Senecio congestus dominated the 50 to 70 percent vegetative cover found around the sewage outfall . This plant is normally associated with such sites and in brackish conditions across the Arctic (Porsild and Cody 1980). *Salix* spp. and grasses also occurred at this location.

3.5 FAUNA

3.5.1 LARGE MAMMALS

Muskoxen (*Ovibos moschatus*) in this region are from the Great Bear North herd of Management Zone 7 (Urquhart 1982) which was estimated at approximately 4,500 animals in 1980 (Spencer 1980). Urquhart (1982) reports that this herd is increasing and expanding its range after near decimation by the hide trade (Tener 1963). Muskoxen in this region are generally found in the wet meadows bordering water bodies during summer and on wind-swept uplands where snow depths are shallow (Review by Ferguson 1987). Cape Young lies approximately 60 km north of the Rae and Richardson Rivers which has been recognized as an important concentration area of muskox (Ferguson 1987). While a range map indicates that there are no or infrequent sightings in this area (Urquhart 1982), station personnel occasionally observe muskoxen south of the station.

Four barren-ground caribou (*Rangifer tarandus groenlandicus*) were observed regularly near the aircraft hanger during the site visit. One of these animals had an infection on the side of its head, was acting lethargic, and was found dead at the end of the site visit. Caribou in this region are known to move northward in early spring after wintering primarily within the boreal forest (Graves 1980). This particular group of animals are part of the Bluenose Herd which was estimated at 50,000 to 80,000 animals in 1984. The calving grounds are located approximately 100 km west in an area designated of special interest to the Department of Renewable Resources, Government of Northwest Territories (Ferguson 1987).

Polar bears (*Ursus maritimus*) in this area are within Management Zone H which includes the Beaufort Sea and Amundsen Gulf (Schweinsburg *et al.* 1981). Demaster *et al.* (1980) estimated the total population of the zone in 1977 to 1978 at approximately 2,100 animals. Bears are known to inhabit the southern Beaufort during freeze-up and move northward with retreating ice floes during summer (Schweinsburg *et al.* 1981). Polar bears from eastern Alaska are known to migrate through the northwest coast in mid-April (Lentfer 1983). Most maternity denning in the Western Arctic occurs along the west and south coasts of Banks Island; to a lesser degree on the western peninsulas of Victoria Island and little denning occurs on the mainland coast (Stirling *et al.* 1975). Records of polar bear encounters at this station indicated that the species is not normally seen at the site. Such encounters were rare particularly when compared to the eastern DEW Station sites (Stenhouse *et al.* 1988).

Grizzly bears (*Ursus arctos*) occur throughout the majority of mainland Northwest Territories (Britton and Graves 1985) and pingos in the area have been used as denning sites. Station personnel reported that a grizzly bear had been observed nearby approximately two years ago.

3.5.2 OTHER TERRESTRIAL MAMMALS

Fresh tracks, droppings, and observations of two animals indicated that arctic fox (*Alopex lagopus*) were using the immediate vicinity of the station. These animals were probably attracted by artificial food sources (landfill, litter) as foraging around construction camps is common (Eberhardt *et al.* 1982). A search of the area located a den approximately 2 km east of the site near the water supply lake in typical habitat (Smits *et al.* 1988). Home range size with territories overlapping petroleum development facilities in the Canadian Arctic have been reported as 20.8 km^2 and 3.7 km^2, for adults and juvenile arctic fox respectively (Eberhardt *et al.* 1982).

Arctic ground squirrels (*Spermophilus parryii*) were occasionally observed south of the site. Other Small mammals were not observed at this site, although burrows indicated that collared lemming (*Dicrostonyx torquatus kilangmiutak*) and brown lemming (*Lemmus sibiricus*), may occur.

