Attachment C. General Wildlife Surveys Report

April 4, 2022

High Top Solar, LLC Project

Prepared for:

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Santa Monica, CA 90405

Prepared by:

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Fort Collins, CO

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Acronyms and Abbreviations

Notation	Definition
BCC	Birds of Conservation Concern
BESS	Battery Energy Storage System
CCR	Cypress Creek Renewables, LLC
EFSEC	State of Washington Energy Facility Site Evaluation Council
ESA	Endangered Species Act
°F	degrees Fahrenheit
FR	Federal Register
GIS	Geographic Information System
IPaC	Information for Planning and Consultation
kV	Kilovolt
MBTA	Migratory Bird Treaty Act
MPE	The Maximum Project Extent (MPE) is defined as the area that contains the Project Footprint and additional construction areas.
O&M	Operations and Maintenance
PHS	Priority Habitat Species
Project	High Top Solar, LLC Project
Project Site Control Boundary	Total of the leased areas and easements for the Project
SGCN	Species of Greatest Conservation Need
SR	State Route
Study Area	Survey area for wildlife analysis
SWAP	State Wildlife Action Plan
TRC	TRC Environmental Corporation
USFWS	U.S. Fish and Wildlife Service
WAC	Washington Administrative Code
WDFW	Washington Department of Fish and Wildlife
WSDOT	Washington State Department of Transportation

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1.0 Introduction

Cypress Creek Renewables, LLC (CCR) proposes to construct and operate the High Top Solar, LLC Project (Project). TRC Environmental Corporation (TRC) was contracted by CCR to conduct a review of wildlife policies and regulations that are applicable to the Project, and site assessment field studies in support of siting and permitting the Project. The wildlife analysis provides the findings and regulatory context for energy facility siting and wildlife entitlement in general in Yakima County.

As part of the environmental studies to be included in the Application for Site Certification to the State of Washington Energy Facility Site Evaluation Council (EFSEC), the Washington Department of Fish and Wildlife (WDFW) requested that the Study Area be surveyed for wildlife sensitive species including federally listed, state-listed, and candidate species, state Priority Habitat Species (PHS), and Species of Greatest Conservation Need (SGCN) as identified in the Washington State Wildlife Action Plan (SWAP). The WDFW also recommended conducting a study for nesting raptors within 0.5 miles of the Study Area.

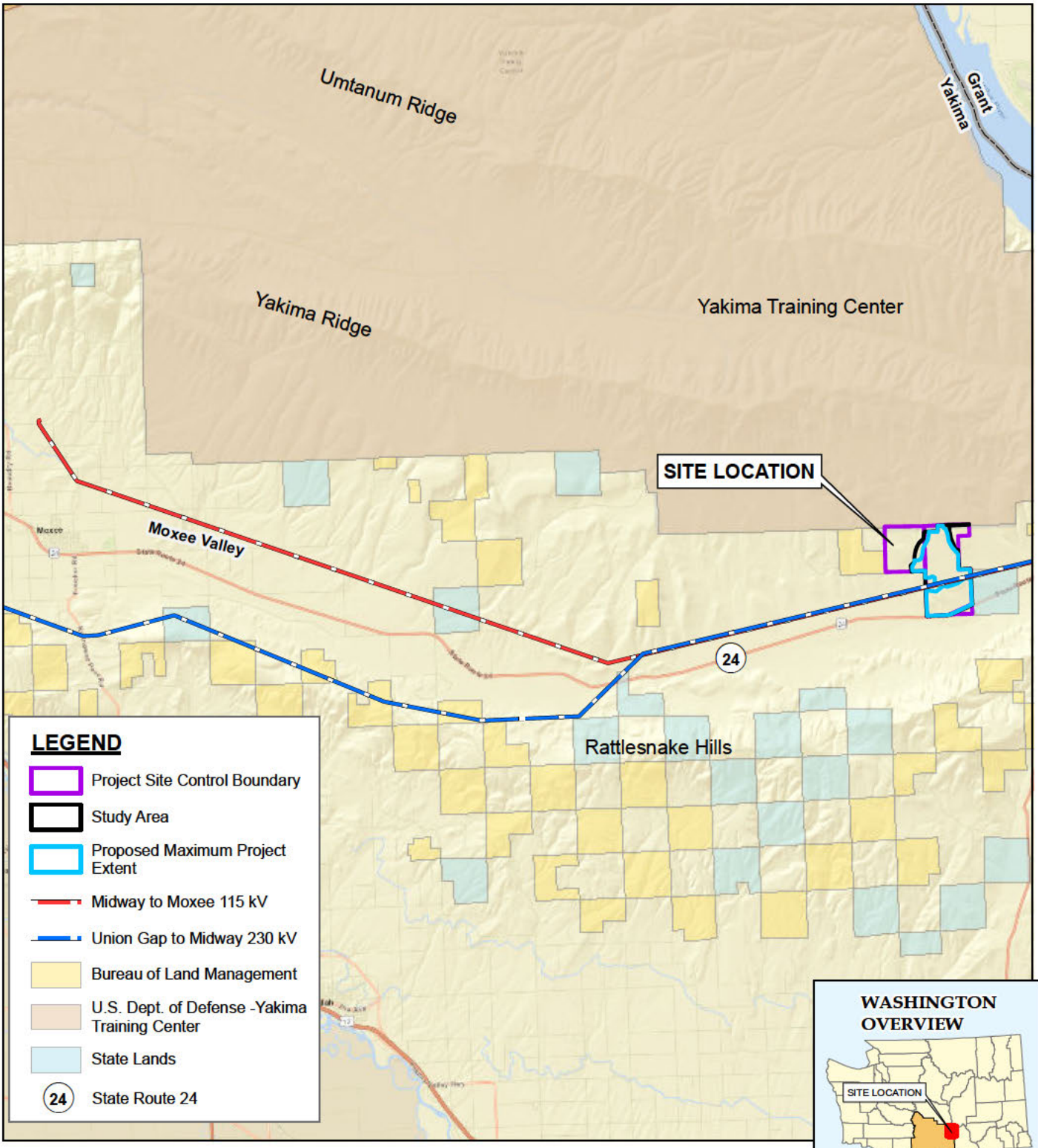
1.1 Background

The Project is situated north of Washington State Route 24 (SR-24), south of the Yakima Training Center, and approximately 20 miles east of the town of Moxee, in Yakima County, Washington (Figure 1-1) The Project Site Control Boundary (~1,564 acres) is defined as the total of the leased areas and easements for the Project (Figure 1-1). Within the Project Site Control Boundary, a smaller Study Area (1,114 acres) was defined for the wildlife resource surveys and habitat mapping (Figure 1-1). The Maximum Project Extent (MPE) is defined as the area that contains the Project Footprint and additional construction areas. The larger extent of the MPE will allow for the shifting of project components, known as micro-siting, based on a final approved project design.

