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Grand Mesa, Uncompahgre, and Gunnison National Forests

Wildlife, Fisheries & Rare Plants Annual Newsletter

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The mission of the Wildlife, Fisheries, and Rare Plants Program is to provide favorable ecological conditions to support all native and desired non-native species over the long-term and to promote recovery of federally listed species.

The Grand Mesa, Uncompahgre, and Gunnison National Forests (GMUG, for short) encompass about 3.15 million acres of western Colorado. The Forest includes a diverse array of ecosystem types ranging in elevation from 6,500 feet to over 14,000 feet. The Forest supports 74 species of mammals, 274 species of birds, 19 species of fish, 8 species of amphibians, 11 species of reptiles, and thousands of plant species. There is 1 endangered species, 4 threatened species, and three species that are candidate or proposed for listing under the Endangered Species Act found on the GMUG.

Fiscal Year 2011 was a great year for the GMUG biological staff. Our time was divided between support work related to actions where National Environmental Policy Act (NEPA) compliance was required and on-the-ground work to enhance, protect, or restore forest habitat. Project work ranged from chemical treatments to restore native cutthroat trout, to habitat manipulation for big-game and bird survey work, to completion of a comprehensive inventory of fen habitat on the Forest. Details of these and other projects can be found inside this newsletter.

In addition you will find a detailed accounting of how the GMUG Wildlife, Fish, and Rare Plants program allocated its budget in Fiscal Year 2011 (the Federal Fiscal Year runs from October 1 to Sept 30). Each year the Forest is responsible for doing specific work in an assigned amount of aquatic or terrestrial habitats. These assignments are called targets. Targets are one way the Forest Service measures its success in protecting and restoring the land it manages.

Most importantly, this newsletter is a way to let our partners and other stakeholders know their involvement is critical to the success of the work we do each year.



Above: a Colorado Parks and Wildlife Biologist puts dye into Fall Creek to monitor the downstream progress of rotenone.
Below: Dan Kowalski (CPW) dispenses rotenone in Woods Lake.



Woods Lake Chemical Treatment

The purpose of this project is to remove non-native brook trout from Woods Lake and two tributaries, Fall Creek and Muddy Creek, in order to restore native cutthroat trout to the watershed. The Woods Lake watershed is located in southwestern Colorado near the town of Telluride. The restoration is a cooperative project with the Colorado Division of Parks and Wildlife, who are leading the brook trout removal and cutthroat trout restoration. Prior to the treatment the GMUG NF invested in 2 fish barriers to prevent incursion of non-natives into the watershed. Thirteen USFS employees participated in the two-day treatment.

Brook trout were removed using the chemical rotenone, a non-selective toxicant, which was applied directly to Woods Lake and its two tributaries. The two-day treatment involved approximately 35 Parks and Wildlife and Forest Service employees. In October 2010, several beaver dams on Fall Creek were demolished in order to facilitate the downstream transport of rotenone through the system. The efficacy of the treatment will be evaluated in summer 2012. Due to habitat complexity it is possible a second treatment will be needed in 2012 to insure brook trout are eradicated from the system. Cutthroat trout will be collected from a

nearby watershed and bred in a hatchery. Individuals from the hatchery will be stocked into Woods Lake, as well as Fall Creek and Muddy Creek. The population will be intensively monitored for several years following treatment in order to insure the project was a success. The primary result of this project will be the creation of a self-sustaining population of native cutthroat trout. The Woods Lake watershed is of sufficient size to support multiple life histories, increasingly greatly the probability of long-term survival.

Protecting Native Cutthroat Trout in Deep Creek

In 2011 the GMUG continued its partnership with Bear Ranch to design and install a barrier to upstream fish movement in lower Deep Creek, near Paonia. The barrier (shown at left) will prevent the movement of non-native brook trout and rainbow trout into upper Deep Creek, which contains

an important population of native Colorado River cutthroat trout. Our partnership with Bear Ranch began in 2010 when an inter-agency team of biologists and engineers worked with water users to design a new diversion structure for Filmore Ditch. The new structure includes a fish screen to prevent cutthroat trout from being trapped in the ditch. Installation of the barrier is the second phase of a three-part project to protect the cutthroat trout in Deep Creek. GMUG Fisheries Biologist, Mike Carrillo was the lead for the barrier project which used appropriated funding as well as a portion of a US Fish and Wildlife Service Western Native Trout Initiative grant. Additionally, Bear Ranch contributed a lot of person-

