

ATTACHMENT 5
*Biglow Canyon Wind Farm—Additional Sensitive
Species Surveys for Amendment III
(WEST/CH2M HILL, July 2008)*

Biglow Canyon Wind Farm–Additional Sensitive Species Surveys for Amendment III

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Introduction

Sensitive species surveys were conducted along the new Amendment III areas in spring 2008 in suitable habitat. Each area was surveyed twice. Methods followed those used in 2005 for the other project facilities (WEST, 2005).

Location of Additional Surveys

Figure 7-1 depicts areas where spring 2008 wildlife and habitat surveys were completed. The criteria for choosing the spring 2008 survey areas is described further in Pre-field Review, below.

Methods

Pre-field Review

A list of federal threatened, endangered, proposed and candidate species, as well as species of concern, that may occur in Sherman County, Oregon was obtained from the U.S. Fish and Wildlife Service (USFWS, 2008). Database records for state and federal rare, threatened, and endangered species within a 5-mile radius of the project were provided by the Oregon Natural Heritage Information Center (ORNHIC, 2008). The ORNHIC's *Rare and Endangered Species of Oregon* (ORNHIC, 2007) was also searched to identify rare plants and animals that may occur in Sherman County. Table 7-1 provides a summary of federal and state special status species that occur or potentially occur in the project analysis area.

TABLE 7-1
Federal and State Listed Species Potentially Occurring Within the Analysis Area
Biglow Canyon Wind Farm

Common Name	Scientific Name	Federal Status ¹	State Status ¹	Notes on Occurrence—Potential for Impacts
BIRDS				
Mountain quail	<i>Oreortyx pictus</i>	SoC	SU	Not documented – Not likely due to presence of very little suitable (shrub-steppe or woodland) habitat.
Columbian sharp-tailed grouse	<i>Tympanuchus phasianellus columbianus</i>	SoC	--	Historical county record; no observations in ORNHIC query.
Long-billed curlew	<i>Numenius americanus</i>	--	SV	Not documented – May occur; very little suitable (open shrub-steppe / grassland) nesting habitat present.
Bald eagle	<i>Haliaeetus leucocephalus</i>	DL	T	Infrequent migrant or winter occurrence. Not documented during 2008 surveys.
Ferruginous hawk	<i>Buteo regalis</i>	SoC	SC	One observation documented in CH2MHILL (2005); Exhibit P, rare in county. Potential for infrequent occurrence by migrants or foraging regional birds. Not documented – Not likely due to presence of very little suitable (trees or cliffs) nesting habitat.
Swainson's hawk	<i>Buteo swainsoni</i>	--	SV	Not documented – Recently active nest for this species near T-81 fell out of tree between spring 2007 and spring 2008 survey. Not documented during 2008 surveys. Documented during baseline avian use surveys (CH2M HILL, 2005).
American peregrine falcon	<i>Falco peregrinus anatum</i>	DL	DL	Documented in county, nesting along Columbia River, potential for infrequent occurrence by migrants or foraging local birds – Not likely due to presence of very little suitable (cliffs/buildings) nesting habitat.
Western burrowing owl	<i>Athene cunicularia hypugaea</i>	SoC	SC	Not documented – May occur; suitable habitat present.
Common nighthawk	<i>Chordeiles minor</i>	--	SC	Not documented – May occur; likely flies over the site.
Lewis' woodpecker	<i>Melanerpes lewis</i>	SoC	SC	Not documented – Not likely due to presence of very little suitable (forested) habitat.
Yellow-breasted chat	<i>Icteria virens</i>	SoC	--	Not documented – May occur; potentially suitable habitat present.
Loggerhead shrike	<i>Lanius ludovicianus</i>	--	SV	Not documented – May occur; potentially suitable habitat present.