The Project will use solar photovoltaic panels organized in arrays and aggregated to an injection capacity limited to 80 megawatts of alternating current solar capacity at the point of interconnection to the electric power grid. The Project will interconnect through a dedicated switchyard located on the Project adjacent to PacifiCorp's Union Gap-Midway 230 kilovolt (kV) transmission line that runs through the southern part of the Project. PacifiCorp's Union Gap-Midway 230 kV transmission line connects to PacifiCorp's shared Midway substation, which is approximately nine miles east and north of the Project and to PacifiCorp's Union Gap substation, which is approximately 25 miles west of the Project. A security fence will be installed within 20 feet of the final approved locations of the panel arrays. The exact fence line located will be micro-sited based on the final approved design for each Project.

A Battery Energy Storage System (BESS) may be required for the Project. The BESS system will store energy from the Project or grid, which will be supplied to the electrical grid when needed. If required, the BESS will be located next to the Project substation (for alternating current coupled), or as smaller battery cabinets collocated throughout the Project Area at the inverter pad locations (for direct current coupled).

An Operations and Maintenance (O&M) trailer and employee parking will be located just west of the Project substation. The trailer will be permanently located during the life of the Project and will include a bathroom. During construction, the employee parking area and the O&M trailer



Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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PROJECT:

CYPRESS CREEK RENEWABLES, LLC
HIGH TOP SOLAR, LLC
YAKIMA COUNTY, WASHINGTON

TITLE:

HIGH TOP PROJECT OVERVIEW MAP

DRAWN BY:	R. BLAKE
CHECKED BY:	P. LORENZ
APPROVED BY:	E. BERGQUIST
DATE:	MARCH 2022
PROJ. NO.:	422984
FILE:	Fig 1-1_High Top_Overview Map Wildl fe.mxd

FIGURE 1-1

S:\GIS\1-PROJECTS\CCR\Northwest\422984-High Top\Fig 1-1_High Top_Overview Map Wildlife.mxd – Saved By: RBLAKE on 3/16/2022, 09:51:54 AM

footprint will be used as a construction laydown yard. Access to the Project will be from SR-24 on the east side of the MPE.

2.0 Permitting and Regulatory Requirements

2.1 Federal and State Special Status Species

Pursuant to the Federal Endangered Species Act (ESA), the United States Fish and Wildlife Service (USFWS) is responsible for ensuring compliance with the ESA for activities that may result in take of a species listed as threatened or endangered under the ESA. Under the ESA, the definition of "take" is to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or attempt to engage in any such conduct." Under federal regulations, take is further defined to include habitat modification or degradation that results, or is reasonably expected to result, in death or injury to wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. In general, persons subject to the ESA (including private parties) are prohibited from "taking" endangered or threatened fish and wildlife species on private property, and from "taking" endangered or threatened plants in areas under federal jurisdiction or in violation of state law.

Within the State of Washington, the WDFW has the regulatory authority to manage and conserve wildlife resources within state borders. The WDFW maintains a list of species that are identified throughout the state as State Endangered, State Threatened, State Sensitive, or State candidate under Washington Administrative Code (WAC) 220-610-110, as well as species listed or proposed for listing by the USFWS or the National Marine Fisheries Service.

2.2 Migratory Birds and Eagles

Migratory bird species are protected under the Migratory Bird Treaty Act (MBTA). The MBTA implements the U.S.' commitment to four (4) bilateral treaties, or conventions, for the protection of a shared migratory bird resource, protecting more than 800 species of birds. Most native bird species (birds naturally occurring in the United States) belong to a protected family and are therefore protected by the MBTA. Many migratory birds nest in the U.S. and Canada during summer months and migrate south to the southern U.S., tropical regions of Mexico, Central or South America, and the Caribbean for the non-breeding season. Others exhibit shorter migrations and remain in the U.S. to breed and overwinter. These species are protected pursuant to the MBTA under U.S. Code 703-711. The MBTA prohibits the take, kill, possession, and transportation of migratory birds, their eggs, and parts except when specifically permitted. In addition, bald and golden eagles are protected pursuant to the Bald and Golden Eagle Protection Act under 16 U.S. Code 668-668(d), which prohibits the take and disturbance of individual eagles, their nests, eggs, or parts. On January 8, 2021, USFWS issued a final rule codifying the 2017 Department of Interior Solicitor's Office Opinion M-37050 to provide a uniform approach that incidental take of birds resulting from an activity is not prohibited when the underlying purpose of that activity is not to take birds (86 Federal Register [FR] 1134). However, as of December 3, 2021, the USFWS has reverted to the 2017 interpretation of the MBTA which prohibits intentional "take".

3.0 Approach/Methods

3.1 Summary of Consultation

TRC, on the behalf of CCR, conducted initial consultation with WDFW before field surveys were initiated to determine potential concerns regarding habitat, habitat connectivity, and wildlife, and to request agency input and review of study plans. Following a virtual meeting with Yakima County, Washington State Department of Transportation (WSDOT), and WDFW on December 8, 2020, comments were received from Michael Ritter, Wildlife Area Habitat Biologist for the WDFW, including pre-Project assessment approach and guidance on wildlife survey methodology (Appendix A).

