

## 3.6 Wildlife

### 3.6.1 Existing Conditions

#### 3.6.1.1 Proposed Plant Site, Access Roads, and Construction Laydown Areas

The access roads, compression station and construction laydown areas are located inside the BP Cherry Point Refinery fenceline and the proposed plant site is located adjacent to the refinery along the northeast fenceline, and as such represents a 7% expansion of the area occupied by the Refinery. The area surrounding the Refinery and the project site is zoned for Heavy Impact Industrial use. Dominant vegetation is herbaceous wetland and upland grasses that occur in patches throughout the site (Figure 3.6-1). Micro-topographic changes at the plant site and construction laydown areas result in the occurrence of wetlands in areas that are more topographically depressed, and thus closer to groundwater. The majority of the plants are facultative or facultative wetland species as discussed in the previous section.

In addition to the herbaceous wetland and grassland components, upland of Himalayan blackberry thickets occur in areas that are slightly raised topographically. These thickets occur most often along the east and west perimeter of Wetland D and within upland patches near Wetlands B and C, often mixed with planted immature Douglas fir (see Figure 3.6-1). In addition to those upland communities, BP planted hybrid poplar trees along Grandview Road that extend into the proposed plant footprint. Due to rodent infestation and wetland conditions throughout a large portion of the site, the hybrid poplar and Douglas fir trees have been replanted numerous times and their success is limited to a few patchy areas.

Forested areas occur in the vicinity of the proposed plant site, but do not occur within the plant site footprint, access road corridors, or within the construction laydown areas. The forested areas are classified within the Fraser lowland ecological zone (Johnson and O'Neil, 2001) and lies within the western hemlock (*Tsuga heterophylla*) zone, which is characterized by a wet, mild, maritime climate (Franklin and Dyrness, 1988). See Section 3.4, Wetlands and Vegetation for a more detailed description of vegetation types.

Animals that are likely to use the grassland/wetland-dominated habitat within the proposed project area include songbirds, American robin, small mammals (rodents and insectivores), black-tailed deer, and coyote. The plant site area serves occasionally as a connectivity route for large mammals that traverse the property to gain access to the forested areas south of Brown Road (see Figure 3.6-1). There are local populations of both deer and black bear within the vicinity of the proposed project, mainly south of Brown Road in forested areas. The open nature of the plant site is a relatively effective barrier for most big game species, as they prefer to spend most of their time in areas of cover. Neither of these species is migratory in the area. The main species of migratory birds within the vicinity of the proposed project are passerines. They will tend to follow the tree and brush line during movement between foraging, nesting, and roosting areas. Shorebirds follow the coastline and would frequently drift inland near the project site. No mass bird migrations were observed during wetland or other habitat surveys.

Construction laydown areas, with the exception of Area 4 (Figure 3.6-2) are not used extensively by large mammals due to the open nature of the site and to the barrier

created by the chain-link fencing surrounding the Refinery. Migratory bird use is consistent with that of the proposed plant site area and is likely limited to passerines.

The Washington Department of Fish and Wildlife (WDFW) was consulted to determine the presence of priority habitats and species (PHS) within the proposed project vicinity. WDFW defines all wetlands to be “priority habitats.” Priority wetland habitats were identified in two polygonal areas within the boundaries of the proposed project site. Additional priority wetland and riparian habitat areas were identified in and along Terrell Creek, which flows within a half mile to the east and to the north of the proposed project site. Priority anadromous and resident fish species occurring in Terrell Creek are presented in Section 3.7, Fisheries.

Lake Terrell is located approximately one mile southeast of the proposed project site and is known to have associated priority wetland habitat and numerous priority species. According to the WDFW Whatcom County Habitats and Species Map (WDFW, 2001), Lake Terrell is considered to be a priority habitat area for the bald eagle (*Haliaeetus leucocephalis*), which is listed under the Endangered Species Act as “threatened,” and Lake Terrell is a site for both state endangered and state sensitive species. The lake and surrounding wetland areas serve as breeding grounds for bald eagles, common loons (*Gavia immer*) (state sensitive species), and wood ducks (*Aix sponsa*) and support regular large concentrations of waterfowl. The WDFW Priority Habitats and Species database (2001) identifies areas in the vicinity of the proposed project location as habitat for several priority species. Cherry Point Pacific herring (*Clupea pallasii*), a state candidate species, and their spawning areas occur along the shoreline habitat in Birch Bay and from Point Whitehorn south past Cherry Point. Birch Bay, approximately 1.5 miles northwest of the proposed project location, is known to support relatively high concentrations of great blue heron (*Ardea herodias*) nests. BP donated 180 acres of land to the conservation trust to protect the heron population. Trumpeter swans (*Cygnus buccinator*), considered priority species in Washington, are known to occur in areas surrounding Lake Terrell.

