

The alternate operation access road would pass near the Williams Co. compressor station site. This area is considered developed/residential/industrial, but planted trees and shrubs along the road provide some habitat for bird species not observed in other habitats. Such species include dark-eyed junco, European starling, yellow-rumped warbler, and house finch. This area contains moderate noise levels from the existing compressor station.

3.4.1.5.4 Noxious Weeds

Diffuse knapweed and common mullein are present along the alternate access road routes. Diffuse knapweed is a Class B non-designate weed in Benton County due to its widespread distribution within the County. Common mullein is a monitor species that does not require any containment or control.

3.4.2 ENVIRONMENTAL CONSEQUENCES

3.4.2.1 Methodology

Impacts to biological resources were assessed by first discussing potential impacts for each species or habitat and each project component or alternative. Second, the level of impact was determined for the specific situations of each expected impact. Four factors were considered in the evaluation of the level of biological impacts: magnitude, geographic extent, duration and frequency, and likelihood. The magnitude of impact reflects relative size or amount of an impact. The geographic extent of an impact considers how widespread the project impact might be. The duration and frequency of an impact (whether the impact is a one-time event, intermittent, or chronic) also helps define its limits. The likelihood of an impact (whether the impact is likely to occur) is the final evaluation factor. By considering each of these factors, the evaluation of impacts was kept uniform and systematic. The following impact ratings were used in this section: high (significant), moderate, and low. In general, impacts to individuals within a population are not great enough to be biologically significant, unless only small populations of the species exist. Table 3.4-4 presents these criteria for determining whether biological impacts would be significant or not.

The threatened and endangered species impact assessment is guided by the provisions of the ESA of 1973, as amended. The ESA prohibits the taking (broadly defined) of endangered species within the United States. Any unlawful taking of a threatened or endangered species is considered significant. However, the ESA allows taking that otherwise would be prohibited if such taking is incidental to, and not the purpose of, a lawful activity.

**Table 3.4-4
 Criteria for Determining Significant Biological Impacts**

Impact Rating ^a	Level of Impact			
	Magnitude	Geographic Extent	Duration and Frequency	Likelihood
High (Significant)	High	High or medium	Any level	High
	High	High or medium	High	Medium
Moderate ^b	High	Any level	Medium or low	Medium
	High	Low	Any level	High
	Medium	Any level	Any level	Medium
	Medium	Any level	Any level	High
	High	Any level	Any level	Low
	Low	High	High	High
Low ^b	Low	Medium or low	Any level	High
	Low	Any level	Any level	Medium

^a Threatened and endangered species are not evaluated by these criteria, but by standards established under the ESA of 1973 and subsequent amendments.

^b Moderate and Low impacts are considered less than significant or not significant.

3.4.2.2 No Action Alternative

No construction or other alteration of the plant site, access roads, and transmission lines would occur under the No Action Alternative. Therefore, no project-related impacts to wetlands, special-status species, wildlife, or their habitats would be expected to occur under the No Action Alternative. Effects of existing land uses would continue.

3.4.2.3 Proposed Action

3.4.2.3.1 Plant Site

Habitats

Construction Impacts

Construction of the PGF would have low impacts to habitats by changing the habitat type of the PGF plant site. It would take 44.5 acres out of agricultural production and change the habitat type to developed/residential/industrial. The water supply/wastewater pipeline would be located in agricultural habitat, which would be maintained as such after installation.

Operation Impacts

Because the land adjacent to the plant site is agricultural and would remain in active production, no operational impacts are expected to the habitats in the vicinity of the plant site.

Threatened and Endangered Species

Plants

Construction and operation of the PGF would have no impacts to special-status plant species or their associated habitats.

Wildlife

Construction Impacts. Construction of the PGF would have no impacts to listed wildlife species or their associated habitats. The closest listed species near the plant site are the bald eagles that forage and perch along the Columbia River. The distance between the plant site and the Columbia River shoreline is approximately 0.75 mile. Bald eagles exhibit a range of tolerances to disturbance and noise depending on the past nesting history, previous experience with humans, and the amount of development in an area (Stinson et al. 2001). Stinson et al. (2001) also notes that automobile traffic and noise seem to disrupt bald eagles less than pedestrian traffic such as hikers and fishermen. Bald eagles fly from a perch, capture prey, and then typically feed on the ground. Stinson et al. (2001) recommends a distance of 0.27 mile from human activity and permanent structures. A generally accepted maximum buffer for bald eagle tolerance to disturbance is approximately 0.5 mile (WDFW 2000; Tiller 2002). Construction activities would include increased noise and traffic on the plant site and access road to the northwest, which would all take place outside of a 0.5-mile radius from the Columbia River. Therefore, no impacts to bald eagles are expected.

