

**YELLOWSTONE TO CODY RECONSTRUCTION
PROJECT**

**PRESENTATION TO THE ORLANDO WILDLIFE
MORTALITY SEMINAR IN ORLANDO FLORIDA
APRIL 30, MAY 1&2, 1996**

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WYOMING DEPARTMENT OF TRANSPORTATION**

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The following report describes the proposed improvements to Highway 14/16/20, between Yellowstone National Park and Cody Wyoming, by the Wyoming Department of Transportation (WYDOT). The Department has spent the last 6 years in the environmental document development and preliminary design. The first road phase is scheduled to begin construction in the summer of 1996. Because of the broad range of environmental concerns, the Department of Transportation decided to create a new position to insure all compliance and concerns were addressed. I was hired for this reason. I act as a liaison between the Forest Service, aid in road design and also oversee construction. During construction I am responsible for water quality monitoring, wetland construction monitoring and all other environmental issues.

The project area is within the Shoshone National Forest extending from the east entrance of the park, 44 km (27.5 miles) to the east boundary of the Forest. This road was declared a scenic byway in 1991 by the Shoshone National Forest. It is a highly scenic and recreational corridor. The east entrance to the Park will see approximately 500,000 visitors per year. The majority of the tourists will travel this road between May 15 to September 15. The road has a typical top width of only 6.7 meters (22 feet) with no shoulders or clear safety zones adjacent to the road. Although the road is signed for 55 mph, most of the curves are substandard, with some as low as 30 mph design speeds. Because of the narrow road width, substandard curve design speeds, poor horizontal and vertical alinement and unsafe adjacent slopes, the road has the highest accident rate in the state of Wyoming. In fact, in some of the curve locations, the road has over three times the accident rate as other highways of the same classification, Rural Minor Arterial.

The project services twelve lodges, twelve campgrounds, fourteen trail heads, four picnic areas, 68 recreational residences, an organizational camp, a ski area and an open air church.

The highway lies between two wilderness areas of the US Forest Service: the North Absaroka Wilderness on the north, 68 460 ha (169,095 ac.) Within the Shoshone National Forest, and the Washakie Wilderness on the south, 162 970 ha (402542 ac.) Within the Forest.

During the scoping process wildlife technical reports and a biological assessment of threatened and endangered species were developed. Since the Department does not have the resources, reports were produced through a wildlife consultant using historical data gathered by the Wyoming Game and Fish Department (WGFD), USDA-Forest Service, US Fish and Wildlife Service (USFWS) and various individuals. The existing road traverses yearlong and crucial

winter range for mule deer, elk, big horn sheep and moose. It also passes through important grizzly bear habitat.

Combining the high traffic volumes with the substantial wildlife use has resulted in numerous vehicle/wildlife collisions. The FEIS states that between 1979 and 1990 56 animal mortalities were documented. Most of the mortalities have occurred at the eastern, lower elevation, end of the project. Although most collisions with elk occurred in the winter, most mule deer and moose were killed in the spring summer and fall.

The seasonal distribution of all species of big game collisions with vehicles is fairly uniform: 35.7% occurring in winter, 35.7% occurring in summer-fall, and 28.6% occurring in spring. However, some differences in patterns between species does exist. Over half the collisions with elk (54%) occurred during winter in the eastern half of the corridor. Mule deer mortality shows very little definite pattern and is more evenly distributed both seasonally, and over the length of the corridor, than any other species. Accidents with moose were more frequent during the spring, summer and fall and were more common in the western part of the corridor. No record exists for mortalities of other wildlife species that have been killed by vehicles on the existing highway.

Numerous Threatened and Endangered species occupy the project study area. Bald eagles have been observed but no known nests have been found within the study area. Peregrine falcons have been reintroduced into the Shoshone National Forest, but no nests or birds have been found in the study area. Wolves, since reintroduced in the Park, have been found south of the study area. Given time, it is very possible wolves will occupy the wilderness areas adjacent to the North Fork on either side.

Grizzly bears have frequented the entire project area and management of bears on the Shoshone National Forest follows management guidelines for the Yellowstone Ecosystem (Interagency Grizzly Bear Committee 1986). There are three Management Situations for Grizzlies on the Forest (USDA-FS 1986). Within each Management Situation the Interagency Grizzly Committee has described the population and habitat characteristics that apply as well as management directions for federal lands.

