sac-fry into extensive rearing ponds. Students were given a brief life history of the northern pike, particularly focused on early life history, as well as a brief overview of the hatchery's standard operating procedure for stocking.

Students were paired, based on their experience, and empowered to complete the task. With the additional help, hatchery staff was able to make quick work of the stocking and met the hatchery's commitment of stocking over 1 million northern pike fingerlings.

Valley City State University students stocking sac-fry (USFWS).

Drought Year Brings Unique Challenges - Forges Partnership

Dale Ryden, Colorado River Fish Project (CO)

While low water levels associated with the drought of 2012 have made it difficult to perform research and recovery work for the endangered Colorado River fishes, it has also helped encourage dialogue and working relationships between fisheries professionals and irrigators in and around Grand Junction, CO.

One example has been the cooperative effort between the U.S. Fish and Wildlife Service, U.S. Bureau of Reclamation and the Redlands Water and Power Company. A series of weekly conference calls and face-to-face meetings have helped these entities devise a strategy whereby the BOR has managed to successfully supply Redlands Water and Power Company with enough water to divert their full allotment to generate power and

Redlands fish passage (USFWS).

provide irrigation water, while allowing the FWS to still operate the Redlands fish passage facility. This selective fish passage facility allows upstream access to the Gunnison River for several endangered fish species, including razorback sucker, Colorado pikeminnow, bonytail and humpback chub while allowing biologists to block the upstream movement of nonnative fish.

In addition, literally thousands of common native bluehead sucker, flannelmouth sucker and roundtail chub also utilize the passage to access the upper Gunnison River; all of which is made possible by a highly functional partnership among professionals from entities with very different missions.

Crystal Hudson Retired After 30 Years of Service

Bozeman Fish Health Center

Crystal Hudson, Bozeman Fish Health Center Project Leader, retired after 30 years of service, with 28 of those years spent in Region 6. Crystal began her career with the FWS in 1982 as a clerk typist in Yellowstone National Park, was later promoted to Biological Aid, and eventually Fish Biologist seven years later.

■ *(USFWS)*

She spent 2 years at Inks Dam NFH (Region 2) learning warm water pond culture and hatchery operations. In 1989, Crystal joined the staff at Leadville NFH, and in 1991, she transferred to the Fish Disease Control Center in Fort Morgan, Colorado.

Crystal spent the next three years traveling throughout Region 6 performing hatchery fish health inspections and diagnostic work. In 1994, Crystal was chosen as Project Leader of the Center, and worked with a staff of six biologists to provide fish health testing for Federal, state, commercial, and tribal programs. The lab was moved from Colorado to Bozeman, Montana in 1996 and renamed the Bozeman Fish Health Center (BFHC).

The re-location provided cooperative partnerships, research opportunities, and scientific advancement since it was more centrally located within the Region and was near a university. Crystal remained in Bozeman as Project Leader until June 29th, 2012. During this time period, BFHC developed and implemented advanced molecular biology and histopathology diagnostic programs, maintained disciplines in virology, bacteriology, and parasitology, and participated as cooperators on regional, national and international fish health surveys. In retirement, Crystal plans to spend time with her dad, work with her horses, play tennis, and recreate outdoors in beautiful Big Sky country.

"True leaders don't create followers, they create more leaders." Crystal is a true leader. The staff at BFHC will miss her positive attitude, guidance and encouraging words.

This year, in honor of the 100th birthday of Hines, six pieces of original art done by Hines are currently on display in the museum at D.C. Booth. Including the Symbol of Our Nation, an oil painting that was the basis for a poster offered for sale by the Superintendent of Documents in 1976. It features a majestic eagle, a suitable Bicentennial image. The poster could be obtained for $1.85, including postage. The accompanying text described the historic symbolism of the eagle, as well as its situation in 1976. This is the first time the painting has been on display since receiving conservation treatment.

Does your station have Bob Hines artwork? We would love to learn about it, please contact Randi Smith, Curator, DC Booth, randi_smith@fws.gov, 605-642-7730, ext. 215.