Operation Impacts. Operation of the PGF would have no impacts to listed wildlife species or their associated habitats. The plant site would produce additional noise to the vicinity (see Section 3.7, Noise), but would not disturb bald eagles along the river because the plant site is further than 0.5 mile away.

Fish

Construction Impacts. Construction of the PGF would have no impacts to listed fish species because no impacts to Fourmile Canyon or the Columbia River would be involved. No stormwater discharge into either watercourse from the construction of the PGF would occur. There are no waterways on the plant site nor are there any surface water connections to either Fourmile Canyon or the Columbia River.

Operation Impacts. Operation of the PGF would have no impacts to listed fish species. Groundwater used for cooling would be withdrawn from the wells onsite, not from the Columbia River. The PGF would require a maximum of 1,100 acre-feet/year. The plant would receive 960 acre-feet of water from a transferred water right from the Plymouth Farm. The remaining 140 acre-feet/year would be leased from the farm (and up to 200 acre-feet returned to the farm for irrigation). There is no surface connection between the plant site and Fourmile Canyon or the Columbia River. The amount of water used by the plant would not exceed the existing water right; therefore, existing conditions are not expected to change.

Other Wildlife Species

Construction Impacts

Construction of the PGF would have essentially no impacts to other wildlife because the plant site is fallow agricultural land and provides little to no existing habitat value. Wildlife using adjacent habitats or flying through the plant site could be temporarily disturbed and displaced by noise and construction activity.

Operation Impacts

Operation of the PGF would have low impacts to other wildlife in the area. Although the plant would produce additional noise in the area, wildlife species currently using the area are habituated to existing noise from the Williams Co. compressor station, AgriNorthwest grain facility, and BNSF Railway traffic. The additional noise would constitute very minimal impacts to other wildlife. The constructed plant would include one 150-foot high stack that would slightly increase collision potential for bird species. Migrating species would have the highest potential for collisions, especially smaller birds that migrate at night. However, the existing compressor station has two large storage tanks that are approximately 125 feet tall. These existing tanks provide collision potential for waterfowl and other birds. The increase in collision potential with the presence of the new 150-foot stack would be a small increment relative to available space and therefore would have low impacts to other wildlife.

Noxious Weeds

Noxious weeds are not currently located on the plant site. When the construction is complete, much of the site would be paved or graveled and would not provide much habitat for noxious weeds. No significant impacts from noxious weeds are expected.

3.4.2.3.2 Transmission Interconnection

Habitats

Construction Impacts

The transmission interconnection would have low impacts to the habitat along the alignment because the area of impact for each transmission tower would be small (approximately 200 square feet). Four to six new transmission towers would be constructed for the transmission interconnection. Less than 0.1 acre of nonnative grassland would be impacted for tower construction. Construction of the transmission interconnection would also include a maintenance access road. This maintenance road would disturb fallow agricultural land and less than 0.1 acre of nonnative grassland habitat.

Operation Impacts

Since the land adjacent to the transmission interconnection is agricultural and would remain in active production, no operational impacts are expected to the habitats in the vicinity.

Threatened and Endangered Species

Plants

Construction and operation of the transmission interconnection would have no direct impacts to special-status plant species or their associated habitats.

Wildlife

Construction Impacts. Construction of the transmission interconnection would have low impacts to listed wildlife species and their associated habitats. The impacts would be indirect and far below the threshold for significance. Potential impacts to bald eagles from noise and construction activity would be the same as those described for the plant site. In addition, the transmission alignment is north of the plant site, thus increasing the distance between construction activity and bald eagles along the Columbia River thereby decreasing the potential for disturbance. A small amount of grassland habitat that is marginally suitable (due to presence of nonnative species) for Washington ground squirrels and white-tailed jackrabbits would be cleared for construction. No significant impacts to listed wildlife are expected. Impacts to threatened and endangered wildlife and other wildlife species that would result from potential electrocution or collision are discussed below.

Operation Impacts. Operation of the transmission interconnection would have low impacts to listed wildlife species and their associated habitats. The impacts would be indirect and far below the threshold for significance. No additional noise would be associated with operation of the transmission line. Because the transmission interconnection would include four to six new towers and associated conductors, operation of the transmission line would include an increased potential for impacts to bald eagles and ferruginous hawks by collision or electrocution.