Management Situation 1 contains areas with grizzly population centers and habitat components needed for survival and recovery of the species. Seasonal or year round grizzly bear activity occurs under natural conditions. Federal actions or programs are very likely to affect grizzly conservation and recovery.

Management priority is to maintain and improve grizzly bear habitat while reducing Human-Grizzly bear conflicts. When other land use values compete with the needs of grizzlies, management decisions will promote grizzly bear values. If human-grizzly bear conflicts evolve, they will be resolved to protect the grizzly and/or their habitat.

Management Situation 2 contains areas where no distinct grizzly bear populations occur. These areas may contain some bears and suitable habitat but they are not considered necessary for the survival and recovery or the need for these areas has not been determined. These areas are subject to review.

Management direction is to maintain and improve habitat with reduction of human-grizzly conflicts being a high priority. When management is for land uses other than grizzly habitat, they are not to result in irretrievable or irreversible commitments of the resource so that reclassification to Management Situation 1 would be impossible.

Management Situation 3 contains areas where grizzlies may occur infrequently. Human occupancy and use of these areas results in conflict situations and presence of grizzlies is quite likely but not promoted.

Management direction is to minimize grizzly-human conflicts by removing the human related problem and controlling problem bears.

Management Situation 3 exists along the entire project corridor. Management Situation 2 does occur within ½ mile south and 1 mile north of the project corridor. Management Situation 1 occurs at the east entrance of the Park. The entire corridor has been used by grizzly bears in the past.

Even though the grizzlies are protected, numerous mortalities have occurred due to shootings - mortalities are higher where firearms are not banned. Attractants are the cause of most human-grizzly conflicts and are a significant factor in grizzly mortalities. Human caused grizzly mortality, particularly females, has been the key issue in the Yellowstone ecosystem.

Grizzly bears have been repeatedly relocated from the Pahaska Tepee area, but do return occasionally. There have been no automobile related deaths within the corridor.

In their Biological Opinion, the USFWS concluded a “no jeopardy” for the grizzly bear related to the road reconstruction, based on the analyses of the proposed project, the current and potential status of the species in the project area, other land use activities in the area, and with the incorporation of the coordination and mitigation measures recommended.

With the exception of one recreational site, the proposed recreation enhancement of the Forest Service “is not likely to effect” the grizzly bear.

This “not likely to effect” statement is primarily due to the highway improvements staying very close to the existing road in the majority of the project and only improvements, or mitigation to the recreation facilities, rather than expansion.

There has been a sixty day Notice of Intent to Sue on this project based on the grizzly/recreation issues. It really doesn't have much relevance with the road reconstruction. However, that does leave the Department open to some legal matters.

The road follows the North Fork of the Shoshone river, a class II stream, by both Wyoming Department of Environmental Quality and Game and Fish Standards. This river is deemed of statewide importance for game fish. Although not related to wildlife mortalities, it is important to understand the link to resource agencies and their concern with aquatic resources. In many areas, the road is hemmed between the river and rock cliffs or faces. This can pose safety issues related to wildlife collisions also.

An important issue that has been raised by the resource agencies is the relation between increased vehicle speeds and wildlife mortalities. The resource agencies feel that as vehicle speeds increase mortalities increase. This would seem to hold true if no improvements were made to the road coincidental to the speed increase.. The Wyoming Department of Transportation believes, however, when a road is rebuilt to today's standards, providing 3.6 m lanes, at least 1.8 m shoulders, clear safety zone and improved horizontal and vertical alinement, that wildlife mortalities will decrease. Even though vehicle speeds may increase, providing the additional width and improved alinement should mitigate the potential effects by providing the driver more sight distance and width to react to wildlife on the new road.

The reason this is important is that usually when there is a vehicle/wildlife related accident it involves at least property damage, if not injury or death to the driver and species.