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Common Name	Scientific Name	Federal Status ¹	State Status ¹	Notes on Occurrence—Potential for Impacts
Grasshopper sparrow	<i>Ammodramus savvanarum</i>	--	SV/SP	Frequently observed in grassland and Conservation Reserve Program habitat.
MAMMALS				
Desert bighorn sheep	<i>Ovis canadensis nelsoni</i>	SoC	--	Not documented – Not likely due to lack of suitable (open mountainous) habitat present.
Spotted bat	<i>Euderma maculatum</i>	SoC	--	Not documented – Not likely due to presence of very little suitable roosting or foraging habitat present.
Silver-haired bat	<i>Lasionycteris noctivagans</i>	SoC	SU	Probable migrant through Facility area. Documented fatality at most regional wind facilities. Not documented – Not likely due to presence of very little suitable roosting or foraging habitat present.
Small-footed myotis bat	<i>Myotis ciliolabrum</i>	SoC	SU	Not documented – Not likely due to presence of very little suitable roosting or foraging habitat present.
Yuma myotis bat	<i>Myotis yumanensis</i>	SoC	--	Not documented – Not likely due to presence of very little suitable roosting or foraging habitat present.
REPTILES				
Northern sagebrush lizard	<i>Sceloporus graciosus graciosus</i>	SoC	SV	Not documented – May occur; potentially suitable habitat present.
Painted turtle	<i>Chrysemys picta</i>	--	SC	Not documented – Not likely due to presence of very little suitable (pond) habitat.
Western toad	<i>Bufo boreas</i>	--	SV	Documented in CH2MHILL (2005) in upper Biglow Canyon drainage. Not likely in uplands due to presence of very little suitable (aquatic) habitat.
Northern leopard frog	<i>Rana pipiens</i>	--	SC	Not documented – Not likely due to presence of very little suitable (aquatic) habitat.
FISH				
Steelhead—Mid-Columbia River ESU, summer run	<i>Oncorhynchus mykiss</i>	T	SV	Not documented – Not likely due to lack of suitable habitat (perennial streams).
Steelhead—Snake River Basin ESU	-----	T	--	Not documented – Not likely due to lack of suitable habitat (perennial streams).

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Common Name	Scientific Name	Federal Status ¹	State Status ¹	Notes on Occurrence—Potential for Impacts
Steelhead—Upper Columbia River ESU	-----	E	--	Not documented – Not likely due to lack of suitable habitat (perennial streams).
Sockeye Salmon—Salmon River Tributary to the Snake River	<i>O. nerka</i>	E	--	Not documented – Not likely due to lack of suitable habitat (perennial streams).
Chinook Salmon—Snake River ESU, spring/summer and fall runs	<i>O. tshawytscha</i>	T	T	Not documented – Not likely due to lack of suitable habitat (perennial streams).
Chinook Salmon—Upper Columbia River ESU	-----	E	--	Not documented – Not likely due to lack of suitable habitat (perennial streams).
Pacific lamprey	<i>Lampetra tridentata</i>	SoC	SV	Not documented – Not likely due to lack of suitable habitat (perennial streams).
INVERTEBRATES				
Minor Pacific sideband snail	<i>Monadenia fidelis minor</i>	SoC	--	Not documented – Not likely due to lack of suitable habitat (perennial streams).
California floater mussel	<i>Anodonta californiensis</i>	SoC	--	Not documented – Not likely due to lack of suitable habitat (perennial streams).
PLANTS				
Northern wormwood	<i>Artemisia campestris</i> var. <i>wormskioldii</i>	C	E	Not documented – Suitable habitat present; no known occurrences in Sherman County. No observations during 2008 surveys.
Henderson's ricegrass	<i>Achnatherum hendersonii</i>	SoC	C	Not documented – Small areas of suitable habitat. No observations during 2008 surveys.
Laurence's milk-vetch	<i>Astragalus collinus</i> var. <i>laurentii</i>	SoC	T	Not documented – Small areas of suitable habitat. No observations during 2008 surveys.
Oregon bolandra	<i>Bolandra oregano</i>	SoC	C	Not documented – Very unlikely due to lack of suitable habitat (wet basalt cliffs).
Dwarf evening-primrose	<i>Camissonia pygmaea</i>	SoC	C	Not documented – Very unlikely due to lack of suitable habitat (unstable soil or gravel in steep talus, dry washes, banks and roadcuts).
Sessile mousetail	<i>Myosurus sessilis</i>	SoC	C	Not documented – Very unlikely due to lack of suitable habitat (vernal pools).

