

TRANS-ALASKA PIPELINE: SPECIFIC ECOLOGICAL CONSIDERATIONS  
AND IMPLICATIONS FOR GAME MANAGEMENT  
ALASKA DEPARTMENT OF FISH AND GAME  
GAME DIVISION  
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INTRODUCTION

It is the purpose of this report to delineate wildlife considerations which are necessary for proper enforcement of the Trans-Alaska Pipeline Stipulations.

If the pipeline is constructed in strict compliance with the U.S. Department of Interior, Trans-Alaska Pipeline Stipulations (1969) there will be only limited adverse effects on Alaskan game species.

The proposed pipeline from Prudhoe Bay to Valdez will be an obvious ecological and environmental feature of Alaska. Building the line will require extensive soil disturbance and destruction of natural vegetation along the 100-foot right-of-way, at gravel pits, at airstrips, at camp sites, and along access roads. There will be potential local hazards to wildlife populations during construction operations. Migration and local movements of some animal species will be affected at places where the pipeline will be constructed above ground. Erosion, herbicide spraying for vegetation management, and accidental oil spills are other potentially important ecological problems.

Public recreational opportunity will be improved and human utilization of the wildlife resource will be accelerated by the presence of construction crews and attendant developments and by the creation of additional public access. A significant addition to the workload of resource agencies will result.

The pipeline will constitute a major landscape feature of the countryside through which it passes. This will affect land management by locally eliminating the opportunity to establish natural or wilderness areas and other similar classifications.

## BIG GAME

There are nine species of big game occurring along the proposed route of the Trans-Alaska Pipeline System. North of Fairbanks wild game still provides sustenance for a majority of the Eskimos and Indian residents and sport hunting plays a subordinate role. South of Fairbanks big game populations provide a prime source of public recreation.

### Black Bear (Ursus americanus)

The black bear is common along the pipeline route from Valdez to and including the Dietrich River Valley on the south slope of the Brooks Range.

Only one major conflict with this species is anticipated during construction and operation of the pipeline. Black bears are readily attracted to garbage dumps or areas with improper food storage. With continued enticement such animals soon become a nuisance and are usually destroyed. To prevent unnecessary killing of black bears every effort should be made to enforce sound food storage and waste disposal practices. All organic materials, including their containers, should be incinerated before final disposal.

### Bison (Bison bison)

Two bison populations occur along the proposed pipeline route. The Copper River bison herd ranges from Chitina to Copper Center and the Delta bison herd ranges east of Delta Creek in the vicinity of Big Delta.

If the pipeline is buried as proposed no major conflicts are anticipated. However, excavation without immediate backfill would constitute a serious hazard to bison.

### Caribou (Rangifer tarandus)

Caribou occur in two major areas along the proposed pipeline route. The Delta, Nelchina, and Fortymile caribou herds may be found in the area between Glennallen and Big Delta during the spring and fall migrations. The Arctic and Porcupine caribou herds may be found in the area between the Middle Fork of the Koyukuk River and Prudhoe Bay during the spring migration, in summer, and during the fall migration. These latter herds are Alaska's largest and are noted for their subsistence value. Eskimo and Indian hunters utilize over 30,000 caribou per year as food for their families and dog teams.

There has been apprehension about the impact of above ground pipeline construction on caribou migrations on the North Slope. The Alaska Department of Fish and Game has reported that the key to maintaining caribou populations in Alaska is to provide vast areas of undisturbed habitat that allows unrestricted caribou movement. Fortunately, as proposed, above ground pipeline sections will not be continuous and caribou encountering these sections will probably move along them until a gap is found. However, local trampling of tundra vegetation and overgrazing may occur adjacent to sections of elevated pipe.

It is impossible to recommend areas within caribou habitat where the pipeline could be above ground. Food supply, population density, weather, snow condition, insects, man, and a variety of other factors can alter the movement patterns seasonally or perhaps for several years.

Spring migrations occur in April and May and fall migration from September through November. Construction in narrow mountain valleys or passes, such as Isabel Pass, the Dietrich River Valley and the Atigun River Valley, should be avoided during caribou migration periods.

All pipeline excavation should be followed by immediate back fill whenever caribou are in the vicinity.

An increase in caribou hunting pressure along the pipeline route would not be detrimental to caribou management at this time.

#### Dall Sheep (Ovis dalli)

Dall sheep occur adjacent to areas where the proposed pipeline traverses the Chugach Mountains, Alaska Range, White Mountains, and Brooks Range. In the Brooks Range the pipeline route bissects habitat now occupied by sheep along the Dietrich and Atigun Rivers. Construction in these areas should be restricted during the lambing period from mid-May to mid-June.

Since the Dall sheep is hunted primarily as a trophy animal an increase in hunting pressure along the Brooks Range segment of the pipeline should not endanger the sheep population, but the number of trophy class males could be quickly reduced.

#### Grizzly Bear (Ursus arctos)

Grizzly bears may be found along the entire pipeline route. Since Alaska is the last stronghold for this species in the United States special care must be taken to protect them.

Grizzly bears are readily attracted to garbage dumps or areas with improper food storage. This species is highly unpredictable and should never be encouraged to frequent temporary or permanent camps. To prevent unnecessary killing of grizzly bears every effort should be made to enforce sound food storage and waste disposal practices. All organic materials, including their containers should be incinerated before final disposal. During the summer of 1969 many grizzly bears were attracted to improper garbage dumps at oil drilling pads on the North Slope. Unfortunately, several bears were killed before indiscriminate garbage disposal activities could be corrected.

The grizzly bear is for the most part an animal of tundra, grassland and other open habitat types, as contrasted to open forest types preferred by the black bear. Therefore they are vulnerable targets for the hunter.