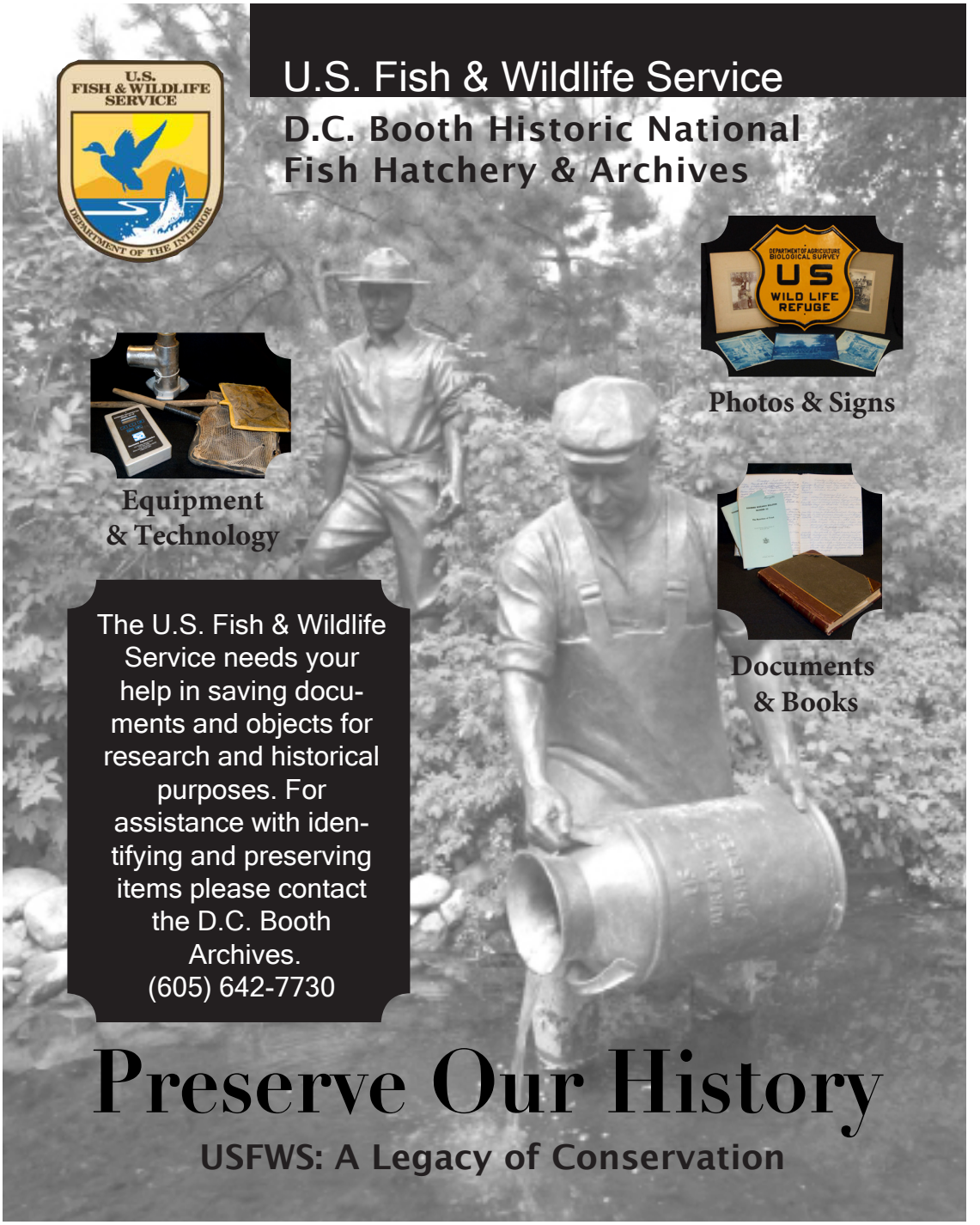
As an artist for the Service, Bob Hines (1912-1994) created countless renderings, including the oil painting Symbol of Our Nation.

The Artwork of Bob Hines

Over the 141 years of Fish and Wildlife Service history, a lot of art has been used to illustrate the work of the Service. Some of it has made its way into the collection at D.C. Booth Historic National Fish Hatchery and Archives. Of special importance is the art of Bob Hines, who was hired as an artist by the United States Fish and Wildlife Service in 1948, retiring in 1981. During that time, he produced countless illustrations for the Service.

Some of his most striking images include the fish used in Sport Fishing Illustrated, produced in 1971, the Centennial of the Fish and Wildlife Service. Twelve of the twenty-two paintings are in the collection. Some of the other fish are lost, locations unknown.

Close-up of a Yellowstone cutthroat trout painting shows the detailed work of artist Bob Hines (Craig Springer/USFWS).