The WDFW PHS database also indicated that two gray wolves (*Canis lupus*) were reported near the proposed project location in 1991. Although there are occasional reports of wolf sightings in the state, there are no documented wolf breeding pairs or packs currently in the state (Curt Leigh, Habitat Biologist, WDFW pers. Comm., 2001a). The WDFW believes that sightings here involve lone wolves from Canada or wolf/dog hybrids that have been released into the wild (WDFW, 1999; Curt Leigh, 2001a).

USFWS was consulted to determine if any federally listed threatened or endangered species were known to occur in the immediate project vicinity (See Letter Attachments in the BE, Appendix A). ~~In a letter dated June 21, 2001, the~~ [Based on the NMFS Internet site, correspondence with USFWS, and the Washington Department of Fish and Wildlife \(WDFW\), USFWS responded that the](#) listed following [listed](#) species may occur in the vicinity of the project area:

- Wintering bald eagles (*Haliaeetus leucocephalis*)
- Bull Trout (*Salvelinus confluentus*)
- ~~Foraging marbled murrelets (*Brachyramphus marmoratus*) may occur in the ocean waters adjacent to the project~~
- [Chinook salmon \(\*Onchorhynchus tshawytscha\*\)](#)

- [Coho salmon \(\*Onchorhynchus kitutch\*\)](#)

Additionally, the following federal species of concern may occur in the vicinity of the project (USFWS, 2001):

- Long-eared myotis (*Myotis evotis*)
- Long-legged myotis (*Myotis volans*)
- Olive-sided flycatcher (*Contopus cooperi*)

NMFS has identified the following listed species as occurring in Puget Sound:

- Humpback whales (*Megaptera novaeangliae*)
- Steller sea lion (*Eumetopias jubatus*)
- Leatherback sea turtle (*Dermochelys coriacea*)

The following sections present species accounts for those listed, state sensitive and candidate species identified to potentially occur within the proposed project area. Discussion regarding bull trout, [Chinook salmon, and Coho salmon](#) is presented in Section 3.7, Fisheries.

A summary of listed, candidate, species of concern, state priority and state sensitive wildlife species that may be present in the vicinity of the proposed project is given in Table 3.6-1.

TABLE 3.6-1

Listed, Candidate, Species of Concern, State Priority and State Sensitive Wildlife Species  
that May Occur in the Proposed Cogeneration Project Area or the Immediate Vicinity  
and Their Status

<b>Common Name</b>	<b>Scientific Name</b>	<b>Federal Status</b>	<b>State Status</b>
Bald eagle	<i>Haliaeetus leucocephalus</i>	Threatened	Threatened
Marbled murrelet	<i>Brachyramphus marmoratus</i>	Threatened	Threatened
Humpback whale	<i>Megaptera novaeangliae</i>	Endangered	Endangered
Stellar sea lion	<i>Eumetopias jubatus</i>	Threatened	Threatened
Leatherback sea turtle	<i>Dermochelys coriacea</i>	Endangered	Endangered
Long-eared myotis	<i>Myotis evotis</i>	Species of Concern	Monitor Species
Long-legged myotis	<i>Myotis volans</i>	Species of Concern	Monitor Species
Olive-sided flycatcher	<i>Contopus cooperi</i>	Species of Concern	None
Trumpeter swan	<i>Cygnus buccinator</i>	None	Priority Species
Common loon	<i>Gavia immer</i>	None	Sensitive
Great blue heron	<i>Ardea herodias</i>	None	Monitor Species

3.6.1.2 Listed Species

**Species:** Bald eagle (*Haliaeetus leucocephalus*)

**Status:** State Threatened, Federally Threatened

The bald eagle occurs along rivers that have appropriate prey species or carrion including anadromous and warm-water fish, small mammals, and waterfowl (Stalmaster, 1987). Bald eagles may use the area for fly-overs because of the close proximity to Lake Terrell and the Georgia Strait, but they are unlikely to use the area for foraging based on lack of prey items and unsuitable perch structures.