### Moose (Alces alces)

Moose occur commonly along the proposed pipeline route from Valdez to the Sagavanirktok River.

As proposed, pipeline construction will have only a limited adverse effect upon the moose populations presently existing along the pipeline route.

North of the Brooks Range the destruction of some stands of riparian willow is inevitable and will result in the elimination or reduction of local moose populations. The magnitude of the problem is dependent upon the extent that construction operations occur in the flood plain of rivers.

All pipeline excavation should be followed by immediate backfill to eliminate hazards to resident moose and to other moose during spring and fall seasonal movements. Spring movements usually occur from April through June and fall movements occur from September through October.

### Mountain Goat (Oreamnos americanus)

Mountain goats occur adjacent to the proposed pipeline route from Valdez to Copper Center.

No major conflicts with mountain goats are anticipated during pipeline construction.

### Wolf (Canis lupus)

Wolves occur along the entire pipeline route.

Construction of the pipeline, providing refuse disposal and other guidelines are followed, should not introduce additional hazards to this troubled species.

### Wolverine (Gulo luscus)

Wolverines occur along the entire pipeline route.

The comments pertaining to wolves fully covers the required safeguards for wolverine.

## SMALL GAME

The pipeline will transect alpine, boreal, and tundra habitats, each with its typical group of inhabitants. Even with successful revegetation, the right-of-way will support fewer wild animals than before. However, the direct loss of animal production will be economically and ecologically negligible if reasonable care is taken to prevent erosion and petroleum spillage. The pipeline will not destroy the living space of any rare species we know of and will eliminate only a minute fraction of the production of common species of birds and small mammals.

Rabies is a common disease of the Arctic fox (Alopex lagopus) and the red fox (Vulpes fulva) in Alaska. The disease is spread most rapidly in winter when their food supply is limited and the animals concentrate at places where food is available. Both species are readily attracted to garbage dumps. For the safety of all personnel working along the pipeline every effort should be made to enforce sound food storage and waste disposal practices and to prohibit feeding or otherwise attracting foxes.

## PUBLIC ACCESS AND ESTHETICS

The Alaska Department of Fish and Game is obligated under the Constitution of the State of Alaska to provide a sustained yield of wildlife for the people of the State. Game management plans for some species have long been handicapped by a lack of public access. A rapidly growing human population has further compounded this problem. The need for more public access is obvious, but it must be added carefully, without destroying the quality of the natural environment through which it passes. The esthetic integrity of existing access must also be retained.

If the pipeline stipulations are strictly adhered to, new public access will be provided and existing roads, trails, and other rights-of-way will be protected.

The Alaska Department of Fish and Game Trail Index Project is attempting to establish a 50 foot right-of-way along all established trails in the State. Each trail dedicated under this system will have guaranteed public access in perpetuity.

The following trails intercept the proposed pipeline route and have been wholly or partially dedicated under this program:

1. Red Mountain Trail (T3S, R1E CRM - Milepost 73 Richardson Highway - Map 1).
2. Tonsina Lake Trail (T3S & 4S, R1W CRM - Milepost 74.2 Richardson Highway - Map 1).
3. Rock Creek Trail #2 (T1S, R1E CRM - Milepost 85.8 Richardson Highway - Map 1).
4. Rock Creek Trail (T1S, R1E CRM - Milepost 86.1 Richardson Highway - Map 1).

5. Klutina Boat Landing (T2N, R1E CRM - Milepost 100.4 Richardson Highway - Map 1).
6. Klutina Pioneer Access Road (T2N CRM - Milepost 102 Richardson Highway - Map 1). There are several trails that branch off this access road which will also be affected by the pipeline.
7. Bear Creek Trail (T6N, R1W CRC - Milepost 126.1 Richardson Highway - Map 2).

Trails 1, 2, 3, 5, and 6 are dedicated along their entire route. Trails 4 and 7 have entries at the junction of the trail and the Richardson Highway. Other trails intercepting the proposed pipeline route will be described and dedicated as time allows.

It is imperative that all access routes (existing and proposed) crossing the pipeline right-of-way remain open to public access during and after construction of the pipeline.

#### FUTURE IMPACT

Perhaps the greatest impact to wildlife and wildlife habitat will occur after the Trans-Alaska Pipeline System has been installed. Current Arctic engineering technology requires above ground pipeline construction techniques on most terrestrial areas away from streamside alluvium deposits. Therefore, the feeder lines, which must be constructed between individual oil well sites and the TAPS pipeline, to make the latter line functional, may result in the loss of large areas of wildlife habitat on the North Slope, plus inhibiting animal movements.

At any time after crude oil starts flowing in the pipeline system there will be hundreds of thousands of gallons of potential pollutant available under tremendous pressure. Pipeline breaks or leaks could cause pollution of lands and water that would be indescribable.

At the pipeline terminus in Valdez, continuous transfer of crude oil from shore to ship will present a continuous oil pollution hazard. Subsequent movement of the crude oil by ship between Alaska and the continental United States will also be a continuing hazard to marine and coastal fauna of the United States and Canada.

#### SUMMARY

If the U.S. Department of Interior, Trans-Alaska Pipeline Stipulations are strictly enforced minimum hazards to wildlife populations are anticipated during the construction period.

Increased public access resulting from pipeline construction will improve recreational opportunity. Increasing input from resource agencies will be required to monitor growing resource utilization during the post construction period.

The potential hazards to wildlife will be great during and after the period of feeder line construction unless Arctic engineering technology can be improved. Potential oil pollution from the Trans-Alaska Pipeline System remains as the greatest single hazard to wildlife.