Wildlife Habitat Management Plan

Sawmill Creek Trout Recovery Project
Shute Creek Operations
Kemmerer, WY

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Introduction

In 1998, employees of Exxon (ExxonMobil after November 30, 1999) in partnership with Trout Unlimited, the Wildlife Habitat Council and the Boy Scouts of America, constructed a pond habitat project in western Wyoming. This voluntary environmental project augments efforts by the Wyoming Game and Fish Department to stabilize native Colorado River Cutthroat Trout populations and is comprised of a deep pond that provides trout overwintering and rearing habitat. The project demonstrates responsible corporate environmental performance and will be used to promote balanced environmental education and to foster cooperative relationships with state and federal regulatory agencies. This project reflects the pride and enthusiasm that ExxonMobil employees have for the communities and states where the company does business, and serves as an example of the progress that can be achieved when neighbors join together in a common effort to enhance environment values.

The Sawmill Creek Trout Recovery Project received the Oil and Gas Reclamation and Wildlife Stewardship award from the Wyoming Game and Fish Department in September 1999. The project also received recognition in November 1999 from the Wildlife Habitat Council as a Certified Corporate Wildlife Habitat Site.

Background

Beginning about 1994, employees at Exxon's Black Canyon Dehydration Facility, located near Big Piney, Wyoming started discussions with fisheries biologists from the Wyoming Game and Fish Department (WGFD) about a voluntary pond project that would benefit Colorado River Cutthroat Trout (CRCT). These early discussions helped build support for the project from local WGFD and Exxon management and identified a need for partnerships to be developed with local schools and other community and regional organizations.

Coincidentally, staff from Exxon's Environmental and Safety Department (ESD), based in Houston, Texas began attending annual meetings of the Washington, D.C. based Wildlife Habitat Council (WHC). This environmental organization works to increase quality wildlife

habitat on corporate, private and public lands. Through use of a unique site certification / international accreditation program that provides independent verification of wildlife benefit, WHC helps corporations manage unused lands for wildlife habitat and fosters proactive environmental stewardship among corporate and conservation communities. Although Exxon had been a member of WHC for several years, no Exxon sites had been submitted for certification. Impressed with WHC's purpose and mission, ESD started working with Exxon field units to identify potential habitat projects and the Wyoming CRCT pond project emerged as a leading contender.

The selection of the Colorado River Cutthroat Trout is of particular interest. This cold water native Wyoming fish is a species of concern because unless special care is given to maintenance of current habitats and populations, the future viability of the species may be in question. If the current downward trend of CRCT populations is not stabilized or reversed, the fish species could become eligible for protection ("listed") under the Endangered Species Act as a species threatened with extinction. If listing occurs, new activities near the species or their habitats become subject to additional environmental analysis that can have one of two outcomes: project denial if identified impacts to species or habitats cannot be mitigated; or, approval of the project conditioned on the incorporation of species and / or habitat protection requirements.

The Sawmill Creek Trout Recovery Project was conceived and built by local company and contractor employee volunteers who have *a* strong commitment for the environment and their communities. The project was funded by Exxon, in partnership with Trout Unlimited, Wildlife Habitat Council and the Trappers Trail Council of the Boy Scouts of America. The project received in-kind support from the Wyoming Game and Fish Department through the assistance of their fisheries biologists and the provision of fingerling stock. The project received strong support from Wyoming Governor Jim Geringer and the U. S. Fish and Wildlife Service as well as donations of materials and time from many other contractors and suppliers.

Area and Facility Description

ExxonMobil Production Company, based in Houston, Texas, is the domestic oil and gas producing division of Exxon Mobil Corporation, located in Irving, Texas. Situated in southwest Wyoming, ExxonMobil's Shute Creek operation is comprised of 21 natural gas wells, a gas dehydration facility, and a large gas processing plant. The dehydration facility and gas plant employ about 140 ExxonMobil and 100 contract personnel. Producing about 640 million cubic feet of gas per day, ExxonMobil is the largest gas producer in Wyoming.

The Sawmill Creek Trout Recovery Project is 8000 feet above sea level on 40 acres of ExxonMobil property located in Section 22. Township 28 North, Range 114 West of Sublette County, Wyoming. The project is adjacent to approximately 41,000 acres of Exxon leases on the Bridger-Teton National Forest and on lands administered by the Bureau of Land Management. Elevations in the wellfield range from 7,000 to 10,200 feet above sea level and

the area is in the southern portion of the Wyoming Range, which consists of large, steep, dissected ridges which drain eastward into the Green River, a tributary of the Colorado River.