Collisions and electrocutions associated with transmission lines occur infrequently and are rarely a source of mortality for raptors such as bald eagles and ferruginous hawks (Faanes 1987). Collisions typically occur during foggy or poor weather conditions and are more likely if the transmission line is between foraging and nesting habitats. Electrocutions occur when birds use the towers for perching or nesting, or during some collisions. A bird can be electrocuted if there is insufficient clearance between two energized conducting wires or between an energized conducting wire and grounded hardware or wire. The potential for electrocution is higher when feathers are wet because of increased conduction and the loss of flight capability and control for some birds (APLIC 1996).

For the transmission interconnection, a line would be constructed that would extend north from the plant site and tie into the proposed BPA 500-kV line approximately 0.6 mile north of the plant site. Most lines that electrocute raptors are low-voltage distribution lines that are below 115-kV and records of bird electrocution associated with the larger transmission lines, such as 115-kV and above, are very limited (APLIC 1996). This is likely due to the line configuration required for the larger transmission lines, where the distance between conductors and the distance that the wires are above ground must be increased as voltages increase. The transmission interconnection line would present a very low potential for electrocution. In response to bird mortality and power outages associated with bird electrocution, many transmission line designs have included measures for raptor protection for the past 20 years. In

general, a distance of 60 inches is recommended between phase conductors and grounded hardware or wires. The transmission interconnection design exceeds these recommendations and would not increase the potential for electrocution of listed species with new tower construction.

Ferruginous hawks in the region are not likely to forage near the transmission interconnection due to increased development and disturbance. They are more likely to use the native grassland, shrub-steppe, and cliff areas east of I-82. Bald eagles in the region are more likely to forage and perch along the Columbia River, south of the transmission interconnection. Bald eagles typically take short flights from a perch site to capture prey and feed, and then return to a perch site. The greatest potential for collisions with transmission lines exists where the lines cross open water sections (Faanes 1987). The transmission interconnection would tie into the existing line that crosses the Columbia River to the McNary Substation. No additional towers or wires across the river would be associated with transmission interconnection.

The transmission interconnection would add a short span of transmission lines to an area that already includes several miles of existing transmission lines. The low potential for electrocution, combined with the presence of existing lines and the low likelihood of listed species using the area, would result in low impacts to listed wildlife species from the transmission interconnection.

Fish

Construction Impacts. Construction of the transmission interconnection would have no impacts to listed fish species because there are no watercourses or hydraulic connections to watercourses in the transmission line corridor.

Operation Impacts. Operation of the transmission interconnection would have no impacts to listed fish species.

Other Wildlife Species

Construction Impacts

Construction of the transmission interconnection would result in low impacts to other wildlife and their associated habitats. Some clearing of nonnative grassland habitat at the northern end of the alignment would occur for transmission tower construction and the maintenance access road. This would remove habitat and displace small birds, mammals, and other species using nonnative grassland habitats. Wildlife using adjacent habitats would be temporarily disturbed and displaced due to noise and construction activity.

Operation Impacts

Operation of the transmission interconnection would have low impacts to other wildlife and their associated habitats. Because new transmission towers would be constructed, the BPA transmission interconnection could potentially impact other wildlife species by collision.

Collisions associated with transmission lines occur infrequently, but are a source of mortality for raptors, waterfowl, and some passerine birds. Causes of collision and electrocution are described above. Of the migrating birds, fast-flying, low-altitude birds that travel in tight flocks are the

most vulnerable to collisions (Meyer 1978). The impacts associated with collisions on a wildlife species are not great enough to be biologically significant, unless only small populations of the species exist (threatened or endangered) (Meyer 1978; Faanes 1987). The transmission interconnection would be located in an area that does not bisect important waterfowl feeding or resting areas. The transmission interconnection would constitute an indistinguishable increase in collision potential; therefore, the impact of the transmission interconnection to other wildlife is expected to be low.

Noxious Weeds

Linear projects, such as transmission lines and roads, often create a pathway for noxious weeds to spread. Diffuse knapweed is present along the transmission interconnection alignment and could spread along the construction and maintenance access road. However, diffuse knapweed is already widespread in the area and is classified as a Class B non-designate weed in Benton County due to its abundance. No significant impacts from noxious weeds are expected.