The WDFW PHS database and the resident wildlife manager at Lake Terrell, Tom Reed has identified several bald eagle breeding sites within 2 miles of the study area (Tom Reed, pers. Comm., 2001b). The closest nest is located approximately 1.2 miles northwest of the site near Meridian Road and Birch Bay. Another breeding occurrence is located approximately 1.5 miles southeast of the study area along the shores of Lake Terrell. Sixteen breeding occurrences have been reported from Lake Terrell vicinity (WDFW PHS, 2001).

No bald eagles were observed on the proposed project site or within the immediate vicinity. The proposed project site is located within an area zoned for heavy industry (Whatcom County Code, 2001) and is adjacent to the BP Cherry Point Refinery.

**Species:** ~~Marbled murrelets (*Brachyramphus marmoratus*)~~

Status: ~~Federally Threatened, State Threatened~~

~~The marbled murrelet is a small seabird that nests in the coastal, old-growth forests of the Pacific Northwest. The species' range extends along the Pacific coast from the Bering Sea to central California, with the largest populations occurring in southeastern Alaska and northern British Columbia (BERGER/ABAM Engineers, 2000).~~

~~Foraging marbled murrelets may occur in the ocean waters off Cherry Point, near the proposed project site. There would be no impact to ocean waters as the plant site is approximately 1 1/2 miles from the Strait of Georgia. ENSR (1995) conducted a study on the use of the ARCO Marine Terminal vicinity by marbled murrelets and other marine birds in 1995. During this study, nine murrelets or fewer (because of possible resightings of resident individuals) were observed using the "deepwater zone" defined by ENSR as that portion of the study area 1,300 to 2,300 feet from shore. This zone includes the vessel moorage locations at the ARCO Marine Terminal. These birds were seen from late July through late September. Prior to this study, surveys conducted in 1993 found no murrelets in the vicinity of the project (ENSR 1995 as cited in BERGER/ABAM Engineers, 2000).~~

**Species:** **Humpback whales (*Megaptera novaeangliae*)**

Status: Federal Endangered, State Endangered

In the North Pacific along the mainland coast, humpbacks travel in distinct stocks from their tropical wintering grounds, around islands and continental coasts to the edges of polar ice zones. Humpback whale sightings are a common occurrence along the Washington outer coast, with occasional sightings in the Strait of Juan de Fuca (Everitt et al., 1980). There have been only two or three sightings in Washington inland waters in the last 10 years (Norberg 2000, as cited in BERGER/ABAM Engineers, 2000)

**Species:** **Steller sea lion (*Eumetopias jubatus*)**

Status: Federal Threatened, State Threatened

These large mammals occur along the Pacific near rocky shores and coastal waters along them. There are no known breeding or haulout sites for sea lions in the Cherry Point vicinity. The nearest haulout location for sea lions is on Sucia Island, about 9 miles southwest of Cherry Point (Norberg 2000, as cited in BERGER/ABAM Engineers, 2000).

**Species:** **Leatherback sea turtle (*Dermochelys coriacea*)**

Status: Federal Endangered, State Endangered

The leatherback sea turtle is the largest of all living marine turtles and is also the most endangered. Gill net fishing has caused detrimental declines in populations worldwide and it is believed that the species is on the brink of extinction. Leatherbacks nest in tropical waters, but may occur off the North Pacific coast. Sightings in Washington

waters have been rare with only one or two unconfirmed sightings off the outer coast of Washington in the last 10 years (Norberg 2000, as cited in BERGER/ABAM Engineers, 2000).

#### Federal Species Of Concern And State Candidate Species

**Species:**     **Long-eared myotis (*Myotis evotis*)**  
**Status:**       Federal Species of Concern, State Monitor Species

The long-eared myotis occupies temperate western North America ranging from the southwest north to Saskatchewan, Alberta, and British Columbia of Canada, down along the Pacific coast of North America to the tip of Baja California. The species prefers coniferous forests and roosts in trees, cabins, caves, abandoned mines, and other such sheltered areas.