nel, time, and materials to the project. In fact, Bear Ranch took the lead on fabricating the structure, which was installed on their land. The last phase of the project will be conducted by Colorado Parks and Wildlife. There are non-native trout in Deep Creek between the barrier and Filmore Ditch. CPW biologist, Dan Kowalski plans to remove non-natives from this section using rotenone. When the chemical treatment is completed the cutthroat trout population in Deep Creek will be secure.

- Deep Creek Barrier Facts**
- Width of Opening: 18 feet
 - Drop: 4 feet
 - Installation required excavating to a depth of 18 feet below the existing stream bed.
 - The upstream side of the barrier was secured with the equivalent of 1,100 bags of concrete.



Monitoring stream temperatures in GMUG watersheds

The purpose of this project is to collect continuous annual stream temperature data from streams across the GMUG. Once collected, these data can be used to model annual stream temperatures across the Forest.

We followed the Rocky Mountain Research Station protocol for permanently deploying stream temperature sensors. Temperature sensors were placed in PVC

canisters which were attached to in-stream boulders using an underwater epoxy. By attaching sensors to boulders permanently it will be possible to document and model annual stream temperatures. Seasonal deployments yield data sufficient to model summer maximum stream temperatures but not annual temperatures. In 2011 46 temperature sensors were installed on the Forest.

The goal of the project is to develop models that can predict summer maximum stream temperatures for GMUG streams. These models can be used to evaluate the potential for climate change to affect native fish habitat on the GMUG. Additionally, these models can be used to evaluate potential translocation sites for native cutthroat trout.



Fisheries Technician, Missy Tracy makes doubly sure to document the location of a thermograph in Deadman Creek, on the Gunnison RD.

AOP Inventory and Culvert Replacements

Like many National Forests, the GMUG is constantly evaluating culverts and stream crossings to insure they are functioning and not preventing upstream movement of fish. Surveys began in 2004 and continued through 2008, during which 234 crossings were evaluated. Surveys resumed in 2011 with 109 crossings evaluated. To date, 343 crossings have been evaluated.

In 2011, two under-sized culverts were replaced with a low water ford capable of supporting oil and gas exploration activities occurring in the Clear Fork Muddy Creek watershed, near Paonia. The ford was designed to accommodate fish passage, debris and flood flows common to the basin, and to insure a fully functional floodplain. Large concrete planks were placed on an under-layment

of geo-fabric and a bed of rock. The planks were cabled together. Crossings matched the contour of the floodplain to facilitate truck traffic, maintain a functional floodplain and facilitate aquatic organism passage. In 2012, GMUG fisheries biologists will evaluate fish movement past the ford by monitoring the movement of fish captured and marked downstream of the road crossing.



Clear Fork Muddy Ford.

GMUG Assembles Aquatic Sampling Kits for School Children

Last year Mike Carrillo initiated a project to assemble self-contained aquatic sampling kits designed for middle- and high-school science students. Using a \$7,500 grant from the USDA's Kids in the Woods program Mike assembled seven kits that will allow students to investigate water quality and aquatic insects. Mike began marketing the kits to surrounding schools this spring. The first kit was checked out to Cedaridge High School in March.



We're hoping these kits will provide an avenue for teachers to get students outside the classroom and learn about their natural resources on our forests, while still meeting state educational standards.
-Mike Carrillo
Fisheries Biologist
Delta



A prescribed burn in Taylor Canyon, near Gunnison, was used to improve habitat conditions for bighorn sheep.

In 2011 GMUG staff and partners accomplished 3,400 acres of fuels treatments using managed natural wildfires, mechanical treatments, and prescribed burns. Treatments occurred on four Ranger Districts and ranged in size from 20 acres to over 1,000 acres. Project objectives varied across the Forest but all were focused on improving habitat for wildlife, including bighorn sheep, elk, and mule deer. For example, a prescribed burn in Taylor Canyon, on the Gunnison Ranger District, was designed to

reduce vegetation density to levels preferred by bighorn sheep. Fire managers allowed the Jeep Fire to burn on the Norwood Ranger District to improve the quality of migration corridors for elk. The Jeep Fire burned 600 acres of oak brush and reduced the chance of uncharacteristically severe fire in the area.