3.4.2.3.3 Access Road

Habitats

Construction Impacts

The access road would cross agricultural, shrub-steppe, and nonnative grassland habitats. With the widening of existing roads, access road construction would disturb approximately 2 acres of shrub-steppe and 2.5 acres of nonnative grassland. The off-load platform would disturb a small amount of nonnative grassland and previously disturbed areas. Construction of the access road would result in moderate impacts to habitats in the site area. Habitats surrounding the access road alignment are currently highly fragmented by agricultural fields (active and inactive), existing roads, railroad tracks, industrial facilities, and residential areas. The access road would contribute only minimally to the current level of fragmentation.

Operation Impacts

Because the land adjacent to the proposed access road would remain in its current condition, no operational impacts are expected on the habitats in the vicinity.

Threatened and Endangered Species

Plants

Construction and operation of the access road would have no direct impacts to special-status plant species or their associated habitats.

Wildlife

Construction Impacts. Construction of the access road would have low impacts to listed wildlife species or their associated habitats. The impacts would be indirect and far below the threshold for significance. Potential impacts to bald eagles from noise and construction activity would be the same as those described in Section 3.4.2.3.1, Plant Site. In addition, the road

alignment is northeast of the plant site, thereby increasing the distance between construction activity and bald eagles along the Columbia River and decreasing the potential for disturbance. Additional noise in the area would be associated with increased traffic on the access road during plant construction.

The habitats along the access road alignment are moderately suitable for bald eagle foraging but are not considered important to bald eagles; they prefer to forage over water, using the riparian areas along the Columbia River. Ferruginous hawks are not likely to use the area near the access road for foraging due to development and human activity. The shrub-steppe and nonnative grassland habitats may be used by Washington ground squirrels and white-tailed jackrabbits; clearing of vegetation would displace them to adjacent habitats and present disturbance to those individuals already using the adjacent habitats. If construction occurred during the breeding season for these species, reduction of reproductive success could result. Indirect mortality may occur to some wildlife species as a result of increased competition for nesting, foraging, and cover resources. However, no significant impacts to listed wildlife species would be expected.

Operation Impacts. Operation of the access road would have no impacts to listed wildlife species or their associated habitats. Automobile traffic during operation would not constitute a noticeable increase from existing conditions.

Fish

Construction Impacts

Construction of the access road would have no impacts to listed fish species. There would be some disturbance to the channel of Fourmile Canyon during the construction of the road crossing. The channel is approximately 27 feet in width at the location. An open box culvert would be installed at the crossing. The proposed access road would also include widening and paving of Plymouth Industrial Road. These improvements would only affect Fourmile Canyon in the area of the crossing, which would be approximately 1 mile from the Columbia River. Therefore, due to the distance from the river, the dry channel, and loss of a surface connection in the tilled agricultural fields, no impact to the Columbia River would be expected.

Since Fourmile Canyon is a seasonal stream, a Hydraulic Project Approval from WDFW would be required for the crossing. A description of the crossing is provided in Chapter 2.

Operation Impacts

Operation of the access road would have no impacts to listed fish species. There would be a slight increase in traffic on the access road due to normal operations. A minor increase in fine sediment and normal vehicle pollution (such as oil) that would be washed off the road is expected at the Fourmile Canyon crossing. However, the sediment and pollution should not reach fish habitat in the Columbia River because the crossing location is approximately 1 mile from the Columbia River. There is no fish habitat in Fourmile Canyon. No operational impacts would be expected in the Columbia River from the use of the access road.

Other Wildlife Species

Construction Impacts

Construction of the access road would result in low impacts to other wildlife and their associated habitats. The road would occupy nonnative grassland and shrub steppe habitats, and its construction would remove habitat and displace small birds, mammals, and other species using these habitats. If construction occurred during the breeding season for these species, reduction of reproductive success could result. Indirect mortality could occur to some wildlife species as a result of increased competition for nesting, foraging, and cover resources. Wildlife using adjacent habitats would be temporarily disturbed and displaced due to noise and construction activity. Additional noise in the area would be associated with increased traffic on the access road during plant construction. The total disturbed area would be small and the impacts would be low.

Operation Impacts

Operation of the access road would have low impacts to other wildlife species or their associated habitats. Automobile traffic during operation would constitute a small increase from existing conditions.

Noxious Weeds

Linear projects, such as transmission lines and roads, often create a pathway for noxious weeds to spread. Diffuse knapweed is present along the access road alignment and could become well established along the sides of the road. However, diffuse knapweed is already widespread in the area and is classified as a Class B non-designate weed in Benton County due to its abundance. No significant impacts from noxious weeds would be expected.

3.4.2.4 Alternate 230-kV Transmission Interconnection

Impacts due to the alternate 230-kV transmission interconnection would be the same as impacts from the proposed transmission interconnection because the 230-kV line is in the same physical location as the proposed 500-kV line.