3.5.3 MARINE MAMMALS

The Eastern Arctic population of beluga whales (*Delphinapterus leucas)* migrate westward through Lancaster Sound into Parry Channel from Baffin Bay after ice-break-up in the spring (June to July)(Read and Stephansson 1976). At this time, most marine mammals concentrate in the main channel of Lancaster Sound with diminished numbers migrating to Barrow Strait, and few or none penetrating into Viscount Melville Sound. The annual migration route leads into the Franklin Strait and around Prince of Wales Island with periodic migration to King William Island. It has been estimated that 10,000 beluga migrate into west Lancaster Sound, Barrow Strait and Prince Regent Inlet each spring (Sergeant and Brodie 1975) and leave in September following a route along the south coast of Devon Island (Arctic Pilot Project 1979). Preferred summer habitats and areas of major concentrations of beluga are north of the study area, adjacent to Prince of Wales and Somerset Islands.

In the Western Arctic, the Beaufort Sea supports a significant population of beluga whales (McLaren and Davis 1985). There is a major summering area for belugas along the Mackenzie River Delta.

Any sightings of belugas in the vicinity of Cape Young would probably represent strays from either the Franklin Strait migration route or possibly from the Beaufort Sea (Arctic Pilot Project 1979; Spencer 1983; McLaren and Davis 1985).

Narwhals (*Monodon monoceros*) are primarily found in the Eastern Arctic and have a similar summer migration route as the beluga; although, they may enter Lancaster Sound somewhat later in the spring (Sergeant and Hay 1978). Population estimates of narwhals entering Lancaster sound in May are between 20,000 and 30,000 (Davis *et al.* 1977). Any sightings of narwhals in the vicinity of Cape Young would most likely represent strays from the Franklin Strait migration route (Arctic Pilot Project 1979; Spencer 1983).

Populations of the rare and endangered bowhead whale (*Balaena mysticetus*) occur in waters of both the Eastern and Western Arctic. The whales of the Eastern Arctic migrate into Lancaster Sound in June and July. It is unlikely to be encountered in the study area, preferring, like the narwhal, the fiords of northern Baffin Island during the summer (Arctic Pilot Project 1979).

No whales were observed during the site visit but personnel reported that whales (unidentified) are often sighted during mid-summer.

During the open water season (summer), walrus (*Odobenus rosmarus*) concentrate in Lancaster Sound in the vicinity of southwest Devon Island in numbers of less than 400 animals (Sergeant and Hay 1978). Walrus are unlikely to be seen in the Lady Franklin Point area since only periodic migrations are made south of Somerset Island (Read and Stephansson 1976). Walrus haul-out sites are found on the eastern sides of Somerset Island and the Boothia Peninsula.

Due to annual ice conditions in the Central Arctic, most marine mammals either do not penetrate into, or migrate from Lancaster Sound by September prior to freeze-up. An exception are the seals which occur year-round in the region although, depending on the species, there are shifts in distribution in relation to preferred ice habitats. The two most common seal species, bearded (*Erignathus barbatus*) and ringed (*Phoca hispida*) seals, extend southward into Queen Maud Gulf (Read and Stephannson 1976). The least common species, the bearded seal, is known to summer around Jenny Lind Island and the Royal Geographical Society Islands (Read and

Stephansson 1976). However, in general, on south Victoria Island, 99 percent of seal sightings comprise ringed seals (A.W. Mansfield, pers. comm.) and are hunted regularly during spring and summer (Parmalee *et al.* 1967). Station personnel reported that seals are sighted in early spring at Cape Young.

In contrast to bearded seals which prefer offshore areas of shifting pack-ice, ringed seals are likely to be encountered nearshore, in areas of fast, first-year ice (Arctic Pilot Project 1979). Ringed seals summer throughout the Central Arctic including Victoria Strait and the Queen Maud Gulf (Read and Stephansson 1976). Coastal densities of 0.69 ringed seals per km^2 have been recorded in the Central Arctic (Smith *et al.* 1979). Ringed seals are also common throughout the open water areas of Victoria Strait throughout the winter. During and after spring break-up, large numbers of ringed seals move into coastal bays for pupping and breeding (Read and Stephansson 1976).