Julie Grode, a wildlife biologist on the Grand Valley Ranger District, worked with the state of Colorado's Habitat Partnership Program to accomplish a mechanical treatment

near Campbell Point. The goal is to restore native Ponderosa pine. The Calamity Basin mechanical treatment was also designed to restore vegetation. In Calamity Basin 200 acres of pinyon-juniper vegetation was removed in order to facilitate the restoration of big sagebrush. Calamity Basin was another project completed with the help of Colorado's Habitat Partnership Program. The Collaborative Forest Landscape Restoration grant funded much of the work on the Uncompagre Plateau.

A Busy Year for Fuels Treatments

GMUG Biologists Assist in Bird Surveys



A male pine grosbeak in wetland habitat on the Gunnison Ranger District. Photo: Matt Vasquez

Twenty years after the original Colorado Breeding Bird Atlas project began, a second round of sampling, called the Colorado Breeding Bird Atlas 2, was initiated by Colorado Parks and Wildlife and the Colorado Bird Atlas Partnership. Last year GMUG Wildlife Biologists, Dennis Garrison (Paonia Ranger District) and Matt

Vasquez (Gunnison Ranger District) participated in the surveys. The goal of the project is to compare data collected during CCBA 2 on the distribution and population status of bird species that breed in Colorado, with data from the original Atlas.

While in the field Dennis and Matt used visual and auditory survey tech-

niques to identify birds located in their assigned survey blocks. Day and night surveys were conducted in the spring when birds are breeding. The data collected by Dennis and Matt will be combined with surveys conducted across Colorado. On the GMUG these data will help inform land management decisions.

Adit Survey for White-Nose Syndrome



The mine shown above, located on the Gunnison Ranger District, is closed with a bat-friendly gate.

Last year the GMUG contracted Andrea Wong to conduct baseline information on bat populations and abandoned mines and caves. The data are important because a disease called White-nose Syndrome has killed more than 5.7 million bats in eastern North America. The disease is caused by a fungus that evolved in Europe. Once the fungus is in a cave the disease causes 90-100

percent mortality. White-nose syndrome has been documented as far west as Oklahoma. The GMUG is surveying mines and caves in order to proactively close to the public those being used by bats. Andrea surveyed dozens of mines and caves across the GMUG looking for signs of bat colonization, like guano, and documenting the accessibility of these caves.

For more information on White-nose syndrome visit the U.S. Fish and Wildlife Service's website: www.fws.gov/whitenosesyndrome

Gunnison Travel Implementation

The Gunnison Basin Federal Lands Travel Management Decision was signed in 2010 and in 2011 GMUG biologists assisted in implementing that decision on the Gunnison and Paonia Ranger Districts. Myriad techniques were used to close, decommission, or obliterate roads including signage, physical barriers, and ripping and seeding. A broad informational campaign

accompanied the implementation work and affected areas were patrolled more frequently in order to monitor the effectiveness of road closures. In 2011 the Gunnison Ranger District closed 75.7 miles of roads and the Paonia Ranger District closed 52.7 miles. In the Flat Top Mountain area on the Gunnison Ranger District, 26 miles of roads were closed

in order to protect habitat for the Gunnison sage-grouse. This area is the largest contiguous block of sage-grouse habitat on the Forest.



Can you see the road in this picture?

Little Pass Creek Beaver Control Project

GMUG Wildlife Biologist, Matt Vasquez, has been working with local water users to resolve a conflict with beavers near Little Pass Creek located in the North Castle Creek watershed, near Crested Butte. North Castle Creek supplies water to several water users via an irrigation ditch that is being colonized by beavers. Beaver activity is disrupting water delivery but stakeholders are attempting to pursue a non-lethal solution to the problem.

A variety of techniques can be used to deter beavers from inhabiting the ditch and the GMUG contracted Skip Lisle, a well-known and respected beaver expert, to help develop non-lethal control methods. Methods include "beaver deceivers" and water flow devices to insure water flow through the irrigation ditch, installation of low wire mesh

fencing to exclude beavers from the ditch, and vegetation removal along the ditch to reduce its appeal to beavers. Additionally, it's possible water users could "use" the beavers to control vegetation in portions of the ditch at specific times of year.