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Common Name	Scientific Name	Federal Status ¹	State Status ¹	Notes on Occurrence—Potential for Impacts
Hepatic monkeyflower	<i>Mimulus jungermanniodies</i>	--	C	Not documented – Very unlikely due to lack of suitable habitat (crevices of wet rock walls).

¹ State and Federal Status Definitions

Federal:

T = Threatened
E = Endangered
C = Candidate
DL = Delisted

ODFW/ODA:

T = Threatened
E = Endangered
C = Candidate
SC = Sensitive Critical
SP = Peripheral / Naturally Rare
SU = Sensitive Undetermined
SV = Sensitive Vulnerable

Exhibits P and Q of the Biglow Canyon Wind Project Site Certificate Application (CH2M HILL, 2005) and amendment applications I and II (CH2M HILL, 2006, 2005, 2007) for the Facility were also reviewed for information about past site conditions in the analysis area.

In addition, spring 2008 raptor nest survey data collected at the Biglow Canyon Wind Facility was provided by Portland General Electric (PGE, 2008). This data set was collected between March 4 and April 30, 2008.

Areas to be surveyed during the 2008 effort were selected to exclude agricultural and developed habitats, because these areas do not provide habitat for special status species. In addition to the species identified in Table 7-1 all raptors (eagles, hawks, falcons, and owls) were identified as target species.

Field Surveys

Spring field surveys were conducted by Western Ecosystems Technology (WEST) biologists from June 4-14, 2008 to document occurrence and habitat of special status wildlife and plants, including nighttime surveys for jackrabbits. Surveys were conducted following the protocols described in the original Site Certificate Application, Attachment P-1A (WEST, 2005). Field survey locations are depicted in Figure 7-1.

Existing Conditions

Non-cultivated habitats in the areas surveyed were generally mixed grass, with some scattered sagebrush. Sagebrush was thicker along the bottom of drainages. Additional detail about habitat in specific survey areas is provided in Table 7-2.

TABLE 7-2

Biglow Canyon Amendment III Survey Areas¹
Biglow Canyon Wind Farm

Survey Area ID (see Figure 7-1)	Nighttime Spotlight White-tailed Jackrabbit Survey	Morning Sensitive Species Survey	Habitat Description
R-1	NSH	1	new road cleared, several 5th wheel trailers here; heavily grazed horse pasture, horses present, annual rye
R-2	NSH	1	new road cleared, several 5th wheel trailers here; heavily grazed horse pasture, horses present, annual rye
R-3	NSH	1	along highway, locust trees; no SWHA nest
R-4	NSH	1	drainage, annual rye, sumac shrub, locust
R-5	NSH	1	drainage, annual rye, sumac shrub, locust
R-6	NSH	2	narrow strip in draw; annual rye
R-7	Yes	2	CRP, sagebrush, rabbitbrush, crested wheatgrass
R-8	Yes	2	CRP rabbit brush, annual rye, cheat grass, crested wheatgrass
R-9	Yes	2	CRP rabbit brush, annual rye, cheat grass, crested wheatgrass
R-10	Yes	2	CRP rabbit brush, annual rye, cheat grass, crested wheatgrass
R-12	Yes	2	CRP rabbit brush, annual rye, cheat grass, crested wheatgrass
R-13	NA	NA	AG in 2005, and verified as AG (wheat stubble) in 2008; CRP to north surveyed in 2005
R-14	NSA	2	SS: rocky soils on top and outcrop to west; sagebrush, misc. shrubs and bunchgrasses on slopes and drainage; moderate-heavily grazed
R-15	Yes	2	SS: heavily grazed, cheat grass, rabbit brush, snakeweed, cattle present
R-16	2005	2005	CRP w/ SS to east, previously surveyed
R-17	2005	2005	CRP, previously surveyed
R-19	Yes	2	CRP rabbit brush, annual rye, cheat grass, crested wheatgrass
R-20	NSH	1	narrow strip, cheat grass, small locust tree
R-21	NSH	1	old farmstead: annual rye; locust trees, old barns silo

NA=not applicable

NSH=not suitable habitat and/or small patch habitat; developed, disturbed, or overgrown vegetation of drainage or steep slope

NSA= No safe access at night due to canyon crossing and planted agricultural fields with no roads; CORRIDOR HERE COMPLETELY SURVEYED IN 2005, but without buffer to north

New Amendment corridors (500 feet wide) were surveyed at least 750 feet from corridor edge (or 1000 feet from centerline of corridor), same as 2005 survey methods

¹Source: Jeffrey, Jay, Pers. comm., 2008.