The herbaceous wetland/grassland dominated habitat most likely limits long-eared myotis use of the plant site and construction laydown areas. Coniferous forests occur near the project site, but would not be affected by construction.

**Species:**     **Long-legged myotis (*Myotis volans*)**  
**Status:**       Federal Species of Concern, State Monitor Species

The long-legged myotis occurs throughout much of western North America, from central Mexico to extreme northwestern British Columbia and from the Pacific Coast to the western margins of the Great Plains. The long-legged myotis is primarily a coniferous forest bat found in riparian and arid habitats in some areas. They may also shift habitats seasonally. It uses a variety of roosts including abandoned buildings, cracks on the ground, crevices, and spaces beneath tree bark.

Although this bat may occur within the vicinity of the project, there is no habitat for the species within the proposed project site.

**Species:**     **Olive-sided flycatcher (*Contopus cooperi*)**  
**Status:**       Federal Species of Concern

The olive-sided flycatcher's breeding range extends throughout western North America from western and central Alaska and central Yukon, south through the Sierra Nevada Mountains to northern Baja California and through the Rocky Mountains into northern Arizona and western Texas (Field Guide to the Birds of North America, 2001). The species is associated with montane and northern coniferous forests, usually at mid- to high-elevations. Within coniferous forest, they are most often associated with forest openings, forest edges near natural openings (e.g., meadows, bogs, canyons, rivers) or human-made openings (e.g., harvest units), or open to semi-open forest stands

No olive-sided flycatchers were observed in the immediate project vicinity. It is unlikely that the species occurs in the proposed project site.

#### Washington State Sensitive And Priority Species

**Species:**     **Trumpeter swan (*Cygnus buccinator*)**  
**Status:**       Priority Species

Trumpeter swans are the largest of all living swans or waterfowl. They consume aquatic plants and insects, snails. Swans do not nest in Washington and only occur here as wintering migrants.

Trumpeter swans are known to occur in and around Lake Terrell during winter months. Lake Terrell is approximately 2 1/2 miles upgradient (southeast) from the proposed project location.

**Species:**        **Common Loon (*Gavia immer*)**  
**Status:**        State Sensitive

The common loon nests on islands and at the water's edge close to shore. They are known to occur in isolated lakes with large populations of fish. The species has been reported to breed within Lake Terrell.

**Species:**        **Great Blue Heron (*Ardea herodias*)**  
**Status:**        State Monitor Species

The great blue heron occurs in a variety of fresh and salt water environments. They nest atop high platforms in rookeries that often support a large number of individuals. They feed on aquatic and marine animals found in shallow waters and mudflats. The closest great blue heron nest is near Birch Bay, approximately 1.5 miles northwest of the proposed project site on land that was placed in a conservation trust by BP.

**TABLE 3.6-2**

Animal Species Observed or that May Potentially Occur Within the  
Cherry Point Cogeneration Project Area

<b>Common Name</b>	<b>Scientific Name</b>
<b>Birds</b>	
Bald eagle	<i>Haliaeetus leucocephalus</i>
Marbled murrelet	<i>Brachyramphus marmoratus</i>
Olive-sided flycatcher	<i>Contopus cooperi</i>
Trumpeter swan	<i>Cygnus buccinator</i>
Common loon	<i>Gavia immer</i>
Great blue heron	<i>Ardea herodias</i>
Song sparrow	<i>Melospiza melodia</i>
Red-tailed hawk	<i>Buteo jamaicensis</i>
Crow	<i>Corvus brachyrhynchos</i>
Raven	<i>Corvus corax</i>
Common yellowthroat	<i>Geothlypis trichas</i>
American robin	<i>Turdus migratorius</i>
Dark-eyed junco	<i>Junco hyemalis</i>
<b>Mammals</b>	
Black bear	<i>Ursus americanus</i>
Black-tailed deer	<i>Odocoileus hemionus</i>
Coyote	<i>Canis latrans</i>
Masked shrew	<i>Sorex cinereus</i>
Raccoon	<i>Procyon lotor</i>
Northern pocket gopher	<i>Thomomys talpoides</i>
Deer mice	<i>Peromyscus maniculatus</i>
Humpback whale	<i>Megaptera novaeangliae</i>
Stellar sea lion	<i>Eumetopias jubatus</i>
Long-eared myotis	<i>Myotis evotis</i>
Long-legged myotis	<i>Myotis volans</i>
<b>Amphibians And Reptiles</b>	
Red-legged frog	<i>Rana aurora</i>
Garter snake	<i>Thamnophis sirtalis</i>
Leatherback sea turtle	<i>Dermochelys coriacea</i>