Stakeholders made four visits to the site in 2011 during which ditch maintenance activities were performed and the group discussed a variety of long-term plans to deal with beaver activity in the watershed. Matt Vasquez participated in these meetings and volunteered his time to help perform ditch maintenance. Matt expressed his support for projects like the one in Little Pass Creek: "These collaborative efforts are critical to finding solutions and meeting multiple use objectives on the Forest."

These collaborative efforts are critical to finding solutions and meeting multiple use objectives on the Forest.

-Matt Vasquez
GMUG Wildlife Biologist
Gunnison RD

2011 was the first year of the six-year timeline for implementation of the Gunnison Basin Federal Lands Management Decision.

Beaver are very busy near Little Pass Creek but their activities can cause conflicts with downstream water users.



The GMUG Fen Team

Barry Johnston,
Botanist (Gunnison RD)

Ben Stratton,
Hydrologist (Gunnison RD)

Warren Young,
Soil Scientist (Ouray RD)

Liane Mattson,
Minerals Geologist (Delta)

John Almy,
Hydrologist (Delta)

Gay Austin,
Resource Management
Specialist (Gunnison)

GMUG Team Completes Fen Inventory

A fen is a wetland that accumulates peat at a very slow rate: 1 meter every 4,500 years! On the GMUG, these rare wetlands are typically found in glaciated areas above 9,500 feet. The picture below shows a fen in the San Juan Mountains. The GMUG Fen Team has been searching the Forest for fens since 2008 using a random selection of 198 1 kilometer-square cells. Within each cell

crews sample all fens and potential fens. Data collected include vegetation cover, soils, peat quality, peat depth, and mapping of communities. We think this is the first time systematic fen inventory has been done across a National Forest. Across the Forest fens cover only 0.14% of the landscape! To date the GMUG Fen Team has identified 379 fens. Using the data they've collected the team expects

that number to double. Fieldwork for this project was completed in 2010. The inventory report was completed in 2011 by a multi-disciplinary team and submitted for peer review prior to publication. The completed fen inventory report was published on April 6, 2012.



Monitoring Effects of Fire on Uncompahgre Plateau Plants

This year GMUG biologists monitored the effectiveness of post-fire seeding on cheatgrass and erosion control. Cheatgrass is an invasive plant species that can, once established, retard the development of native plant communities. The purpose of this project is to evaluate the efficacy of post-fire seeding on the establishment of cheatgrass and other weeds. Additionally, the project was designed to evaluate whether post-fire seeding would control erosion. The GMUG started this project in 2010. Look for the results in a future newsletter.



Post-fire vegetation recovery at the site of the 2006 Campbell Creek Fire.

GMUG Botanist Searches for Rare Plants

Each year Forest Botanist, Barry Johnston conducts surveys for a variety of rare plants. Survey goals range from monitoring known populations to documenting additional populations of sensitive plant species. In 2011, Barry conducted surveys for four different species: De Beque phacelia, Colorado hookless cactus, *Astragalus iodopetalus*, and *Aliciella sedifolia*. Barry found five new populations of De Beque phacelia, three new population of Colorado hookless cactus, and a single population of *A. iodopetalus*.



De Beque phacelia



Colorado hookless cactus

GMUG Begins a Science and Engineering Internship for High School Students

2011 was the first year of the GMUG's Science and Engineering Apprenticeship program. The program was designed by Clay Speas and targets high school sophomores or juniors who have an interest in science, engineering, or natural resources management. The 2011 interns were Delta High School sophomores, Sarah Stalcup and Caitlyn Bonkoski. Sarah and Caitlyn were assisted by Robin Liston, a science teacher at Delta High School. Sarah and Caitlyn spent six weeks working with an interdisciplinary group of USFS professionals. For the first three weeks they shadowed a

variety of agency specialists and learned about the diverse array of activities performed by the Forest Service. During the second three weeks Sarah and Caitlyn were responsible for the collection, analysis, and presentation of data describing riparian habitat condition on the Uncompahgre Plateau. The data were collected using the Multiple Indicator Monitoring protocol developed by the U.S. Bureau of Land Management. Since the success of last summer there has been tremendous interest in the Science and Engineering Internship program and for 2012 the GMUG expanded the internship program to six

students. Four will come from Delta High School while another pair will come from the Norwood area and work with the Norwood Ranger District. Ultimately our goal is to attract talented young people to a career in the U.S. Forest Service. By exposing high school students to the diverse opportunities in natural resources management we believe the program is one way to assist in the ongoing "cultural transformation" in the Forest Service.