3.4.2.5 Alternate Benton PUD/BPA Transmission Interconnection

3.4.2.5.1 Habitats

The alternate Benton PUD/BPA transmission interconnection would cross four priority habitats: shrub-steppe, wetland, riparian, and cliff. However, construction would not take place in the riparian or cliff areas. Construction of the alternate Benton PUD/BPA transmission interconnection would have the potential for low impacts to shrub-steppe and wetland habitats adjacent to the Columbia River. No new towers would need to be constructed along this segment of the transmission interconnection. An upgraded transmission circuit would be strung across the Columbia River. Existing access roads would be used during construction, and no disturbance would occur on the Oregon side of the Columbia River.

Shrub-steppe habitat is located along the Christy Road segment of the alternate Benton PUD/BPA transmission interconnection and the segment between Plymouth Road and I-82. However, there is an existing access road along these stretches of the alignment. Construction can be done from this access road, thus limiting impacts to the shrub-steppe habitat. Replacement towers would be located adjacent to existing towers and some shrub-steppe area would need to be cleared at the new tower location where necessary.

Four isolated wetlands lie along a segment of the alternate Benton PUD/BPA transmission interconnection route, and the transmission interconnection would span portions of the wetlands (see Figure 3.4-1). Replacement towers would be located adjacent to existing towers. Before construction, a wetland delineation would be conducted to assist placement of towers and construction equipment. With this design measure, impacts to wetlands would be avoided.

Approximately 50 towers would be replaced for the alternate Benton PUD/BPA transmission interconnection. Approximately 20 towers would be H-frame towers, with an estimated disturbance area of 700 square feet each. Approximately 30 towers would be replaced along Christy Road with mono-pole structures, with an estimated disturbance area of 200 square feet each. The new towers associated with the alternate Benton PUD/BPA transmission interconnection would disturb a maximum of approximately 0.2 acre of nonnative grassland and 0.3 acre of shrub-steppe. The existing towers would be removed and those areas would be revegetated.

Construction of the alternate Benton PUD/BPA transmission interconnection would also include using staging and equipment laydown areas. These locations would be selected from sites that are accessible from existing roadways, currently disturbed, or where disturbance can be minimized. Disturbances for staging and laydown areas would be restored following construction.

In conclusion, priority habitats along the alternate Benton PUD/BPA transmission interconnection would be avoided and no significant impacts would be expected.

3.4.2.5.2 Threatened and Endangered Species

Plants

Construction of the alternate Benton PUD/BPA transmission interconnection would have a potential for low impacts to special-status plant species. The alternate Benton PUD/BPA transmission interconnection alignment contains potential habitat for Palouse goldenweed, Umtanum desert buckwheat, Columbia cress, and shining flatsedge. However, the disturbance along the alternate Benton PUD/BPA transmission interconnection route would be limited to replacing existing towers and stringing the wire from existing access roads. This would only require ground disturbance in the vicinity of the existing towers. No significant impacts to listed plant species would be expected.

Wildlife

Construction Impacts

Construction of the alternate Benton PUD/BPA transmission interconnection would have low impacts to listed wildlife species or their associated habitats. The impacts would be indirect and far below the threshold for significance. No impacts to ferruginous hawks or sage grouse would occur. Potential impacts to bald eagles from noise and construction activity would be the similar as those described for the plant site. However, the alternate Benton PUD/BPA transmission interconnection alignment includes a section along Christy Road that is approximately 0.25 mile from the Columbia River. If construction occurred during the winter when bald eagles were present, those eagles using the Columbia River during construction of this particular section of the alternate Benton PUD/BPA transmission interconnection might be disturbed and displaced due to noise and activity. They would likely move east or west along the river, or fly across the river to the Oregon side.

Construction of the alternate Benton PUD/BPA transmission interconnection would involve clearing small amounts of vegetation in nonnative grassland and shrub-steppe habitats. This would remove marginally suitable habitat for Washington ground squirrels and white-tailed jackrabbits. If construction occurred during the breeding season for these species, and if they occur nearby, reduction of reproductive success could result. Indirect mortality could occur as a result of increased competition for nesting, foraging, and cover resources. However, overall construction impacts from the alternate Benton PUD/BPA transmission interconnection would be low.