**3.6.1.3 Transmission Line**

According to the WDFW PHS database (WDFW, 2001), several priority wildlife species and habitats are known to occur within the vicinity of the proposed project area, including the transmission line corridor. Vegetation within the corridor, consisting of mixed conifer and hardwood forest, is more diverse than that within the proposed plant site and construction lay down areas. The increase in the diversity of vegetation types results in an increase in the number of species that utilize the area. In addition to those priority species aforementioned, species that may occur within this area include mule deer, coyote, red-tailed hawk, and several species of woodpecker.

### 3.6.2 Environmental Impacts of the Proposed Action

Approximately ~~28.5533.50~~ acres of ~~former grassland uplands~~ -and ~~33.1535.37~~ acres of low value wetland ~~will be impacted~~~~would be lost~~ due to construction of the Project, access roads, and associated construction laydown areas. ~~In the upland area there are~~ ~~Approximately 7.25 acres of blackberry communities mixed with immature planted Douglas fir trees, 19.7 acres of grassland, and 0.51.5 acres of hybrid poplar trees, and 1.20 acres of blackberry community farming~~ habitat ~~that will be impacted~~~~would be lost~~ due to construction of the plant. ~~The remaining upland areas are existing impervious surfaces.~~

BP proposes to mitigate the loss of wetlands by creating wetlands or enhancing the existing wetlands and habitats on the north side of Grandview road. Because existing conditions in the area to be used for the Project do not provide high-quality habitat for wildlife species, impacts to wildlife as described below, are not anticipated to be significant.

#### 3.6.2.1 Impacts to Federally Listed Species

A Biological Evaluation (BE) has been prepared for the proposed Cogeneration Project (Golder Associates, ~~20022003~~; Appendix H). The BE discusses impacts to federally listed species. The Cogeneration Project will not adversely impact any federally listed species or their habitat. The following *recommended* determinations for the effects on listed species are made in the BE.

- Humpback whale – Endangered – No effect
- Leatherback sea turtle – Endangered – No effect
- Steller sea lion – Threatened – No effect
- Bald eagle – Threatened – No effect
- ~~Marbled murrelet – Threatened – No effect~~

Pursuant to the provisions of the Bald Eagle Protection Act (prohibiting the take, transport, sale, barter, trade, import and export, and possession of eagles, making it illegal for anyone to collect eagles and eagle parts, nests, or eggs without a permit), bald eagles and their habitat will not be adversely affected by construction and operation of the proposed project. Existing conditions are relatively disturbed and bald eagles do not use the immediate project area for roosting or wintering.

~~Marbled murrelets, humpback~~ Humpback whales, stellar sea lions, and leatherback sea turtles do not use the project area and would not be affected by the Cogeneration Project.

#### 3.6.2.2 Construction

There would be no significant impacts to any state listed species, species of concern, state priority and state sensitive species or their habitat as a result of construction of the plant. Disturbances to wildlife as a result of noise produced by equipment or the presence of construction workers would be temporary, and generally not significant.

Unfamiliar noise tends to keep animals (mainly birds and large mammals) away from the immediate area during the construction period.

Potential impacts due to erosion and sedimentation are not likely. The area does not have a high erosion factor and stormwater detention ponds would trap and filter runoff due to construction activities and operation of the proposed facility.