My cohort, on the Snake River Canyon project, and I have initiated a study to learn more about this theory. We have worked with a consultant to develop a method of how to best study this. So far, a document search is underway. This will reveal what research has been done in this area. We are interested to see if there is even evidence that mortalities do increase when vehicle speeds increase. If, and we don't think it will, the document search does not reveal valuable information, the next step is to search Department and state agency databases. This becomes much more difficult since there may be overlapping data, for example the Department maintenance branch may have counts that the Highway patrol and Game Wardens also have. What also needs to be involved is an in-depth look at the surroundings: herd units and the associated carrying capacities, severity of winters/seasons, hunting pressures, etc.. This will probably become a very complex endeavor but it is important to the Department Mission- to build safe roads. It would be irresponsible of us not to investigate if we are contributing to higher wildlife/vehicle conflicts.

This serves a dual purpose: It will provide valuable information in the wildlife mitigation aspect of rebuilding roadways, and, more important from a Transportation point of view, it will help us determine if we are preventing or promoting accidents.

The following mitigation measures will be implemented to minimize wildlife impacts due to the

road reconstruction and operation:

- The shoulders have been reduced from the standard recommended 2.4 m (8 feet) to 1.8 m (6 feet).
- The clear zone has been minimized from the recommended 25 feet to 16 feet.
- The new road will be signed for 50 mph, even though the concerned groups and some resource agencies believe the running speed of vehicles will increase. The reduced speed limit was a compromise by the Department to appease the large amount of wildlife, and being a scenic byway.
- Removal of vegetation will be minimized outside the construction limits. Construction limits will be confined as much as possible to the slope limits plus ten feet, if needed.
- Materials pits, storage and staging sites will be re-vegetated with species that will benefit wildlife.
- Wherever possible, the removal of old snags, mature and old growth trees, particularly occurring in riparian zones will be avoided to benefit bald eagles.
- Prior to construction, surveys will be conducted for Category 2 candidate wildlife species and for all raptors to see if construction will impact habitat. Even though USFWS policy has been revised to exclude C2 species, the Department felt it was reasonable to conduct these surveys since the Document was signed under the old policy.
- Wherever possible, buffer zones of undisturbed vegetation will be left to serve as visual barriers between the highway and open vegetation types.
- Wherever practical, the bridges and other structures will be built on the present alignment to minimize existing vegetation disturbance. This is a rather ideal goal since a detour is needed if a bridge is designed on the existing alignment. Detours disturb about as much as the structure.
- Avoid placing turnouts, approaches and access road in areas of limited vegetation, especially riparian.
- Reclaim the existing roadway where the new alignment has shifted. Also limit the access.
- Fence sites to protect them from grazing during establishment, if necessary.
- All power line construction will be raptor proof.

And the next two are the big ones

- Coordinate with the USFS, USFWS and Wyoming Game and Fish Department wildlife and habitat biologists to determine opportunities where habitat improvement projects can be conducted along the highway corridor and/or within big game crucial winter ranges. Improvements to forage producing habitat would be most beneficial if they were located in the lower, east, end of the corridor, on southwest facing slopes, for maximum forage availability, and at least 0.25 miles away from the highway, to decrease the likelihood of collisions with vehicles.
- If there are no opportunities in the project area to improve or replace the forage producing habitats that will be lost due to the reconstruction of the road, pursue purchase of wildlife easements or acquisition of right-of-way through coordination with the WGFD.

To lessen vehicle related mortalities the following mitigation has been incorporated into the project:

- Planting of less palatable species next to the roadway to dissuade wildlife grazing in close proximity to traffic.

- Signs will be developed, to the infrequent highway user, warning that collisions with wildlife is a threat.
- Mass transportation or car pooling of construction personnel will be arranged to reduce traffic volumes, especially in winter.
- Removal of carcasses will be coordinated by the Department USFS and WGFD.
- The Department is providing bridges at areas of grizzly and wildlife movements along with transplanting of mature scrub/shrubs and trees at these sites, during reclamation, to provide easier movements.

There are many other mitigation items related to displacement, human-grizzly bear conflicts, release of toxic compounds, increased access, and numerous items related specifically for T&E species. These were omitted for time constraints. If anyone would like to have copies of those items, please see me afterwards or call me at (307)777-4364, or E-mail me at bbonds@missc.state.wy.us.