No state or federal listed species were identified during the June 2008 field surveys. However, biologists documented one state sensitive species, the grasshopper sparrow, and several active raptor nests (Jeffrey, pers. comm., 2008; see Figure 7-3). Grasshopper sparrows were observed in four locations: 1) approximately ¼-mile west of T-149, 2, 3) approximately ¼-mile west of T-152, and 4) approximately 1/3-mile east of T-195. Three red-tailed hawk nests were observed at two locations: 1) in Helm Canyon about 0.75-mile northwest of T-85, and 2) in China Hollow about 1.2 miles southwest of T-107. Two great horned owl nests were documented: 1) about 0.25-mile northwest of T-81, and 2) about 0.35-mile west of T-150. One American kestrel nest was documented about 0.25-mile northwest of T-85. In addition, three unknown raptor nests were recorded in 1) Helm Canyon about 0.75-mile northwest of T-85, 2) 1 mile north of T-81, and 3) 2.2 miles northwest of T-81. Other species observed were ring-necked pheasant, mourning dove, unidentified hummingbird, western wood pewee, Say's phoebe, horned lark, barn swallow, violet-green swallow, western kingbird, common raven, sage thrasher, European starling, western meadowlark, Savannah sparrow, vesper sparrow, house finch, house sparrow, brown-headed cowbird, red-winged blackbird, Bullock's oriole, Brewer's blackbird, killdeer, American goldfinch, mule deer, coyote, Pacific chorus frog, unidentified tadpoles and small fish (in a small pond 0.25-mile north and east of a collector line between T-149 and T-244), and a western rattlesnake.

Impact Analysis

Temporary and permanent impacts are summarized in Attachment 9, Tables 1 and 2. Predicted permanent impacts would total approximately 28 acres and include 0.9-acre of Category 3 shrub-steppe, 0.6-acre of Category 3 CRP, 0.3-acre of Category 4 shrub-steppe, 26 acres of Category 6 agricultural land, and 0.2-acre of Category 6 developed land. Temporary impacts would total approximately 80 acres and include less than 0.1-acre of intermittent stream/riparian trees, 2 acres of Category 3 CRP, 0.8-acre of Category 3 shrub-steppe, 0.3-acre of Category 4 shrub-steppe, 75.7 acres of Category 6 agricultural land, and 1.2 acres of developed land. In summary, agricultural lands would represent approximately 93 percent of both the temporary and permanent impacts from the proposed amendment areas, whereas native shrub-steppe habitat would account for only 4 percent and 1 percent of the temporary and permanent impacts, respectively. Additional detail about impacts by habitat type and ODFW category are provided in Attachment 9, Tables 1 and 2. Figure 7-2 identifies where impacts would occur relative to project facilities.

References

- CH2M HILL. 2007. Amendment 2 to the Biglow Canyon Wind Project Site Certificate Application. Prepared for Portland General Electric. Submitted to the Oregon Department of Energy, Energy Facility Siting Council.
- CH2M HILL. 2006. Amendment to the Biglow Canyon Wind Project Site Certificate Application. Prepared for Portland General Electric. Submitted to the Oregon Department of Energy, Energy Facility Siting Council.

- CH2M HILL. 2005. Biglow Canyon Wind Project Site Certificate Application. Prepared for Orion Energy. Submitted to the Oregon Department of Energy, Energy Facility Siting Council.
- Jeffrey, Jay (WEST), Personal communication. 2008. Emails sent to Bridget Canty, CH2M HILL. June 16 and 17, 2008.
- Oregon Natural Heritage Information Center (ORNHIC). 2008. Data system search for the Biglow Canyon Wind Project.
- Oregon Natural Heritage Information Center (ORNHIC). 2007. *Rare and Endangered Species of Oregon*.
- Portland General Electric (PGE). 2008. Results of 2008 raptor nest survey for the Biglow Canyon Wind Facility (unpublished).
- U.S. Fish and Wildlife Service (USFWS). 2008. Federally listed, proposed, candidate species and species of concern under the jurisdiction of the Fish and Wildlife Service which may occur within Sherman County, Oregon.
- Western Ecosystems Technology, Inc. (WEST). 2005. Wildlife Baseline Study Protocol for the Biglow Canyon Wind Farm Facility, Sherman County, Oregon.