3.5.4 RAPTORS

A nesting pair of the endangered Peregrine Falcon (*Falco peregrinus tundrius*) was observed on a low ridge at the edge of Harding River valley, approximately 8 km south of the station. This nest site is approximately 500 m east of the winter water supply and station personnel reported that it has been occupied for the last two to three years. Snowy Owl (*Nyctea scandiaca*), Golden Eagle (*Aquila chrysaetos*), Rough-legged Hawk (*Buteo lagopus*), and Gyrfalcon (*Falco rusticolus*) are known to occur on Victoria Island (Godfrey 1986) but were not observed during the site visit. It is noteworthy that Cape Young is located 100 km north of the Coppermine River which contains a relatively high density of nesting raptorial species (Ferguson 1987). This area has been recognized as being an Area of Special Interest to the Government of the Northwest Territories.

3.5.5 WATERFOWL

One Red-throated Loon (*Gavia stellata*) and a pair of Pacific Loons (*G. pacifica*) were observed on ponds south of the site. Yellow-billed Loons (*G. adamsii*) are also known to inhabit this region (Godfrey 1986), but were not observed. In the same area were a pair of Canada Geese (*Branta canadensis hutchinsii*) with four young. Both Common Eider (*Somateria mollissima*) and King Eider (*Somateria spectabilis*) were observed in nearshore ice. Station personnel reported that a small number of Common Eider had arrived earlier than usual that spring and many had perished during a subsequent cold period. A dead male Common Eider was found during the site visit. Five Red-breasted Merganser (*Mergus serrator*) were also found near shore north of the site.

3.5.6 OTHER AVIFAUNA

Observations of shorebirds were limited to occasional sightings of Semipalmated Sandpiper (*Calidris pusilla*), Lesser Golden Plover (*Pluvialis dominica*), and Semipalmated Plover (*Charadrius semipalmatus*). Lapland Longspur (*Calcarius lapponicus*), Snow Bunting (*Plectrophenax nivalis*), and Horned Lark (*Eremophila alpestris*) occurred in the vicinity of the station.

A single Glaucous Gull (*Larus hyperboreus*) was observed near the landfill. Two Parasitic Jaeger (*Stercorarius parasiticus*) and two Long-tailed Jaeger (*S. longicaudus*) were occasionally seen during the site visit.

3.5.7 FISH

Stewart and Bernier (1983) have reviewed the aquatic resources of nearby Victoria Island and reported anadromous Arctic char (*Salvelinus alpinus*), lake trout (*Salvelinus namaycush*), least cisco (*Coregonus sardinella*), Arctic cisco (*C. autumnalis*), lake whitefish (*C. clupeaformis*), fourhorn sculpin (*Myoxocephalus quadricornis*), and the ninespine stickleback (*Pungitius Pungitius*). Lake trout is the most common species in many of these inland, freshwater lakes but a viable winter commercial fishery has not been developed. However, Arctic char is fished commercially by both communities on Victoria Island and was considered to be the largest char fishery in the Northwest Territories in the early 1980's. Station personnel do not fish in nearby rivers and report poor success in the past.

3.6 HERITAGE RESOURCES

During the reconnaissance of the PIN-2 station and associated facilities, two previously recorded sites were revisited. Heritage sites are located on Figure 3.2. One of these is a tent ring site, currently undisturbed. The other site, originally described as consisting of caches, comprises four clusters of nearly 100 individual features including pits, caches and tent rings. There are a number of more recent features in the area including a trapper's shack associated with an unmarked wooden cross and a possible tent ring. Three additional features were observed along an access road to the Harding River. These consisted of a wooden structure, a stone alignment indicating a possible foundation, and the burned remains of another structure.

It is likely that continued use of the facility areas will result in impact to the identified site areas. Decommissioning of the station may affect some of these sites. It is recommended that a mitigative archaeological program be implemented with the objective of detailed recording, assessment, and possibly full excavation of the identified features which may be affected.

A separate report documenting the heritage resources study on the site has been filed with the Prince of Wales Northern Heritage Centre with copies to the USAF and DND (Fedirchuk et al, 1990).

3.7 LAND USE

No special conservation land status has been designated at this site.