A follow-up call with Michael Ritter and Scott Downes (WDFW Wildlife Area Habitat Biologist) occurred on January 5, 2021, during which survey methodology and timing were discussed in more detail. An additional discussion, focused on finalizing survey parameters, was held on February 17, 2021. Once the Study Area was defined and selected for the Project, TRC developed a study plan outlining the proposed wildlife surveys including target species and methodology. The study plan was submitted on March 12, 2021, to Michael Ritter for preliminary feedback. Comments were received from Michael Ritter on March 15, 2021. The study plans were revised in response to the comments.

Several follow up calls were made to Michael Ritter between June 2021 and January 2022, TRC called to inquire about recommended management and mitigation practices, to discuss habitat and species recorded in the Study Area, and to discuss protocols for species-specific surveys (Appendix A).

3.2 Desktop Review

Prior to initiating field surveys, TRC conducted a desktop review to identify sensitive species with the potential to occur in the vicinity of the Study Area and identify general habitat areas. These included federally listed, state-listed, and candidate species, state PHS, state SGCN, and raptors with the potential to nest within 0.5 mile of the Study Area.

3.2.1 Federally Listed Species

During the development of the Study Plan, the USFWS Information for Planning and Consultation (IPaC) Trust Resources Report identified five species with the potential to occur in the vicinity of the Study Area (USFWS 2020; Appendix B). Final critical habitat has been designated for the gray wolf, marbled murrelet, and bull trout, and critical habitat has been proposed for the yellow-billed cuckoo. The Study Area is outside the designated and proposed critical habitats for these species.

Table 3-1 includes a summary of the species, their federal status, habitat requirements, and likelihood to occur within the Study Area based on TRC's desktop review when the Study Plan was developed. As noted above, the IPaC list and the analysis was provided in the Study Plan to WDFW for their review and concurrence. A more recent IPaC review (March 2022) of the Study Area no longer includes the gray wolf, North American wolverine, and marbled murrelet, however, the monarch butterfly (USFWS candidate) is now included (Appendix B). Surveys were not specifically conducted for the monarch butterfly; however, general habitat surveys

were conducted as part of the rare plant and habitat surveys. All observed species in the Study Area were recorded as part of these surveys.

Table 3-1. Federally Listed Species with the Potential to Occur within the Study Area.

Species	Status[1]	Habitat	Potential to Occur within the Study Area
Gray wolf (*Canis lupus*)	Endangered	In the Northwest, most often found in forested areas within relatively flat topography, rolling hills, or open spaces, and tend to prefer areas far from human disturbance.	Low: may disperse through the area. No wolf packs are known to occur near the Study Area.
North American wolverine (*Gulo luscus*)	Proposed Threatened	May occur in a variety of habitats, but primarily found in boreal forests and tundra ecosystems in alpine and subalpine forest habitats. Active territories may be very large.	Very low: Study Area lacks suitable forested and high-elevation habitats.
Marbled murrelet (*Brachyramphus marmoratus*)	Threatened	In Washington, nest in mature and old-growth forests and occasionally in younger forests with residual old-growth trees. Forage in marine waters.	Very low: Study Area lacks suitable nesting or forage habitat.
Yellow-billed Cuckoo (*Coccyzus americanus*)	Threatened	Typically occur in dense stands of willows or cottonwoods associated with riparian floodplains.	Low: no suitable nesting habitat within the Study Area.
Bull Trout (*Salvelinus confluentus*)	Threatened	Occur in very cold waters, with stable stream channels, gravel substrates, diverse cover, and unblocked migration routes.	None: no perennial waters identified within the Study Area.
Monarch Butterfly (*Danaus plexippus*)	Candidate	Monarch butterflies are associated with the obligate host plant, milkweed (*Asclepias* spp.), considered widespread throughout the west and frequently found in fields and pastures and along roadsides.	Low: no milkweed species were identified in the Study Area and there are no nearby perennial waters typically associated with terrestrial monarch butterfly habitats or migration corridors.

[1] Status as of 2020 IPaC report for the gray wolf, North American wolverine, and marbled murrelet. Status as of 2022 IPaC (USFWS 2022) for the yellow-billed cuckoo, bull trout, and monarch butterfly (Appendix B).

3.2.2 Washington Sensitive Species

3.2.2.1 State-listed and Candidate Species

Based on a review of WDFW databases, state-listed threatened and endangered species, and species listed as candidates for state listing having the potential to occur in the vicinity of the Study Area are listed in Table 3-2 (WDFW 2013, 2020a,b, 2021a). The federally listed gray wolf, marbled murrelet, and yellow-billed cuckoo are also state-listed as endangered. These species

are discussed above. Table 3-2 includes a summary of the species, their federal status, habitat requirements, and likelihood to occur within the Study Area based on TRC's desktop review.

According to the WDFW PHS Report, several state-listed and candidate species have been previously recorded in the vicinity of the Study Area and analyzed in detail below.

Greater Sage-grouse

Greater sage-grouse are sagebrush obligate species that require large, intact areas of shrub-steppe habitat dominated by sagebrush with a diverse herbaceous understory, and springs or wet areas nearby that support green vegetation in late summer.

Several occurrences, including areas identified as breeding areas for greater sage-grouse are recorded in the townships to the north and northwest of the Study Area (T13N, R23E and R22E), about one mile north of the Study Area at the nearest point (Appendix C). The exact locations of these occurrences are not provided due to this species' sensitive status. Although these occurrences are nearby, greater sage-grouse is unlikely to use the Study Area itself as it lacks large stands of suitable unconverted shrub-steppe habitat.

Ferruginous Hawk

Ferruginous hawks can be found in open, arid grasslands or shrub-steppe habitats with an abundance of prey species for foraging. Nesting habitat for ferruginous hawks in Washington include rock outcrops on the slopes of steep hillsides, cliffs, canyons, or in isolated trees. They are also known to build upon the remains of existing hawk or raven nests.