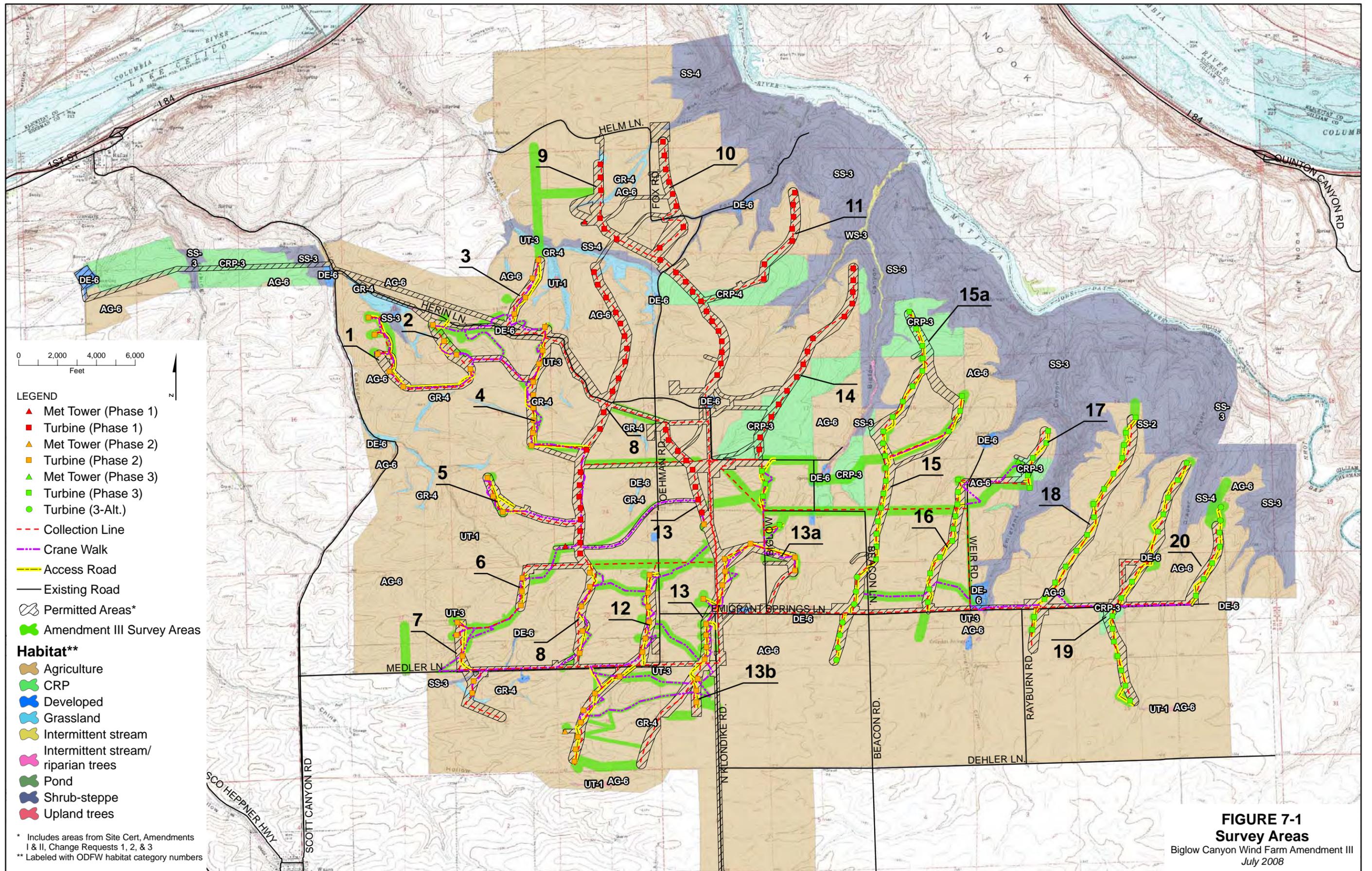