Vegetation in the immediate vicinity of the project consists of aspen forest, bunchgrass, willow and meadow communities in riparian areas, and sagebrush shrub-lands along low ridges. The climate is characterized by winds from the west and northwest, with a large seasonal variation in temperatures. Mean monthly temperatures range from –5 degrees F. in January to 80+ degrees F. in July.

The Sawmill Creek project is about two miles northwest of ExxonMobil's Black Canyon Dehydration Facility which serves as the collection and dehydration unit for raw gas produced from 21 wells. After de-watering of raw gas at the Black Canyon Dehydration facility, the dry gas is sent to the Shute Creek Gas Plant by a 40 mile long 28 inch diameter feed gas pipeline. The dry gas is processed at this facility and subsequently sold as CO_2, methane, helium, nitrogen and sulfur products. Shute Creek has been in operation since August 1986.

Site Selection

Because the prospective project would require habitat creation and enhancement of existing habitat, ESD wanted to be sure that the potential project was viable, could be implemented at reasonable cost and have nominal maintenance requirements. Late in 1996 a consultant aquatic ecologist conducted a site survey of three candidate sites. The survey assessed stream geometry, water quality and aquatic biology for Black Canyon Creek, Pine Grove Creek, and a **40** acre parcel owned by ExxonMobil in S. 22, T28N, R114W.

Black Canyon Creek and Pine Grove Creek are typical low volume, low energy headwaters streams. Such streams lack the water volume and energy necessary to move streambed material, which leads to increased sedimentation and silt loading. Shallow pools were noted along both creeks, along with signs of beaver activity. Both creeks are open to livestock grazing and there was general agreement that a pond project along either creek would require extensive and periodic maintenance in the future to ensure continued benefit to CRCT. This combination of factors eliminated both creeks from consideration.

The ExxonMobil site along Sawmill Creek offered a unique opportunity for habitat creation due to a stand of aspen on the property and the presence of three water sources: natural streams, a large spring and an existing water well. The biological survey and water analysis results indicated that water quality, volume and potential food supplies were sufficient along Sawmill Creek to sustain Colorado River Cutthroat Trout.

Project Planning, Permitting and Construction

The next steps after site selection involved project planning, assessment of permitting requirements and permit acquisition. Initial planning focused on three elements: construction of the dam and reservoir, installation of an electric pump in the water well and building a pole-top fence around the 40-acre property to exclude livestock. Time and construction budgets were prepared for later use. Working closely with the aquatic ecologist and biologists from the Wyoming Game and Fish Department, a gravel-bottom spawning channel and pond slightly larger than one acre in surface area and 22 feet deep, with a bottom configuration that promotes freshwater plant and insect growth, were designed.

As planning progressed, one significant change was necessary to accommodate site and regulatory conditions. During the wetlands delineation survey, investigators identified two small wetland areas below the proposed dam site. Instead of building a straight dam which would transect the wetland, project planners modified the dam's shape to avoid the wetland area. Noting the modified dam footprint and after consultation with the U.S. Fish and Wildlife Service, the Wyoming Army Corps of Engineers issued a general permit (Nationwide Permit 26) that is applicable to wetlands near Headwaters and Isolated Waters Discharges. In addition to wetlands permitting, applications were submitted to the State of Wyoming to appropriate ground water using the water well. and to appropriate and store surface water from Sawmill Creek and the spring. Both applications were approved by the State Water Engineer and construction of the pond was undertaken.

In addition to revising the dam footprint, several other additions to the original project were made during construction. They included placement of a synthetic membrane in the reservoir to eliminate seepage, fabrication and installation of a wheelchair accessible steel pier and fishing platform, and renovation of a sheepherder's cabin for use as a kitchen and visitor center. Other improvements included litter removal throughout the project area; provision of electrical power to the water well and visitor center; installation of a flagstone walkway, bridges for pedestrians and vehicles, picnic and children's play areas, and parking areas. Construction of the pond was completed in late July and fifty CRCT fingerlings were introduced by WGFD on August 1, followed by another batch on August 18, 1998.

Prospective Plans

The project and surrounding area is open to the public and local schools for educational field trips and other uses as noted under Project Goals and Objectives. The project will eventually be home to about 300 Colorado River Cutthroat Trout. Catch and release fishing will be allowed in the future under the supervision of the Wyoming Game and Fish Department.

The Sawmill Creek Trout Recovery Project will augment the Wyoming Game and Fish Department's CRCT population stabilization efforts by providing a source of stock that will be free to spawn both up and down Sawmill Creek. perhaps including Pine Grove Creek and other tributaries of the Green River during spring runoff. Later in the year, Colorado River

Cutthroat Trout in the pond will be free of food competition from brook trout because lack of free-flowing water below the dam prevents brook trout in-migration.