### 3.6.2.3 Operation

Loss of habitat would not likely result in significant impacts to species that currently inhabit the proposed project area. Small mammals, amphibian and reptile species would be displaced, but would likely migrate to nearby areas. The proposed plant site would represent a 7% area expansion to the existing 450-acre Refinery site. Wildlife has coexisted with the Refinery for over 30 years and has adapted to impacts such as noise and habitat fragmentation. Because the Cogeneration Plant is an incremental addition to the existing refinery, it is not expected to result in a significant change in noise or habitat. Large mammals occasionally use the plant site as a connector to the forested areas south of the site; however, the plant would not block wildlife movement corridors, as areas to the east would still be available for species use. It is likely that larger mammals use the area to east of the plant site more extensively because it is further away from the Refinery fence boundary. Wetland mitigation and other habitat improvements north of Grandview Road will also compensate for impacted habitat.

The Migratory Bird Treaty Act (MBTA) governs the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts and nests. Potential impacts are posed to migratory and resident birds as a result of transmission line collision and electrocution. A study recorded that the incidence of avian flight collisions ranged from 0.87 to 2.83 per 1000 flights for species with greater than 100 observed flights (Winning and Murray, 1997). The project will use BPA standards for the construction of the transmission lines and towers.

### **3.6.3 Environmental Impacts of the No Action Alternative**

There would be no impact on existing low-quality wildlife resources if no action were to occur at the project site. However, without the project, enhancement of existing wetlands would not occur. The proposed mitigation for impacts to wetlands would result in the enhancement of low-value wetlands and enhancement and creation of new wetlands north of Grandview Road. This enhancement would benefit wildlife species that currently use the area and would likely attract a more diverse assortment of wildlife species. In addition, existing waterfowl ponds and wetland mitigation areas would be connected through corridors to the enhanced wetland area. This would result in an increase in habitat quality and use by wildlife species.

### **3.6.4 Mitigation Measures**

The following sections describe the mitigation measures that have been proposed and recommended for the proposed Cogeneration Project.

#### 3.6.4.1 Construction

A portion of the construction laydown area would be restored following construction as part of the wetland mitigation proposal to be submitted at a later date. These restored areas would generally be located just south of Grandview road providing wetland, wildlife habitat, and a visual buffer, between the Cogeneration Project and Grandview Road.

#### 3.6.4.2 Operation

Potential impacts to migratory birds may be mitigated through a variety of measures. USFWS has developed guidelines to aid in the reduction of fatal bird collisions with prominent structures, including HRSG stacks. The primary mitigation measure applicable to the proposed project is to use best engineering practices and construct the transmission towers at the minimal height allowable with no guy wires or lighting to avoid impacts to birds. The transmission lines and tower design would be defined by the BPA interconnection agreement.

In addition, the HRSG stack will not be lighted. Some studies, including one performed on Ontario Hydro's two HRSG stacks, suggest that the use of lights on HRSG stacks actually attracts birds and may increase fatalities (Bartlett-Glenn, 2000).

Other mitigation measures may include:

- [Reusing the once through cooling water available through a reuse project with the Whatcom County PUD and the Alcoa aluminum smelter in the cooling tower to reduce freshwater requirements.](#)
- Reusing the Cogeneration Project boiler blowdown water in the [refinery-cooling tower](#) to reduce freshwater makeup and wastewater discharge.
- Directing stormwater runoff around the Project site through grassy swales to maintain flow and water quality in the same drainage basin.
- Routing stormwater runoff from the Project site that may contact hydrocarbons into the refinery wastewater treatment system.
- Routing clean stormwater runoff from the Project site into detention basins and then into wetland areas to help maintain wetland habitats.

#### **3.6.5 Cumulative Impacts**

The BP Cherry Point Refinery is adjacent to the proposed Cogeneration Project site. In addition, Alcoa Intalco Works, an aluminum smelter; the Phillips Ferndale Refinery; and a number of other industrial facilities are within a few miles of the site. The proposed project area is currently zoned Heavy Impact Industrial and the potential for further development of this area is possible. In identifying and zoning the area Heavy Impact Industrial, Whatcom County anticipated the potential cumulative impacts that may occur in the area. Since the Cogeneration Project represents a small expansion of the Refinery site, the proposed project is consistent with those impacts.

### **3.6.6 Significant Unavoidable Adverse Impacts**

There will be no significant unavoidable adverse impacts to wildlife as a result of construction and operation of the proposed Cogeneration Project.