Ferruginous hawk occurrences have been recorded in several of the townships in the surrounding area (T11N, R22E; T11N, R23E; T12N, R24E; and T12N, R23E), the nearest of which is about one mile north of the Study Area. Because of this species' sensitive status, the exact locations of these occurrences are not provided (Appendix C). In addition, the eBird website notes several occurrences of ferruginous hawks within several miles of the Study Area, the closest of which was seen about 0.5 mile east from SR-24, associated with the Black Rock Valley hotspot (eBird 2021b). eBird is a collaborative enterprise with hundreds of partner organizations, thousands of regional experts, and hundreds of thousands of users—both professional and non-professional birders. Sightings reported by users to eBird are managed by the Cornell Lab of Ornithology.

Burrowing Owl

Burrowing owls occur in open grassland and shrub-steppe habitats and nest in abandoned mammal burrows previously excavated by species such as ground squirrels, badgers, and marmots. They generally exhibit high site fidelity, returning to the same or nearby burrows year after year (Rich 1984; Feeney 1992). Burrowing owls do appear to be attracted to agricultural areas, likely due to an abundance of prey species, however, the rates of natal recruitment (the return of an individual to its place of birth to breed) and adults returning to agriculture areas are lower, suggesting that agricultural areas may constitute a population sink (WDFW 2021b).

The WDFW PHS report identifies a breeding location for burrowing owls approximately 0.3 mile east of the Study Area. WDFW notes multiple burrows at this location (Appendix C). Several sightings of burrowing owls have also been recorded on the eBird website about 0.5 mile east, south of SR-24, associated with the Black Rock Valley hotspot (eBird 2021a).

Table 3-2. State-listed, Candidate, and Priority Habitat Species with the Potential to Occur in the Study Area

Species[1,2]	Status[3]	Habitat	Potential to Occur within the Study Area
American badger (*Taxidea taxus*)	SGCN	Occurs in grasslands, shrub-steppe, desert, dry forests, parklands, and agricultural areas, and require soils that allow the excavation of den sites and support burrowing prey species (such as ground squirrels).	Moderate to high: the Study Area contains suitable habitat for badgers, and the number of burrows observed during earlier surveys may indicate an adequate amount of prey species that could support badgers.
Black-tailed jackrabbit (*Lepus californicus*)	Candidate, SGCN, PHS	Occurs in areas of sagebrush and rabbitbrush, as well as areas of mixed grassland and shrub. Tend to prefer areas with greater concentrations of shrubs than grasses.	Moderate to high: the Study Area contains abundant grassland and areas dominated by shrub species.
Burrowing owl (*Athene cunicularia*)	Candidate, SGCN, PHS	Occurs in steppe and shrub-steppe habitat and uses abandoned mammal burrows for nesting. Habitats include open grasslands, prairie, plains, savannahs, and vacant lots near human-occupied areas.	Moderate: the Study Area contains suitable grassland and open habitat and mammal burrows have been recorded in the Study Area. The closest recorded breeding area is ~0.3 mile east of the Study Area.
Ferruginous hawk (*Buteo regalis*)	Threatened, SGCN, PHS	Prefers open habitats with short vegetation that provides abundant prey. Nests on small rock outcrops on steep hills, canyons, or in isolated trees.	Low for nesting, moderate for foraging: The Study Area may provide adequate open terrain for foraging, but does not contain rock outcrops, cliffs, or trees suitable for nesting. The species and habitat have been recorded north of the Study Area.

Species[1,2]	Status[3]	Habitat	Potential to Occur within the Study Area
Golden eagle (*Aguila chrysaetos*)	Candidate, SGCN, PHS	Found primarily in dry, open forests of eastern Washington, as well as shrub-steppe, canyonlands, and high-elevation areas. Nests are typically situated on cliff ledges, rock outcrops, large trees, and human-made structures.	Low: may forage in shrub-steppe habitats. The Study Area lacks suitable rock outcrops or cliffs to support nesting eagles.
Greater-sage grouse (*Centrocercus urophasianus*)	Threatened, SGCN, PHS	Requires large areas of shrub-steppe habitat dominated by sagebrush. Wintering grouse may use degraded habitat lacking the grasses and forbs necessary for nesting and brooding.	Low: the Study Area lacks suitable, undisturbed habitat; however, the species has been recorded in the vicinity.
Loggerhead shrike (*Lanius ludovicianus*)	Candidate, SGCN, PHS	Breeds and forages in open areas, including shrub-steppe and grassland habitats with scattered tall shrubs or fence posts. Generally, nests in dense, thorny trees or shrubs.	Moderate: the Study Area contains shrub-steppe and grassland habitats that could support this species. This species has been recorded several miles northeast of the Study Area.
Prairie falcon (*Falco mexicanus*)	PHS	Inhabits the arid environments of eastern Washington, and nests on cliffs in steppe and shrub-steppe habitats.	Low: the nearest recorded occurrence is approximately 2.75 miles northeast of the Study Area. The Study Area appears to contain suitable foraging habitat but does not appear to contain suitable nesting habitat for this species.
Rocky Mountain elk (*Cervus canadensis nelsoni*)	PHS	This subspecies is primarily found in the mountain ranges and shrub-steppe of eastern Washington, with small herds being established throughout the Pacific Northwest.	High: the WDFW PHS report shows the entire region surrounding the Study Area as wintering habitat for this species. Individuals and sign such as antlers and scat have been observed within the Study Area.

Species[1,2]	Status[3]	Habitat	Potential to Occur within the Study Area
Sage thrasher (*Oreoscoptes montanus*)	Candidate, SGCN	Generally, depends on large stands of sagebrush for breeding but has been known to use smaller fragments among agricultural fields.	Moderate: the Study Area contains fragmented sagebrush habitat.
Sagebrush sparrow (*Artemisiospiza nevadensis*)	Candidate, SGCN	In eastern Washington, nests in shrub-steppe habitat, and prefers areas with large expanses of unconverted shrub-steppe habitat.	Moderate: suitable habitat is present within the Study Area. This species has been recorded in the vicinity of the Study Area (WDFW 2020a,b).
Townsend's ground squirrel (*Urocitellus townsendii townsendii*)	PHS	Occurs in shrub-steppe, native grasslands, pastures, orchards, vineyards, as well as in disturbed areas such as highway margins, vacant lots, or canal banks with ample soil depths to provide space for burrow construction. In Washington, they are endemic to the Columbia Basin, west of the Columbia River.	Moderate to high: the closest recorded occurrence is approximately 0.7 mile west of the Study Area, where they have been documented in regular concentrations. The Study Area contains suitable shrub-steppe habitat for this species and evidence of fossorial species' burrows.
White-tailed jackrabbit (*Lepus townsendii*)	Candidate, SGCN	Occurs in hilly areas or on plateaus, and prefers areas dominated by bunchgrasses with limited shrub cover.	Moderate to high: Study Area contains suitable hilly grassland habitat, dominated by bunchgrass.

