Improving Utah's Water Quality San Rafael River Watershed



Revised November 2012

MAJOR WATERBODIES

San Rafael River
Huntington Creek
Cottonwood Creek
Ferron Creek
Muddy Creek
Huntington North Reservoir
Millsite Reservoir
Electric Lake
Joes Valley Reservoir

MAJOR CITIES

Huntington Castle Dale Ferron Orangeville Emery

MAJOR LAND USES

Coal Mining Rangeland Agriculture

LOCAL WATER QUALITY ISSUES

Salinity Dewatering Invasive Species Flooding

LOCAL CONTACT:

Daniel Gunnell
West Colorado River
Watershed Coordinator
(435) 381-2300 x117
daniel.gunnell@ut.nacdnet.net

Watershed Description:

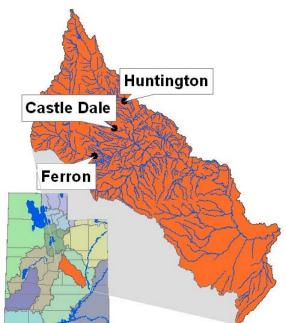
The San Rafael River in southeastern Utah is formed by the confluence of Huntington, Cottonwood, and Ferron Creeks. The San Rafael River is approximately 108 miles long and flows through some of the wildest landscapes in the state to its confluence with the Green River. The total watershed area is 2,432 square miles.



The San Rafael River is one of the most perturbed ecosystems in the state and is currently on the 303D list of degraded waters due to high concentrations of total dissolved solids. Total dissolved solids result from both natural sources and irrigation return flow over salt impregnated soils. Another principal effect of irrigation is the dewatering of large sections of the river in late summer. Most of the land

along the San Rafael River is managed by the BLM. The primary uses for this property include recreation and rangeland for cattle grazing.

In addition to the water quality and quantity problems, the river has been severely impacted by invasive species including tamarisk and Russian olive. These species have replaced much of the native vegetation along the riparian zone. The presence of tamarisk



on sand bars within the river traps additional sediments, eventually narrowing and deepening the channel. This reduces the ability to carry large flows, which increases flooding. Non-native fish are currently found throughout the lower reaches of the river. Abundances of these species are low throughout the entire river; however, it is reasonable to expect that their numbers would increase with improved habitat.



extension.usu.edu/waterquality

San Rafael River Water Quality Improvement

Project Description:

A project is underway to remove nonnative tamarisk and Russian olive on 1,050 acres of state owned land on the lower San Rafael River. These areas will then be planted with native vegetation. Tamarisk and Russian olive seedlings will be treated with herbicide for 3 years following the removal to assure native vegetation becomes established. Riparian vegetation restoration will aid in the restoration of instream and riparian habitat. Currently 650 acres have been cleared of nonnative vegetation and planting on 322 acres was completed during winter 2010. Restoration monitoring will continue following the completion of this project.

Designs to restore connectivity between the upper and lower sections of river are being researched. Currently the Hatt diversion dam creates a barrier to upstream fish movement that is impassible at all flows. One potential solution to this is the removal of the diversion dam and replacement with a diversion that does not create a barrier. This design would also aid in the restoration of instream habitat.

Nonnative fish species in the San Rafael River pose a significant threat to native species. Techniques to control and eradicate nonnative fish species in the San Rafael River are being researched. One potential solution to this problem is the construction of a fish barrier that prevents the passage of nonnative fishes while allowing native species to pass near the confluence with the Green River.



Partners

Bureau of Land Management

Utah Division of Water Quality

Utah Division of Wildlife Resources

Emery County Mosquito and Weed Abatement

Emery County Public Lands Council

Emery Water Conservancy District

Natural Resources Conservation Service

PacifiCorp Energy

The Tamarisk Coalition

Utah Association of Conservation Districts

Utah Department of Agriculture and Food

Utah State University Extension

Related Projects

Stream Restoration

Irrigation Systems

Funding

San Rafael River restoration efforts

\$1,532,437

Irrigation systems for

\$90 million

Emery County salinity project

For funding opportunities in the San Rafael River Watershed, contact the San Rafael Conservation District.

To learn how you can participate or lend your support to Utah community water quality projects, please contact your local conservation district or county agent.

Produced by USU Water Quality Extension, Utah Watershed Coordinating Council, Utah Association of Conservation Districts, and Utah Division of Water Quality.

Utah State University is committed to providing an environment free from harassment and other forms of illegal discrimination based on race, color, religion, sex, national origin, age (40 and older), disability, and veteran's status. USU's policy also prohibits discrimination on the basis of sexual orientation in employment and eacedemic related practices and decisions. Utah State University employees and students cannot, because of race, color, religion, sex, national origin, age, (40 and older), disability, on veteran's status. USU's policy also prohibits discrimination on the basis of sexual orientation in employment and eacedemic related practices and decisions. Utah State University employees and students cannot, because of race, color, religion, sex, national origin, age, (40 and older), disability, and veteran's status. Usu's policy also prohibits discrimination on the basis of sexual orientation in employment and eaced make the religion, sex, national origin, age (40 and older), disability, and veteran's status. Usu's policy also prohibits discrimination on the basis of sexual orientation in employment and eaced make a religion, sex, national origin, age (40 and older), disability, and veteran's status. Usu's policy also prohibits discrimination on the basis of sexual orientation in employment and extension of the properties of race, color, religion, sex, national origin, age (40 and older), disability, and veteran's status. Usu's policy also prohibits discrimination on the basis of sexual orientation in employment and extension of the properties of the properti