

Yampa Valley and Sagebrush Steppe Conservation Project

Locations	The Big Bottom floodplain on the Yampa River near Craig; Colowyo Mine's sagebrush uplands between Meeker and Craig, Moffat and Rio Blanco Counties, Colorado, USA
Rio Tinto companies	Rio Tinto Energy America (RTEA); Colowyo Mine; Rio Tinto Minerals
Partner organisations	Audubon Colorado; grazing lessees
Key people	Ken Strom (Audubon Colorado); Jim Showalter (grazing lessee); Bob Green (RTEA); Kurt Blunt (Colowyo Mine); Rich Zazenski (Rio Tinto Minerals)
Habitats	Riparian meadows and woodlands; sagebrush uplands
Birds	Greater Sage-grouse, Sandhill Crane, Bald Eagle
Outcomes	Restoration and enhancement of sensitive avian habitats; biodiversity action planning for sagebrush and riparian habitats



Riparian habitats along the Yampa River

Audubon Colorado is in the final year of a five-year programme of habitat assessment, biodiversity action planning and implementation of initial habitat enhancement measures at an important area of riparian habitat owned by the Colowyo Mine. The lessons learned and the techniques developed during this effort are now being applied to a new initiative of biodiversity action planning for the wider sagebrush landscape that surrounds the riparian zone. The overall goals of the expanded programme are to restore and enhance habitats for a variety of sensitive species, including Greater Sage-grouse and Sandhill Crane.

Project background and history

Over the past several years, working in partnership with Rio Tinto businesses in Colorado and Wyoming, Audubon Colorado has piloted a science-based strategy of conservation assessment and biodiversity action planning at RTEA's Colowyo Mine site in north-western Colorado, beginning with a programme of habitat restoration and planning for riparian habitats along the Yampa River. These are important biodiversity areas within the larger sagebrush landscape that RTEA Colowyo manages. This site-based strategy is a key element in achieving meaningful progress in landscape conservation for the resident and migratory bird species of the sagebrush steppe biome, including the riparian habitats found along the Yampa and other nearby rivers. Among the priority species that are the focus of this planning and implementation are Greater Sage-Grouse and Brewer's Sparrow of the sagebrush ecosystem, and Sandhill Crane and Bald Eagle of the riparian ecosystem.

In 2004, Audubon Colorado began a five-year programme of habitat assessment and planning for RTEA Colowyo's Big Bottom property on the Yampa River near Craig. Over the course of this programme, Audubon staff and volunteers have worked with Colowyo staff and the local grazing lessee of the site to gather data on bird use of the area, evaluate habitat conditions and habitat management needs, and develop initial plans and begin the implementation of selected habitat restoration efforts.

The goal of these efforts has been not only to restore and enhance habitat conditions at this particular site, which is important for local populations of birds and other wildlife, but also to develop a biodiversity conservation planning approach for the site that can serve as a prototype and framework for more comprehensive biodiversity action planning across all of the Colowyo lands. An important additional element of this work has been to communicate the lessons learned and other information about the site and the project to the broader community through various activities including an annual Birdwatch event.

Project details

Breeding season bird surveys of the Big Bottom floodplain have been conducted during May or June annually since 2004. Additional nest surveys have been conducted throughout the breeding season each year to document specific breeding and nesting activities at the site. Highlights have included the growth of a Great Blue Heron rookery and then its relocation, in 2007, to a different site within the floodplain, and the successful nesting by a pair of Bald Eagles every year except 2008.

Beginning in 2006, Sandhill Crane surveys have been conducted from June through October, documenting at least five pairs at Big Bottom in June 2007, as well as a high count of 101 cranes for the fall staging and migration. Big Bottom appears to support one of the highest densities of nesting and fall passage cranes in Colorado.

Various management prescriptions have been deployed to control the spread of invasive weeds and riparian tamarisk on the site, and these actions have been largely successful. Further management focused on safeguarding the Bald Eagle nest site at Big Bottom. Given the long-term use of this successful site, volunteers tried various approaches to prevent fluvial erosion undermining the eyrie tree. Localised protection of regenerating cottonwood from grazing seems to be the favoured approach. In addition, the grazing lessee has been responsible for managing the hydrology of the floodplain, with natural sloughs being used to carry irrigation water through the property, thereby improving the management of spring runoff to benefit wet meadow habitats.

The annual Rio Tinto Birdwatch Event has been conducted at Big Bottom each year during the project period, with annual attendance increasing to a new high of 38 participants in May 2008, involving many participants from the local community.

The future

During 2008–2009, Audubon Colorado will work with the other partners to complete the original five-year programme of habitat assessment and biodiversity action planning and implementation on the Big Bottom floodplain, culminating in a fully developed biodiversity action plan for this riparian site. Building on the success of this work, the partners will extend their planning efforts to the greater sagebrush landscape that is found extensively on the mine property. This expanded effort will include exploring new approaches to sagebrush restoration that can increase the rate and quality of recovery of degraded sites. This could have value for other RTEA operations throughout the sagebrush steppe biome. The lessons learned will ultimately be used to implement more effective approaches to habitat conservation throughout the range of both Greater Sage-grouse and the Endangered Gunnison Sage-Grouse.



Sandhill Crane