Operation Impacts

Operation of the alternate Benton PUD/BPA transmission interconnection would have low impacts to listed wildlife species and their associated habitats. The impacts would be indirect and far below the threshold for significance. Because transmission line towers would be replaced and larger conductors would be present, the alternate Benton PUD/BPA transmission interconnection could potentially impact bald eagles and ferruginous hawks by collision or electrocution. Causes of collision and electrocution are discussed previously in Section 3.4.2.3.2.

The alternate Benton PUD/BPA transmission interconnection would reconfigure an existing single circuit 115-kV line to a double circuit 115-kV/230-kV line. As described previously, most lines that electrocute raptors are low-voltage distribution lines that are below 115-kV, and records of bird electrocution associated with the larger transmission lines, such as 115-kV and above, are very limited (APLIC 1996). The alternate Benton PUD/BPA transmission interconnection would present a very low potential for electrocution. The alternate Benton PUD/BPA transmission interconnection design exceeds the recommended distance of 60 inches between phase conductors and grounded hardware or wires for raptor protection (APLIC 1996). Therefore, the replacement towers would not increase the potential for electrocution of listed species.

Ferruginous hawks in the region are not likely to forage near the alternate Benton PUD/BPA transmission interconnection because of the increased development and disturbance. They are

more likely to use the native grassland, shrub-steppe, and cliff areas east of I-82. Bald eagles in the region are more likely to forage and perch along the Columbia River, south of the alternate Benton PUB/BPA transmission interconnection. Bald eagles typically take short flights from a perch site to capture prey and feed, and then return to a perch site. The greatest potential for collisions with transmission lines exists where the lines cross open water sections (Faanes 1987). The alternate Benton PUD/BPA transmission interconnection would tie into the existing 230-kV line that crosses the Columbia River to the McNary Substation. No additional towers across the river would be associated with the alternate Benton PUD/BPA transmission interconnection. One additional circuit would span the river but would use existing towers. There are currently three sets of transmission towers supporting several conducting wires. The additional wire associated with the alternate Benton PUD/BPA transmission interconnection would constitute an indistinguishable increase in collision potential for bald eagles.

The alternate Benton PUD/BPA transmission interconnection configuration and location would not differ greatly from the existing transmission lines. The low potential for electrocution, combined with the presence of existing lines and the low likelihood of listed species using the area, would result in a low likelihood of impacts from the alternate Benton PUD/BPA transmission interconnection.

Fish

Construction Impacts

Construction of the alternate Benton PUD/BPA transmission interconnection would not result in any impacts to listed fish species because no impacts are anticipated to either Fourmile Canyon or the Columbia River. The alternate Benton PUD/BPA transmission interconnection would cross Fourmile Canyon less than 0.5 mile from the Columbia River; however, no instream work would be required for placement of the towers or the lines. The transmission interconnection would cross the Columbia River to the east of Fourmile Canyon. The existing towers would be used to connect the lines. The lines would cross the river from Washington to Oregon by air or by boat. No disturbance to the shoreline is expected from either method of crossing. It is assumed that BPA would construct the additional line required under the alternate Benton PUD/BPA transmission interconnection.

Operation Impacts

Operation of the alternate Benton PUD/BPA transmission interconnection would have no impacts to listed fish species.

3.4.2.5.3 Other Wildlife Species

Construction Impacts

Construction of the alternate Benton PUD/BPA transmission interconnection would have moderate impacts to other wildlife and their associated habitats compared to the Proposed Action transmission interconnection because it would cover more area. The clearing of small amounts of vegetation would occur in nonnative grassland and shrub-steppe habitats for the alternate Benton PUD/BPA transmission interconnection. This clearing activity would remove habitat

and displace small birds, mammals, and other species using these habitats. Construction would also temporarily disturb and displace wildlife species using the wetland habitats. If construction occurred during the breeding season for these species, a reduction in reproductive success could result. Indirect mortality may occur to some wildlife species as a result of increased competition for nesting, foraging, and cover resources. Wildlife using adjacent habitats would also be temporarily disturbed and displaced due to noise and construction activity. However, no significant impacts to wildlife would be expected.

Operation Impacts

Operation of the alternate Benton PUD/BPA transmission interconnection would have low impacts to other wildlife and their associated habitats. Because transmission line towers would be replaced and larger wires would be present, the alternate Benton PUD/BPA transmission interconnection could potentially impact other wildlife species by collision.

Collisions associated with transmission lines occur infrequently but are a source of mortality for raptors, waterfowl, and some passerine birds. Causes of collision are described previously in Section 3.4.2.2.2. The alternate Benton PUD/BPA transmission interconnection would use an existing alignment and would include replacement of the transmission towers. Essentially, no additional risk of collision of other wildlife would be associated with the alternate Benton PUD/BPA transmission interconnection. Therefore, expected impacts of the alternate Benton PUD/BPA transmission line to other wildlife would be low.