SNAKE RIVER CANYON ROAD RECONSTRUCTION PROJECT

The Snake River Canyon road reconstruction project is located in west central Wyoming, south of Jackson Hole. It extends 22.5 miles running along the Snake River, which is a blue ribbon trout fishery. The project is within the Bridger-Teton National Forest. The project is similar to the Yellowstone to Cody project in that an environmental coordinator was hired to address environmental issues. He and I work closely and borrow off each others project experiences.

Since he could not participate in this conference, I will give a brief on his mitigation for his project. His project runs through a canyon, which can not support the diversity or herd sizes that my project does. Therefore, the Game and Fish Department has not been nearly as critical of this project.

Big game habitat enhancement projects, to offset the loss of big game winter range caused by the reconstruction of the Snake River Canyon Highway, are being developed. The projects consist of prescribed burning of mountain shrub communities within the Bridger-Teton National Forest. The requested contribution from the Wyoming Department of Transportation is \$20,000.

Since the initial mitigation project, it was found that an historic feed ground was poorly located within the project area. Discussion led to the desire to relocating the Dog Creek Feed Ground.

Background Information

The Dog Creek Feed Ground is located immediately adjacent to the Snake River Canyon Highway and the Forest Service Cottonwood Work Center near the intersection with the Fall Creek Road. The Wyoming Game and Fish Department operates the Dog Creek Feed Ground on

Bridger-Teton National Forest Lands under a special use permit. The Game and Fish Department feeds 800 head of elk at this site during the winter months. The feed ground can not be effectively fenced since animals migrate into the feed ground from the south, crossing the river and the highway, and from the north.

Reasons For Relocating the Feed Ground

It was agreed by all parties at the meeting that an effort should be made to relocate the feed ground for the following reasons

- The location of the feed ground poses a threat to traffic safety by increasing the chances for vehicle/elk collision. This problem will continue to worsen as more and more of the Jackson working class move to Alpine and commute on the Snake River Canyon Highway through the winter months. This presents a strong liability concern for the Transportation Department, Game and Fish Department and the Forest Service.
- The Forest Service wishes to expand employee housing at the Cottonwood Work Center, this could create conflicts with the feed ground.
- There is concern that the congregation of elk is degrading water quality and damaging riparian and wetland vegetation. The build-up of elk scat is leaching into the fluctuating ground water table in this low lying area and into Pritchard Pond.

Important Points Covered During the Meeting

- Eight potential sites were proposed as alternate locations for the feed ground. It was noted that two feed grounds (one south of the Snake River and one North of the highway) would likely be needed to replace the existing feed ground. Two feed grounds located in this manner could greatly reduce the numbers of elk crossing the highway at Dog Creek. It was also recognized that none of the proposed feed ground sites presented an ideal location, however they should all be investigate to determine if they are better than the existing undesirable situation.
- If new feed ground locations are obtained, it will take several years of baiting elk to the new feed grounds before the behavior of the elk are modified so that they do not return to Dog Creek. For this reason it was agreed to begin evaluating potential relocation sites for the feed ground as soon as possible. Hopefully by tackling this issue right away, if the feed ground can be moved, the relocation could be complete before final design of the Cabin Creek Section. The Cabin Creek section is currently scheduled to go to contract in 2001.
- Criteria for evaluating the new feed grounds were developed.
- No request or mention of funding by the Transportation Department for the relocation of the feed ground was brought up at this meeting by any of the meeting participants.

Proposed Action

An evaluation team composed of Game and Fish and Forest Service Biologists will visit each of the potential feed ground locations this winter and evaluate each site based on the criteria

developed. Joe Bohne, District 1 Wildlife Coordinator with the Game and Fish, will head up this evaluation team. This evaluation should be concluded by the end of April with a proposal to present to Game and Fish Staff and the Game and Fish Commission. I will keep you informed of how this issue continues to progress.

An aside is our Wyoming toad barrier. It is a half mile long 6 inch tall "half pipe". It is supposed to prevent toads from crossing the road, but if some XY toad does happen to jump over the structure, it supposedly provides the toad a means to egress. The purpose of the barrier is to direct the toads to a culvert under the road for safe passage. No comment will be made on performance or necessity at this time.