[1] State-listed species yellow-billed cuckoo is also federally listed and covered in Table 4-1.
[2] Four additional state candidate species (sagebrush lizard, striped whipsnake, Townsend's big-eared bat, and Western bumble bee) were identified as not having associated habitat within the Study Area in early-stage studies conducted in support of the Project. Therefore, they are not included in the habitat analysis for state-listed species conducted in this report. WDFW concurred with the assessment for these four species in the review of the Study Plan.
[3] Federal status is based on 2020 IPaC report for the gray wolf, North American wolverine, and marbled murrelet, and 2022 IPaC (USFWS 2022) for the yellow-billed cuckoo, bull trout, and monarch butterfly (Appendix B).

Sagebrush Sparrow

The sagebrush sparrow is a sagebrush obligate species and is sensitive to patch size, preferring areas with large expanses of unconverted shrub-steppe, typically areas greater than 2,500 acres. Nests are built in or under big sagebrush.

The sagebrush sparrow has also been recorded in close proximity to the Study Area, the nearest of which was approximately two miles to the north of the Study Area, within the Yakima Training Center property (Appendix C). This area appears to contain large areas of unconverted shrub-steppe habitat, based on a review of aerial imagery (Google Earth Pro 2021). In contrast, the Study Area contains only fragmented stands of shrub-steppe habitat. While this species may occur in the general area, it is unlikely to inhabit or nest within the Study Area.

3.2.2.2 Other Sensitive Species

In addition to the state-listed and candidate species described above, several other species were identified that may be sensitive to impacts from habitat loss, based on the WDFW PHS Report (Appendix C), habitat connectivity maps (WHCWG 2010 and 2011), and consultation with WDFW (Appendix A). In addition, the Yakima County Geographic Information System (GIS) website maps the entire area as Upland Wildlife Habitat (Yakima County 2020).

PHS identified by the WDFW database include burrowing owl and golden eagle (as identified in state-listed and candidate species above), prairie falcon (*Falco mexicanus*), Rocky Mountain elk (*Cervus canadensis nelsoni*), and Townsend's ground squirrel (*Urocitellus townsendii townsendii*). In addition to the PHS species identified, WDFW has also recommended the American badger (*Taxidea taxus*), a SGCN under the Washington SWAP (WDFW 2015), be included in the analysis (Appendix A) as the species is highly vulnerable to loss of terrestrial habitat (WHCWG 2010 and 2011). According to the WDFW PHS Report, those species previously recorded in the vicinity of the Study Area are analyzed in detail below.

Prairie falcon

Prairie falcons typically inhabit dry climates, such as arid grasslands or shrub-steppe habitats. They are known to use a wide variety of rock and cliff substrates for nesting, ranging from 400-foot basalt cliffs to escarpments that are raised only 20 feet from a sloping canyon wall. They forage on a variety of prey common to steppe and shrub-steppe habitats. The invasive grasslands and shrub-steppe areas within the Study Area could be expected to provide suitable forage habitat for prairie falcons and the numerous mammal burrows observed in previous surveys suggests the potential for an adequate prey base to support this species. Based on the desktop review, suitable rock outcrops or cliffs that could support nesting falcons do not appear to be present within the Study Area. As such, the species would not be expected to nest within the MPE. Suitable nest substrates may be present in the surrounding area.

The WDFW PHS report identifies an historic prairie falcon nest location approximately 2.75 miles east-northeast of the Study Area. This nest was recorded in 1988, so it may no longer be present (Appendix C). Prairie falcon sightings have also been recorded more recently (2014) from SR-24, the closest of which was approximately 0.5 miles east of the Study Area (eBird 2021c).

Rocky Mountain elk

This subspecies is primarily found in the mountain ranges and shrub-steppe of eastern Washington, with small herds being established throughout the Pacific Northwest. The Project is within Game Management Unit 372 and overlaps with the Yakima elk herd and Rattlesnake Hills sub-herd ranges. The Rattlesnake Hills sub-herd is mainly located on the Arid Lands Ecology Reserve, west of the Project, but has been observed moving onto the Yakima Training Center due to historic fires and the need for winter forage.

The WDFW PHS report shows the entire region surrounding the Study Area as wintering habitat for this species (Figure 3-1; Appendix C). Although much of the Study Area has been converted from shrub-steppe habitat for cattle grazing use, elk would be likely to use the Study Area and surrounding area to forage. Carcass Removal Data provided by WSDOT for SR-24 within one mile of the Project indicated the presence of elk in the vicinity of the MPE (WSDOT 2021) (Figure 3-2).

Townsend's ground squirrel

Townsend's ground squirrels are known to occur in shrub-steppe, native grasslands, pastures, orchards, vineyards, as well as in disturbed areas such as highway margins, vacant lots, or canal banks. In Washington, they are endemic to the Columbia Basin, west of the Columbia River. Occupied habitat must have ample soil depths to provide space for burrow construction (WDFW 2013).

According to the WDFW PHS report, the closest recorded occurrence is approximately 0.7 mile west of the Study Area, where they have been documented in regular concentrations. The Study Area contains suitable shrub-steppe habitat for this species and, given the number of burrows observed during previous surveys, this species is likely to use the Study Area.