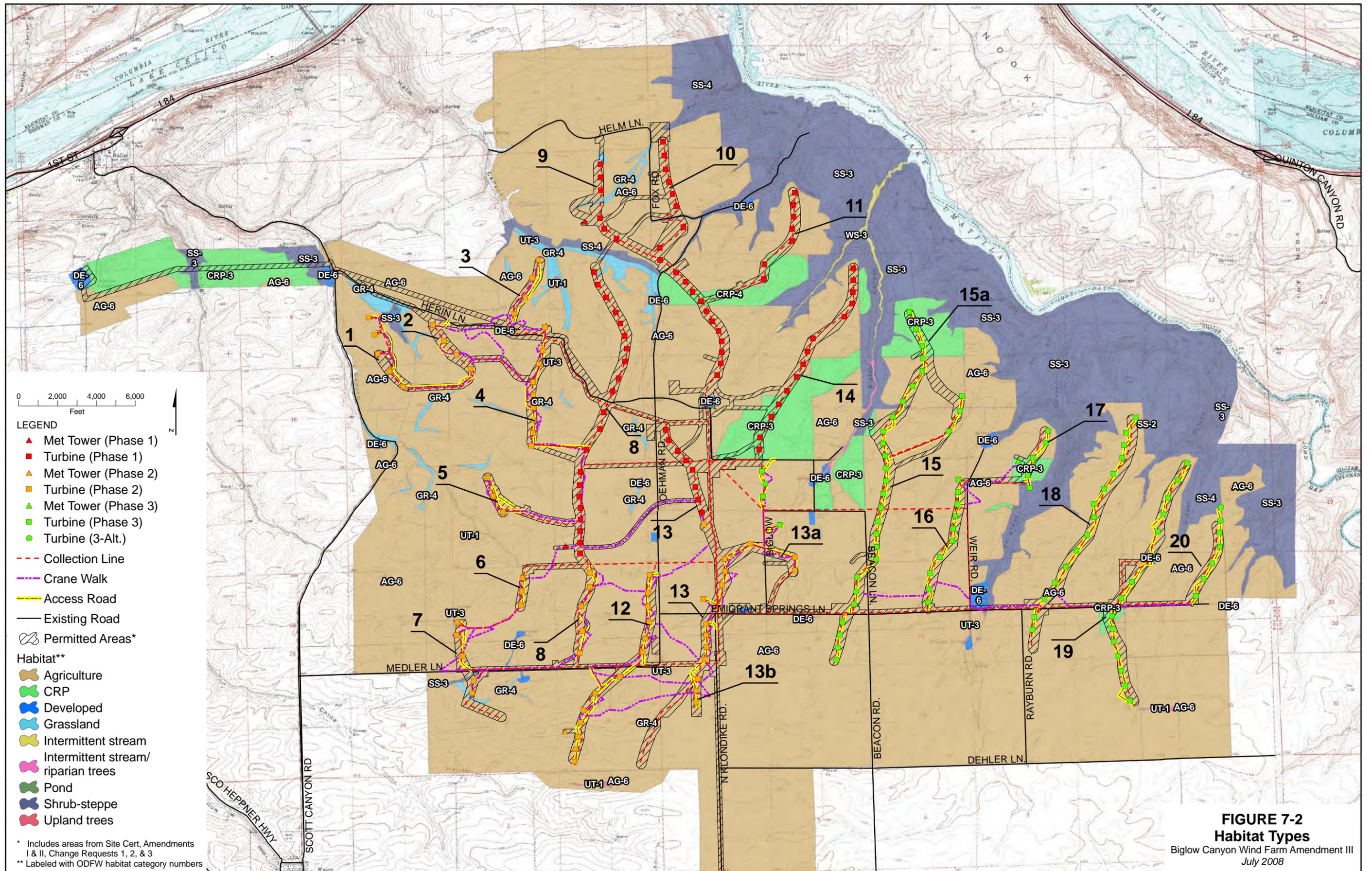