Above: Mike Carrillo and Sarah Stalcup discuss data collection while Robin Liston takes data. **Below:** Caitlyn Bonkoski collects data on riparian vegetation along Big Dominguez Creek.



FY 2011 WFRP Program Statistics for the GMUG

WFRP Program Expenditures: Fiscal Year 2011

Program area	Fish and Aquatics	Terrestrial Wildlife	Ecology and Rare Plants	Inventory and Monitoring	Total
Appropriated funds (Core)	\$253,885	\$456,033	\$82,000	\$49,673	\$841,591
Internal partnerships (Integrated)	\$15,000	\$245,974	-	-	\$260,974
External partnerships	\$422,762	\$114,799	-	\$5,295	\$542,856
				Grand total	\$1,645,421

WFRP Accomplishments: Fiscal Year 2011

Program area	Fish and Aquatics	Terrestrial Wildlife	Ecology and Rare Plants	Inventory and Monitoring
Appropriated funds (Core)	10 stream miles;	28,459 acres	\$82,000	22,900 acres, 13 species, 7 Forest Plan monitoring questions addressed
Internal partnerships (Integrated)	16 stream	7,228 acres	-	
External partnerships	9 stream miles;	959 acres	-	
T+E species tasks accomplished	1	1	1	

Program Plans for FY 2012

Fisheries

- Monitoring: 5-10 cutthroat trout conservation populations and 3-5 populations of MIS species
- Assist CPW in a second chemical treatment in Woods Lake.
- Continue stream thermograph deployment and monitoring.
- Mentor two Delta High School students in a fisheries monitoring project as part of the Science and Engineering Apprenticeship (ASE) program.
- Replace culverts at five locations to improve aquatic organism passage and floodplain function. Approximately 30 miles of stream habitat will be accessed through these replacements.

Terrestrial wildlife

- 3,000 acres of mechanical and prescribed burning.
- 100 miles of road closure designed to improve wildlife security areas
- Complete NEPA on integrated landscape-level wildlife treatments on Ouray and Gunnison RDs.
- Complete Candidate Conservation Plan for Gunnison sage-grouse.
- Monitoring: bighorn sheep, Management Indicator Species, Uncompahgre Fritillary butterfly and Gunnison sage-grouse

Rare plants and ecology

- Vegetation response monitoring to managed and prescribed fires
- Monitoring: Colorado hookless cactus and De Beque phacelia and up-date Forest distribution layer for these species.
- Mentor two Norwood High School students in a riparian monitoring project as part of the ASE program.

Our Partners are integral to the success of these projects!

We gratefully recognize and acknowledge our many partners whose contributions and efforts are invaluable to us in successfully fulfilling our mission.

Bear Ranch, LLC

Bureau of Land Management

City of Grand Junction

Colorado Bird Atlas Partnership

Colorado Mule Deer Association

Colorado Parks and Wildlife

Colorado State Forest Service

Delta High School

Delta County Resource Advisory

Committee (RAC)

Gunnison Basin Habitat Partnership

Gunnison County

Gunnison County RAC

Gunnison Valley Sage-grouse

Mitigation Committee

Gunnison Basin Sage-Grouse

Strategic Committee

Habitat Partnership Program

Mesa County RAC

Mule Deer Foundation

National Audubon Society

National Park Service

National Wild Turkey Federation

Natural Resources Conservation

Service

North Fork Habitat Partnership

Program

North Rim Landscape Working

Group

National Resources Conservation

Service

Ouray Grazing Permittees

Responsible Recreation Foundation

Rocky Mountain Elk Foundation

Saguache County RAC

Uncompahgre Habitat Partnership

Program

Uncompahgre Plateau Project

U.S Fish and Wildlife Service

Western State College

Wild Sheep Foundation

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