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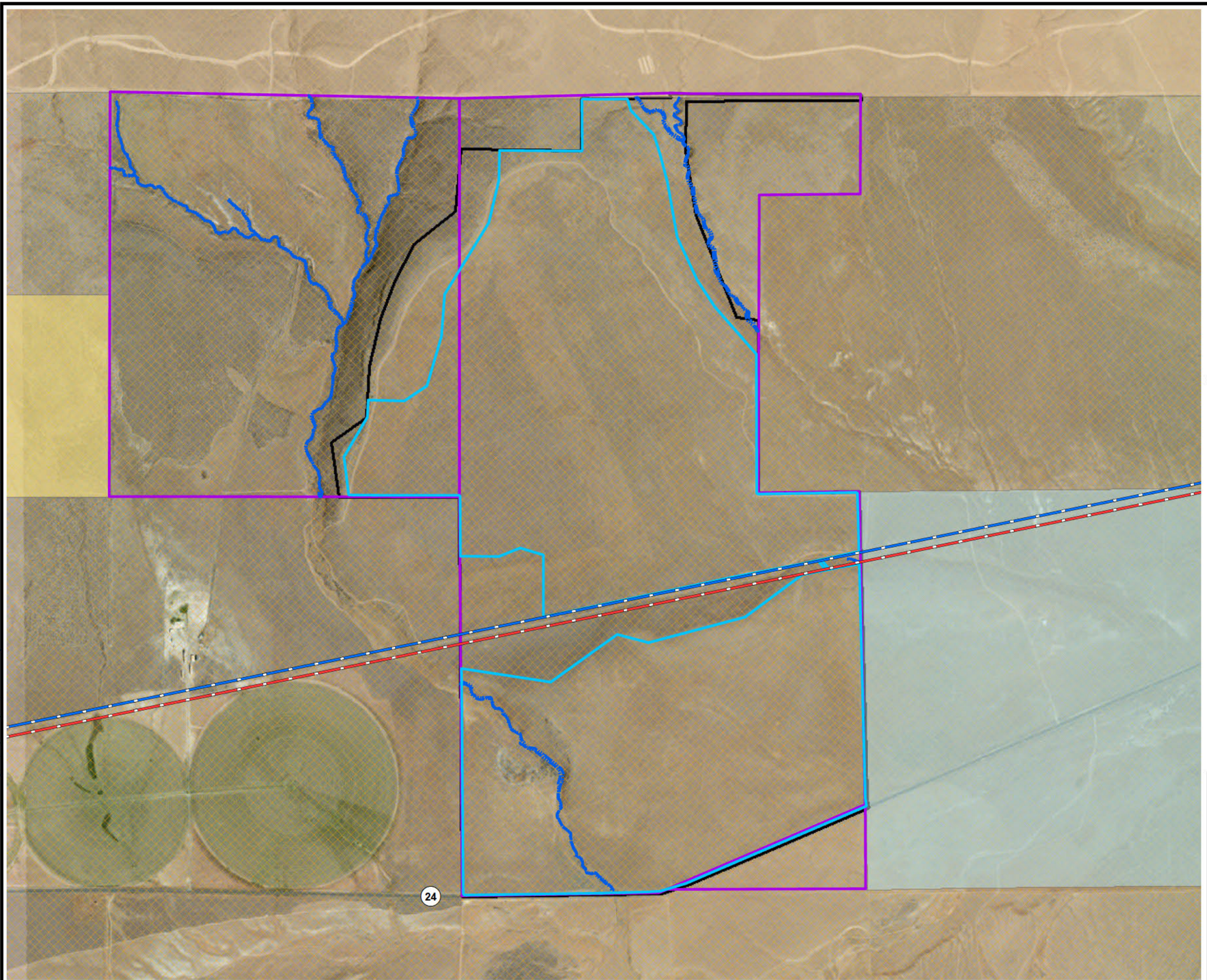
TRC - GIS

Coordinate System: NAD 1983 StatePlane Washington South FIPS 4602 Feet (Foot US)
Map Rotation: 0

Plot Date: 3/16/2022, 09:54:17 AM by RBLAKE – LAYOUT: ANSI B (11"x17")
Path: S:\GIS\1-PROJECTS\CCR\Northwest\422984-High Top\Fig 3-1 High Top Elk Wintering Habitat.mxd



LEGEND

- Project Site Control Boundary
- Study Area
- Proposed Maximum Project Extent
- Elk Wintering Area
- Ephemeral Channel
- Midway to Moxee 115 kV
- Union Gap to Midway 230 kV
- Bureau of Land Management
- U.S. Dept. of Defense-Yakima Training Center
- State Lands
- 24 State Route 24

NOTES

1. BASE MAP IMAGERY FROM ESRI/MAXAR 2019.

N

0 1,000 2,000 Feet

1 " = 1,250 '
1:15,000

PROJECT:
CYPRESS CREEK RENEWABLES, LLC
HIGH TOP SOLAR, LLC
YAKIMA COUNTY, WASHINGTON

TITLE:
HIGH TOP ELK WINTERING AREA

DRAWN BY:	R. BLAKE	PROJ. NO.:	422984
CHECKED BY:	P. LORENZ		
APPROVED BY:	E.BERGQUIST		**FIGURE 3-1**
DATE:	MARCH 2022		

TRC
11180 NW Maple St. Suite 310
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425-395-0010
www.trccompanies.com

FILE NO.: Fig 3-1 High Top Elk Wintering Habitat.mxd

Figure 3-2. Wildlife Observations

Confidential – Not for Public Distribution

3.2.3 Migratory Birds

According to the USFWS Birds of Conservation Concern (BCC) lists, 34 bird species (Table 3-3) have the potential to occur as migratory species in Bird Conservation Region 9, Great Basin, which intersects the MPE (USFWS 2021).