FIGURE 7-1
Survey Areas
 Biglow Canyon Wind Farm Amendment III
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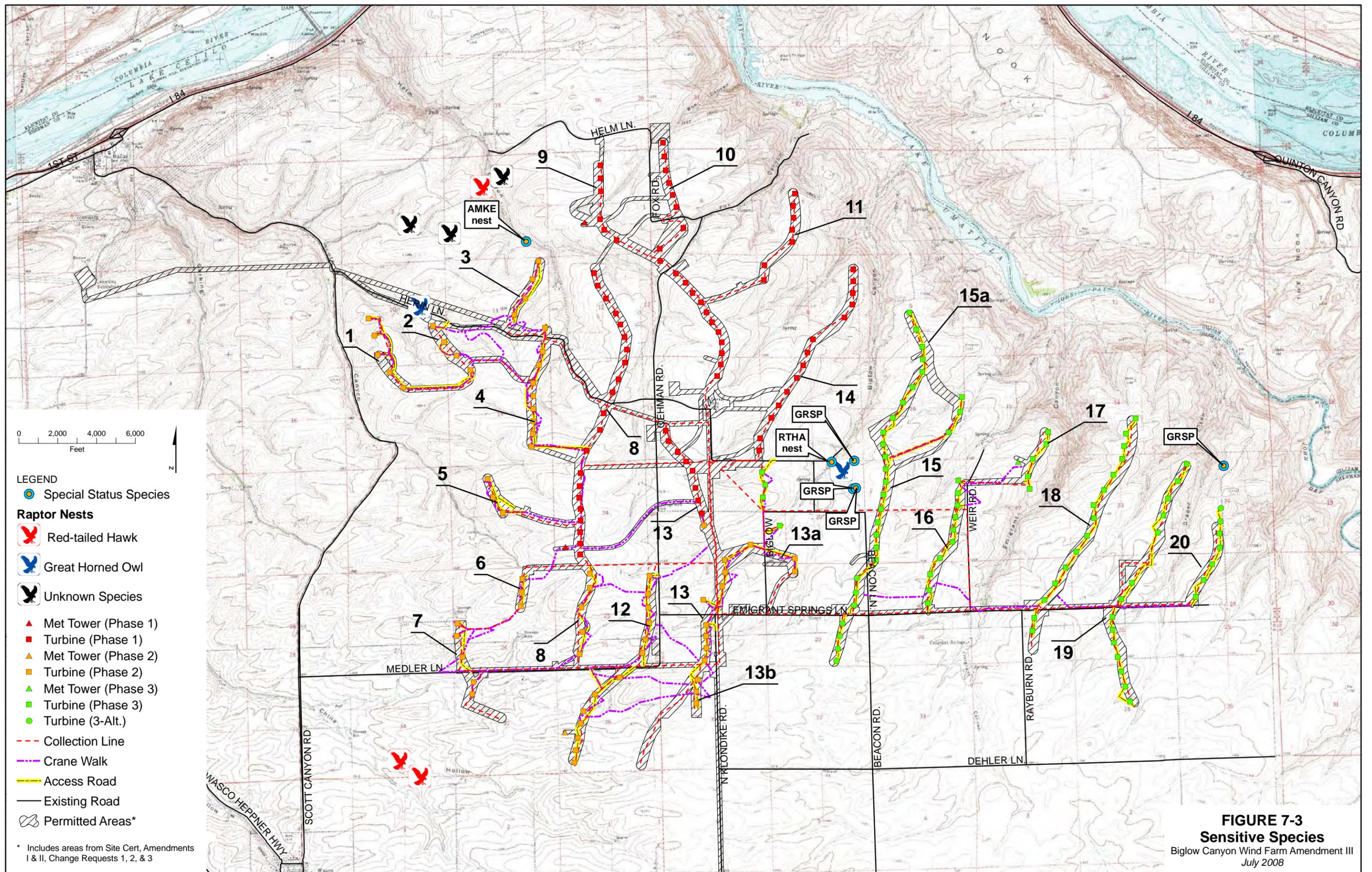


FIGURE 7-3
Sensitive Species
 Biglow Canyon Wind Farm Amendment III
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