Species Inventory

A biologist from the Wildlife Habitat Council made a site visit to the Sawmill Creek project site in mid-June 1999 to ascertain wildlife benefits of the project and to identify local species. The species that were identified at this time are shown in Table I below. Because the project is located in a transition zone between high elevation timber and lower elevation valley and riparian areas that serve as big-game calving and seasonal ranges, numerous additions to the list of species are expected.

Project Monitoring and Maintenance

Potential maintenance requirements were of concern from the outset for the Sawmill Creek Trout Recovery Project. As noted earlier, annual maintenance played a role in site selection and the type and design of the actual project. Some benefits are obvious, for example, the synthetic liner, but others are subtle, such as the flagstone walkway and the *two* bridges that will help minimize pond siltation, possible water contamination and stream bank erosion.

Chief among monitoring requirements is water quality testing to ensure pond conditions are conducive to CRCT population dynamics, relative health and low mortality rates. WGFD biologists have been, and will continue to periodically check the water quality and health of CRCT. ExxonMobil employees will monitor water levels and the condition of the dam.

Annual maintenance obligations include road and fence maintenance, dam inspections, protecting water lines from freeze damage, mowing grass in the public use areas, removing deadfall to promote visitor safety and hauling refuse from containers.

Publicity

Public response to the Sawmill Creek Trout Recovery Project has been very positive from the local communities. Notably, the contributions of local employee and contractor volunteers were recognized in a dedication ceremony held in August 1998. This event was well attended, including Governor Jim Geringer, representatives from Wyoming Game and Fish Department, the president of Exxon Company, USA and various other Wyoming dignitaries. The project received positive statewide coverage from Wyoming and Montana newspapers and was featured in a press release that accompanied the dedication ceremony. It was also featured in the winter 1998-99 issue of ***the*** Lamp which is a quarterly ExxonMobil shareholder publication, in other company publications which are distributed throughout the world, and on the corporate website. In addition, the project was featured on the cover of the 1999 conference brochure, Wildlife Habitat, published by the Wildlife Habitat Council.

Project Goals, Objectives and Prescriptions

Early identification of goals and objectives was important to the overall success of the pond project including management support, funding, employees' and partners' enthusiasm, agency support and public acceptance. There are five inter-related goals associated with the Sawmill Creek Trout Recovery Project. Efforts are being made to achieve selected goals and objectives instead *of* working all of them simultaneously. To date, several of the near term goals noted below have been met and efforts are underway to implement additional prescriptions. Notably, all prescriptions under Goal 1 were carried out by Exxon and contractor employee volunteers and their families, the Boy Scouts, and WGFD biologists.

Goal 1. Construct an overwintering and rearing pond to foster stable populations of the Colorado River Cutthroat Trout in the Sawmill Creek drainage.

Objective: Construct a pond suitable for use as a CRCT overwintering and rearing facility.

Prescriptions:

1. Select site based on water volume and quality, habitat suitability, cost, and future maintenance obligations criteria.
2. Design project elements and assess permitting requirements.
3. Obtain required permits and management approval of project funding.
4. Construct the spawning channel and pond during the summer of 1998 incorporating recommendations from the aquatic ecologist and WGFD.
5. Stock Colorado River Cutthroat Trout fingerlings.
6. Build a pole-top fence around the Exxon property to exclude free range livestock.
7. Extend electrical power to the site and install an electric pump in the existing water well for use as a backup water source.

Objective: Involve Exxon and contractor employee volunteers in all phases of the project to promote teamwork and ownership.

Prescriptions:

1. Delegate responsibility for project construction activities to local employees and volunteers.
2. Provide ESD and Public Affairs assistance as needed.
3. First CRCT introduction on August 1, second on August 18, 1998.
4. Hold a dedication ceremony and invite the media, Exxon and WGFD management, project partners, and Wyoming elected officials and community leaders to officially recognize the volunteers' contributions.

Goal 2. Use the Sawmill Creek Trout Recovery Project for environmental education purposes by local schools, community and youth groups.

Objective: Use the project to facilitate balanced environmental education and as an example of responsible corporate environmental performance.