3.4.2.5.4 Noxious Weeds

Linear projects, such as transmission lines and roads, often create a pathway for noxious weeds to spread. Diffuse knapweed and swainsonpea are present along the alternate Benton PUD/BPA transmission interconnection route in Washington. Since existing, well-traveled access roads would be used during construction, additional spread of these weeds along the alternate Benton PUD/BPA transmission interconnection route would be unlikely. However, the disturbance created by clearing vegetation for the replacement towers could open up small areas for noxious weeds to invade. This impact would be less than significant.

In Oregon, false indigo, common mullein, and reed canarygrass are present along the alternate Benton PUD/BPA transmission interconnection route. However, the activities in Oregon would not include ground disturbance and thus would not create any additional habitat for noxious weeds to invade.

3.4.2.6 Access Alternative

3.4.2.6.1 Habitats

The majority of the alternate construction and operation access roads would include the use of Christy Road. However, improvements associated with the construction and operation roads would require connecting segments north of Christy Road. Agricultural areas would be disturbed for construction and widening of existing roads, but low impacts to habitats would be expected. Paving the unpaved portions of the alternate operation access road would result in low impacts to habitats.

Since the land adjacent to the alternate access roads is agricultural and would remain in active production, no impacts are expected to the habitats in the vicinity of the alternate access roads during their use. The majority of the access roads would include the use of existing roads.

3.4.2.6.2 Threatened and Endangered Species

Plants

Improvement and use of the alternate construction and operation access roads would have no direct impacts to special-status plant species or their associated habitats.

Wildlife

Improvements that would occur for the alternate access roads would have a potential for low impacts to listed wildlife species and their associated habitats. The impacts would be indirect and far below the threshold for significance. No impacts to ferruginous hawks, sage grouse, Washington ground squirrel, white-tailed jackrabbit, or painted turtle would occur. Potential impacts to bald eagles from noise and construction activity for the beginning portions of the alternate construction access road would be similar to those described for the plant site. However, a portion of the route is less than 0.25 mile from the Columbia River. Wintering bald eagles using the Columbia River during construction of this particular section of the alternate construction access road would be disturbed and displaced due to noise and activity during construction. They would likely move east or west along the river, or fly across the river to the Oregon side. No significant impacts to listed wildlife would be expected.

Use of the alternate construction and operation access roads would have no impacts to listed wildlife species and their associated habitats. Automobile traffic would not constitute a noticeable increase from existing conditions.

Fish

Improvements to the alternate access roads would have no impacts to listed fish species. The roads would not cross any watercourses, nor have any direct surface connection to a watercourse.

Use of the alternate access roads would have no impacts to listed fish species. There would be a slight increase in traffic on the existing roads; however, there would be no surface connection to Fourmile Canyon or the Columbia River.

3.4.2.6.3 Other Wildlife Species

Improvements completed for the alternate access roads would have low impacts to other wildlife and their associated habitats. The majority of the access roads would include the use of existing roads. Additional noise in the area would be associated with increased traffic on the existing road during construction. The beginning segment of the alternate construction access road would need to be constructed. Because the route is agricultural land, no native vegetation would be cleared. Wildlife using adjacent habitats would be temporarily disturbed and displaced due to noise and activity during construction. No significant impacts to wildlife would be expected.

Use of the alternate access roads would have no impacts to other wildlife and their associated habitats. Automobile traffic during operation would not constitute a noticeable increase from existing conditions.

3.4.2.6.4 Noxious Weeds

Linear projects, such as transmission lines and roads, often create a pathway for noxious weeds to spread. Diffuse knapweed and common mullein are present along the alternate access road alignments and could use the disturbance created by construction as an opportunity to spread. However, diffuse knapweed is already widespread in the area and is classified as a Class B non-designate weed in Benton County due to its abundance. Common mullein is a monitor species and does not require any containment or control. No significant impacts from noxious weeds would be expected.

3.4.3 SUMMARY OF IMPACTS

The impact assessment for biological resources is based on the criteria defined in Section 3.4.2.1, Methodology. According to the criteria, no significant impacts to biological resources are expected for the Proposed Action or project alternatives. Some less than significant impacts are expected to occur. In general, the overall impact from the proposed project and alternatives would be low. Construction-related impacts to habitats would include the disturbance of agricultural, nonnative grassland, and shrub-steppe areas. Impacts to threatened and endangered species would be low due to the absence of listed species within the vicinity of the site area. Impacts to other wildlife would include habitat loss and displacement during construction and an increased risk of collision with PGF structures and transmission lines during operation.