Table 3-3. Birds of Conservation Concern for Bird Conservation Region 9

Common Name	Scientific Name
Western Grebe	*Aechmophorus occidentalis*
Clark's Grebe	*Aechmophorus clarkii*
Black Swift	*Cypseloides niger*
Calliope Hummingbird	*Selasphorus calliope*
Rufous Hummingbird	*Selasphorus rufus*
Broad-tailed Hummingbird	*Selasphorus platycercus*
Yellow Rail	*Coturnicops noveboracensis*
American Avocet	*Recurvirostra americana*
Snowy Plover (Interior/Gulf Coast)	*Charadrius nivosus*
Marbled Godwit	*Limosa fedoa*
Red Knot (Pacific)	*Calidris canutus roselaari*
Pectoral Sandpiper	*Calidris melanotos*
Lesser Yellowlegs	*Tringa flavipes*
Willet	*Tringa semipalmata*
Franklin's Gull	*Leucophaeus pipixcan*
California Gull	*Larus californicus*
Black Tern	*Chlidonias niger surinamensis*
Forster's Tern	*Sterna forsteri*
American White Pelican	*Pelecanus erythrorhynchos*
Northern Harrier	*Circus hudsonius*
Flammulated Owl	*Psiloscops flammeolus*
Long-eared Owl	*Asio otus*
Short-eared Owl	*Asio flammeus*
Lewis's Woodpecker	*Melanerpes lewis*
Olive-sided Flycatcher	*Contopus cooperi*
Pinyon Jay	*Gymnorhinus cyanocephalus*
Bendire's Thrasher	*Toxostoma bendirei*
Sage Thrasher	*Oreoscoptes montanus*
Evening Grosbeak	*Coccothraustes vespertinus*
Black Rosy-Finch	*Leucosticte atrata*
Cassin's Finch	*Haemorhous cassinii*
Cassia Crossbill	*Loxia sinesciuris*
Bobolink	*Dolichonyx oryzivorus*
Virginia's Warbler	*Leiothlypis virginiae*

Source: USFWS 2021

During review of the Study Plan, WDFW requested that long-billed curlew be included as part of the Study Plan (Appendix A). In addition, the long-billed curlew was identified by the USFWS 2020 IPaC report as potentially occurring within the Study Area (USFWS 2020; Appendix B). They breed primarily in the Columbia Basin, using a variety of native and non-native grasslands, pasture lands, and croplands for nesting. The primary breeding season for this species typically ranges from early April to late June (Fellows and Jones 2009). Thus, suitable breeding habitat appears to be present within the Study Area. Recent updates to the USFWS BCC lists (USFWS 2021) no longer include the long-billed curlew as a BCC species within the Bird Conservation Region 9, Great Basin (Table 3-3).

3.2.3.1 Nesting Raptors

Prior to conducting field surveys, TRC obtained the locations of known raptor nests within 0.5 mile of the Study Area from publicly available sources including the WDFW PHS report (Appendix C) and eBird website (eBird 2021a, b, c). No historic raptor nests are found within 0.5 mile of the Study Area.

3.2.4 Wildlife Habitat Mapping

TRC used aerial imagery, publicly available landcover data, Wildlife Habitat Connectivity Statewide Analysis, Columbia Plateau Ecoregion Analysis, Arid Lands Initiative Conservation Priorities, and WDFW priority habitat information to create a draft map of the general habitat types in the Study Area. General habitat types in the Study Area were identified and named to be consistent with those used by the WDFW and described in the WDFW Wind Power Guidelines (WDFW 2009).

The WDFW Wind Power Guidelines list grassland, shrub, and forested habitat types in eastern and western Washington as well as "common habitats" to eastern and western Washington. The document includes general descriptions for each habitat type. Each of the habitat types are assigned a habitat classification (Class I, II, III, and IV). Mitigation requirements in the Wind Power Guidelines are described by Habitat Classification (WDFW 2009). However, the Wind Power Guidelines and mitigation requirements do not take into account the quality of habitat present. Habitat quality can be impacted by fragmentation, historic and current disturbances, wildlife fire, climate conditions, noxious weed presence, and other stressors.

Wildlife connectivity analysis will be conducted in the spring of 2022 and included as an addendum to the Wildlife Report.

3.3 Field Surveys

A team of two TRC field biologists conducted two site visits, one from April 13 to April 16, 2021, and another from May 14 to May 16, 2021. Surveys were spaced one month apart to account for variation in seasonal activity. No surveys were conducted when wind speeds exceeded 25 kilometers per hour (15.5 miles per hour) (Beaufort scale of approximately four or less) to increase species detectability.

During the April and May 2021 field surveys, TRC biologists Nathalie Denis and Alan Plumeau walked parallel transects spaced approximately 60 meters apart for a survey coverage of 30 meters on either side of each biologist. Transects were oriented east to west, to parallel the topographic features. All survey transects were tracked using GPS to ensure adequate survey coverage. If a sensitive species, signs of recent sensitive species activity, or potential or active

burrows were observed, the biologists recorded the location, number of individuals, behaviors observed, and other relevant details. During the surveys, biologists walked at a similar pace to ensure no gaps in coverage, listened for wildlife calls, and scanned the ground for burrows and other signs of wildlife activity. Field biologists communicated findings via cell phones to avoid duplication of data. When wildlife species were observed or heard, or if potential or occupied burrows were observed, the surveyor would alert the other biologist and then listen and visually scan the area for additional signs of activity. The wildlife species observed during surveys were recorded (Appendix B).

3.3.1 Fossorial Species

Sensitive species with the potential to occur in the Study Area that inhabit underground burrows or tunnels include the American badger (SGCN), burrowing owl (state candidate for listing), and Townsend's ground squirrel (PHS; Table 3-2). During the surveys, biologists recorded observations of all potential and occupied burrows. Potential for use by these species was determined by the size and condition of the burrow entrance. Occupancy of burrows was determined by an observation of an individual near a burrow, or of signs of recent activity in or near the burrow entrance. When an occupied burrow was recorded, biologists searched the surrounding area for other occupied burrows by walking concentric circles around the burrow in predefined distances determined by species.