Prescriptions:

1. Inform schools in Big Piney, LaBarge and Marbleton about the availability of project site for science and environmental field trips and willingness of employees to host field trips. One suggested project is a biological survey for middle / high school level students, focusing on visibility, turbidity and phyto- and zooplankton counts and other simple chemistry measures.
2. Solicit brochures and speakers from Wyoming Game and Fish Department, BLM and US Forest Service.
3. Provide ExxonMobil personnel to explain production operations and facilities, socio-economic benefits of oil and gas production, and compatibility of oil and gas operations with wildlife and other land uses and users.
4. Boy Scouts and youth groups install interpretative signs and nest boxes throughout the project.
5. Link the project to the WGFD's Internet website as a wildlife viewing area and handicapped accessible fishing site.
6. Establish a visitor sign-in board at the Dehydration Facility and keep visitor / creel survey forms, wildlife monitoring kits and maps in stock.

Goal 3. Use the Sawmill Creek Trout Recovery Project to foster cooperative relationships with state and federal regulatory agencies such as the Wyoming Fish and Game Department, US Forest Service and Bureau of Land Management.

Objective: Promote cooperation and positive relationships among state and federal agencies and the oil and gas industry.

Prescriptions:

1. Promote continued CRCT population stabilization efforts by providing employee volunteers for habitat enhancements upstream of the Sawmill Creek Trout Recovery Project.
2. Open the project to catch and release fishing under WGFD supervision.
3. Install public restrooms.
4. Develop multi-agency and industry presentations on topics of local and regional interest for educational and community groups.
5. Work with WGFD on CRCT population dynamics, relative health, mortality rates and other technical issues.
6. Explore opportunities for future habitat enhancement partnerships with WGFD, Boy Scouts, Trout Unlimited, BLM and Bridger-Teton National Forest.

7. Work with WHC to identify possible partnerships with BLM and US Forest Service in Wyoming.

Goal 4. Foster partnerships with local communities, Trout Unlimited, Wildlife Habitat Council, Wyoming Game and Fish Department and the Boy Scouts.

Objective: Develop opportunities for joint habitat enhancement activities and increased community awareness.

Prescriptions:

1. Cut downed aspen in public use areas into firewood and deliver to senior citizens in local communities.
2. Donate electric power to the project.
3. Work with WGFD game biologists and Boy Scouts on feasibility of improving black bear forage on the Bridger-Teton National Forest and BLM-administered lands.
4. Work with WGFD on catch and release fishing and education such as the "Wyoming Cutt-Slam," which is intended to encourage anglers to learn more about Wyoming's cutthroat trout subspecies and develop appreciation and support of the WGFD's cutthroat trout management program.
5. Construct and erect bird nest boxes.
6. Improve access road from the south and install a cattleguard.
7. Solicit input from the local community and partners on possible projects.
8. Update the species list (Table I).
9. Plant native vegetation in disturbed areas.

Goal 5. Obtain habitat certification from the Wildlife Habitat Council for Exxon's first submittal.

Objective: Showcase Sawmill Creek Trout Recovery Project as an example of Exxon's commitment to the environment and the communities where we do business.

Prescriptions:

1. Blend environmental, aesthetic and structural components of a habitat enhancement project in one setting.
2. Develop opportunities for broad participation by project partners and the local community.
3. Foster long term relationships with partners through a broad cross-section of prospective activities and project elements (see Goals 2, 3 and **4).**

Type	Common Name	Scientific Name
Bird	American robin	*Turdis migratorius*
	common flicker	*Colaptes auratus*
	common yellowthroat	*Geothlypis trichas*
	horned lark	*Eremophila alpestris*
	mountain bluebird	*Sialia currucoides*
	raven	*Corvus corax*
	red-naped sapsucker	*Sphyrapicus nuchalis*
	sage grouse	*Centrocercus urophasianus*
	western meadowlark	*Sturnella neglecta*
	yellow warbler	*Dendroica petechia*
Mammal	badaer	*Taxidea taxus*
	moose	*Alces alces*
	North American elk	*Cervus canadensis*
	porcupine	*Erethrizon dorsatum*
	prairie dog	*Cynomys gunnisoni*
	pronghorn antelope	*Antilocapra americana*
Fish	Colorado River cutthroat trout	*Oncorhynchus clarki pleuriticus*
Plant	arrowleaf balsamroot	*Balsamorhiza sagittata*
	big tooth aspen	*Populus grandidentata*
	black spruce	*Picea mariana*
	common sunflower	*Helianthus spp.*
	dandelion	*Taraxacum officinale*
	lamb's quarters	*Chenopodium album*
	shootingstar	*Dodecatheon pauciflorum*
	sweet vetch	*Hedysarum occidentale*
	western Indian paintbrush	*Castilleja coccinea*
	willow	*Salix spp.*
	yarrow	*Achillea millefolium*