The plant site selected is in a previously disturbed agricultural area and adjacent to existing industrial facilities, resulting in no direct or indirect impacts to important or sensitive habitats. The proposed access road would use existing roads as much as possible, affecting only a small amount of habitat in an already disturbed region. Similarly, the proposed and alternate 230-kV transmission interconnections would connect with existing BPA lines, resulting in the construction of only four to six new towers north of the plant site. The alternate Benton PUD/BPA transmission interconnection and access road alignments would also use existing roads and transmission lines as much as possible. Using existing lines would reduce potential impacts by collision or electrocution of birds and disturbance of important habitats such as wetlands and riparian areas.

In the site area, priority habitats that are considered high-value include shrub-steppe, wetland, riparian, and cliff. The alternate Benton PUD/BPA transmission interconnection would span the cliff and riparian habitats; therefore, impacts from the Benton PUD/BPA transmission interconnection are expected to be low and therefore less than significant. Design measures included as part of the proposed project to reduce impacts to shrub-steppe and wetlands include the following:

- **Shrub-Steppe Compensation** – The proposed access road would result in the removal of approximately 2 acres of degraded shrub-steppe habitat. As mitigation, Plymouth Energy would compensate for the loss by committing to contribute

\$2,000 (equivalent to approximately 4 acres) to the acquisition of high value shrub-steppe habitat in Benton County. Plymouth Energy would work with the WDFW, which plans to purchase this land for preservation and management.

- **Wetland Avoidance** – A wetland delineation would be conducted prior to construction of the alternate Benton PUD/BPA transmission interconnection, and wetland boundaries would be flagged and fenced off to avoid impacts from construction equipment. A summary report would be sent to Benton County. Location of new transmission towers for the alternate Benton PUD/BPA transmission interconnection would be outside of wetland boundaries. Wetlands are only present along the alternate Benton PUD/BPA transmission interconnection alignment.
- **Rare Plant Avoidance** – Prior to construction of the alternate Benton PUD/BPA transmission interconnection, a special-status plant survey would be conducted to locate any plant sites within the construction corridor. This survey would be conducted in the summer when the plants are readily identifiable. Areas within the alternate Benton PUD/BPA transmission interconnection construction corridor containing special-status plant species, if found, would be fenced off so that construction equipment could avoid impacts to such species. A summary report would be sent to Benton County.
- **Sediment Control** – Implement sediment and pollution control measures as a precaution during construction of the proposed access road crossing at Fourmile Canyon. To ensure no downstream transport of disturbed materials, straw bales and silt fences would be placed downstream of the crossing location prior to construction. It is highly unlikely that any disturbed sediment would travel over a mile to the Columbia River, particularly because the channel disappears in the tilled and graded agricultural land between the BNSF railroad tracks and Christy Road.
- **Shoreline Protection** – Construct the alternate Benton PUD/BPA transmission interconnection crossing over Fourmile Canyon and the Columbia River to ensure no disturbance to the channel of the canyon or the shoreline and riparian areas adjacent to the river. It is assumed that BPA would string the additional line that would be required for the alternate Benton PUD/BPA transmission interconnection.
- **Avoidance of Important Habitats and Habitat Features** – Avoid important habitats, including wetlands, riparian areas, shrub-steppe, and native grasslands, to minimize impacts to other wildlife species. Construction would avoid removal of important habitat features such as large trees or other perching areas and nesting habitats, where possible. Construction equipment and staging areas would be located to avoid impacts to wetland buffer areas and large, well-established vegetation.

- **Noxious Weed Control** – A Noxious Weed Control plan would be developed and approved by the Benton County Noxious Weed Control Board. The approved plan would be implemented by the applicant.
- **Avian Electrocutation Avoidance** – All transmission line designs would exceed the recommended distance of 60 inches between phase conductors and grounded hardware or wires for raptor protection (APLIC 1996).

The remaining habitat types in the site area are a result of, or are maintained by, disturbance activities. Impacts to these habitats are expected to be low and therefore less than significant.

A biological assessment will be prepared for the proposed project and submitted to USFWS and NMFS for formal consultation.

3.4.4 MITIGATION MEASURES

With implementation of the design features listed in Section 3.4.3, impacts attributable to the proposed project are expected to be less than significant. Therefore, no mitigation measures are required.

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