U.S. Fish & Wildlife Service
D.C. Booth Historic National
Fish Hatchery & Archives
Photos & Signs
Equipment
& Technology
Documents
& Books
The U.S. Fish & Wildlife Service needs your help in saving documents and objects for research and historical purposes. For assistance with identifying and preserving items please contact the D.C. Booth Archives.
(605) 642-7730
Preserve Our History
USFWS: A Legacy of Conservation

Mountain-Prairie Region Fisheries Stations

Colorado • Montana • North Dakota • South Dakota • Utah • Wyoming

Mountain-Prairie Regional Office (Region 6)
134 Union Boulevard
Lakewood, Colorado 80228
Phone: (303) 236-4517

Fisheries ARD
Sharon Rose (303) 236-4580

Fisheries Program Supervisor
(Kansas, Montana, Nebraska, North Dakota, South Dakota)
Larry Gamble (303) 236-4260

Fisheries Program Supervisor
(Colorado, Utah, Wyoming)
Doug Frugé (303) 236-4215

Mountain-Prairie Region Fisheries Stations

Colorado • Montana • North Dakota • South Dakota • Utah • Wyoming

COLORADO

Aquatic Invasive Species (AIS) Coordinator
134 Union Boulevard
Lakewood, CO 80228
Joanne Grady (303) 236-4519

Colorado FWCO
134 Union Blvd Suite 675
Denver, CO 80228
Pamela J. Sponholtz (303) 236-4255

Colorado River Fish Project (CO)
764 Horizon Drive South Annex B
Grand Junction, CO 81506
Dale Ryden (970) 245-9319

Hotchkiss National Fish Hatchery
8342 Hatchery Road
Hotchkiss, CO 81419
Adam Mendoza (970) 872-3170

Leadville National Fish Hatchery
2846 Highway 300
Leadville, CO 80461
Ed Stege (719) 486-0189

National Fish Passage Program &
National Fish Habitat Partnership Coordinator
134 Union Boulevard
Lakewood, CO 80228
Scott Roth (303) 236-4219

MONTANA

Bozeman Fish Health Center
1805 South 22nd Avenue Suite 1
Bozeman, MT 59718
Vacant (406) 582-8656

Bozeman Fish Technology Center
4050 Bridger Canyon Road
Bozeman, MT 59715
Bob Muth (406) 994-9902

Creston National Fish Hatchery
780 Creston Hathery Road
Kalispell, MT 59901
Mark Maskill (406) 758-6870

Ennis National Fish Hatchery
180 Fish Hatchery Road
Ennis MT, 799729
Connie Keeler Foster (406) 682-4847

Montana Tribal FWCO
4052 Bridger Canyon Road
Bozeman, MT 58501
George Jordan (406) 585-9010

Northern Rockies FWCO
James Federal Bldg. Rm301 2900 4th Ave. N
Billings, MT 59101
Vacant (406) 247-7365

NORTH DAKOTA

Garrison Dam National Fish Hatchery
Box 530 Fish Hatchery Road
Riverdale, ND 58565
Ron Holm (701) 654-7451 or (701) 845-3464

Missouri River FWCO
3425 Miriam Avenue
Bismark, ND 58501
Steve Krentz (701)250-4419

Valley City National Fish Hatchery
1115 River Road
Valley City, ND 58072
Ron Zitzow (701)845-3464

SOUTH DAKOTA

D.C. Booth Historic National Fish Hatchery and Archives
423 Hatchery Circle
Spearfish, SD 57783
Carlos Martinez (605) 642-2336

Fish Passage - Hydraulic Engineer
420 South Garfield Ave., Suite 400
Pierre, SD 57501
Wayne Stancill (605)224-8693

Gavins Point National Fish Hatchery & Aquarium
31227 436th Avenue
Yankton, SD 57078
Vacant (605) 665-3352

Great Plains FWCO
420 South Garfield Ave., Suite 400
Pierre, SD 57501
Rob Klumb (605)224-8693

UTAH

Colorado River Fish Project (UT)
1380 South 2350 West
Vernal, UT 84078
Dave Schnoor (435) 789-0366

Jones Hole National Fish Hatchery
1380 South 2350 West
Vernal, UT 84078
Kip Bottomley (435) 789-4481

Ouray National Fish Hatchery
21000 East Wildlife Refuge Rd
Randlett, UT 84078
Dave Schnoor (435) 789-4078

Utah FWCO
1380 South 2350 West
Vernal, UT 84078
Mark Fuller (435) 789-4078

WYOMING

Jackson National Fish Hatchery
1455 Fish Hatchery Road
Jackson, WY 83001
Kerry Grande (307) 733-2510

Lander FWCO
170 North First Street
Lander, WY 82520
Dave Skates (307) 332-2159

Saratoga National Fish Hatchery
PO Box 665 County Road 201
Saratoga, WY 82331
Lee Bender (307) 326-5662

STREAM LINES

D.C. Booth Historic National Fish Hatchery & Archives
423 Hatchery Circle
Spearfish, SD 57783
Phone: 605-642-7730

Stream Lines is produced by the D.C. Booth Historic National Fish Hatchery and Archives, Spearfish, SD.