Badgers may occur in grasslands, shrub-steppe, desert, dry forests, parklands, and agricultural areas, and require soils that allow the excavation of den sites and support fossorial prey species (such as ground squirrels). Burrows excavated by badgers may be used by burrowing owls or other mammal species. The current distribution of this species in the state includes portions of eastern Washington from the eastern Cascade foothills to the Idaho border. Potential badger burrows were defined as those with an entrance measuring greater than seven inches in diameter with greater than 50 percent of the opening clear, but no signs of recent activity within or adjacent to the burrow entrance (Finger et al. 2007). Occupied badger burrows were those meeting the size criteria and with signs of recent activity, such as scat or tracks near the burrow entrance, or if an individual was seen nearby.

Potential burrowing owl burrows were those with clear entrances and openings at least four inches in diameter. An active or "occupied burrow" was defined for burrowing owl as having at least one observation, or alternatively, molted feathers, cast pellets, prey remains, eggshell fragments, or excrement at or near a burrow entrance (California Burrowing Owl Consortium 1993). A burrow was determined to be an active nest site if juveniles were observed, if one or more owls were observed outside at a burrow twice, at least one month apart, or if an adult was observed near a burrow that had signs of recent activity.

Potential Townsend's ground squirrel burrows were those freshly dug with a clear entrance (no vegetation or dense cobwebs), structurally sound but with no other Townsend's ground squirrel signs (scat, visual, audio) observed, and a diameter of at least 2.25 inches, This diameter is based on the size of Washington ground squirrel burrows (Goodman 2003), which are similar to those of Townsend's ground squirrels, but are not known to occur in Yakima County (WDFW 2021c). Small (greater than 2.25 inches) to large open burrows were considered potential Townsend's ground squirrel burrows. A Townsend's ground squirrel colony is defined as "active" when Townsend's ground squirrel activity is confirmed through visual detection of a squirrel, audio confirmations (hearing alarm or social calls), and/or fresh scat near burrows. Goodman (2003) describes the size of a Washington ground squirrel burrow to be approximately 2¼-2¾ inches, which is applicable to the Townsend's ground squirrel burrow. However, the species is

also known to occupy badger burrows and pocket gopher tunnels as well. Hence, any burrow ≥2¼ inches in diameter was considered active if ground squirrel droppings or signs were present in the burrow or around the entrance (Finger et al. 2007).

3.3.2 Raptor Nest Survey

TRC conducted a pedestrian survey of the Study Area and a 0.5-mile buffer for nesting raptors during the breeding season (April 16, 2021) to assess nesting activity and to determine if nest buffers may need to be implemented during construction. Biologists searched for nests by walking the Study Area and using binoculars to search for nests in areas containing suitable habitat. Biologists also searched from a vehicle on access roads and SR-24 using a spotting scope and binoculars. Because access is prohibited within the Yakima Training Center, located immediately to the north of the Study Area, the portions of the 0.5-mile buffer where access was not possible were surveyed from accessible vantage points using a spotting scope and binoculars.

Field biologists noted the locations of all raptors observed to determine if a territory may be occupied. If a nest was observed, its condition (e.g., poor, fair, good, excellent), substrate (e.g., tree, manmade structure, ridgetop, rock outcrop) and location would be recorded, and each nest photographed. Territories were considered occupied if biologists observed individuals in the vicinity of a nest site or known breeding area, fresh lining material in a nest, a recent and well-used perch site near a nest, or fresh excrement near a nest. Alternatively, in areas where nests may not be visible (e.g., Yakima Training Center), multiple observations of a raptor species could indicate occupancy of a territory and the potential presence of a nest nearby. A nest was considered active if biologists observed any of the following: adults defending a territory, courtship displays, nest-building, incubating or brooding behavior, or if the presence of eggs or young on the nest could be detected.

If a nest was observed, biologists used the following procedures to minimize the potential adverse effects to nesting raptors (Call 1978; Grier and Fyfe 1987):

- Nests were approached with caution and relevant information was determined from a distance with binoculars and/or a spotting scope.
- If necessary, to approach a nest, this was done tangentially and in an obvious manner to avoid disturbance to raptors to the extent possible.
- Nests were not approached during adverse weather conditions (extreme temperatures, high winds, or precipitation events).
- Visits were kept as brief as possible and the number of visits to the vicinity of each nest were kept to a minimum.

Surveys for nesting burrowing owls were conducted as described in Section 4.4.1, Fossorial Species, above.

3.3.3 Wildlife Habitat Mapping

Based on the initial wildlife map created during the desktop review, TRC field-verified habitats identified during the rare plant and wildlife surveys in the 2021 field season. Habitat types were identified based on dominant vegetation present, topographic characteristics, presence of noxious weeds, and past and current disturbance impacts. Habitat quality was determined for each habitat type in terms of disturbance including fragmentation, noxious weeds, grazing,

drought, and other stressors. Available historic wildfires data in the area were used to assist in evaluation of the wildlife habitat types in the Study Area. Sagebrush shrub steppe habitat was evaluated in the field for structural components including shrub size, shrub space, percent alive and dead, biological crust, and sagebrush shrub-steppe obligate species presence. From the field verified results, habitat types boundaries were updated digitally, acres of each habitat type calculated, and a habitat map developed for the Project Area.

4.0 Survey Results

The Study Area is found in the Columbia Plateau Ecoregion. The landscape in this ecoregion consists of expansive sagebrush covering plains and valleys, with isolated mountain ranges and river systems (Clarke and Bryce 1997). The Study Area is located on a south-facing slope of an anticline. Numerous ravines and gullies are located across the south-facing slope; ravines found on higher and steeper portions of the anticline are reduced to gullies on lower slopes. Much of the alluvium at the toe of the slope may have originated from mass wasting events that long-ago created the ravines high on the slope (Foxworthy 1962). Elevations within the Study Area range from 1,480 to 2,060 feet.

The climate in the Study Area and surrounding region consists of cool, dry summers (average high 88 degrees Fahrenheit [°F]) and mild, wet, and cloudy winters (average low of 21 °F) with the wettest months being December and January. The local area is currently experiencing extreme drought. In July 2021, a drought emergency was declared for most of the watersheds in Washington including those in Yakima County.

Soils are derived from deposition of material resulting from erosion of the nearby McCullough Range. The soils in the Study Area are predominantly mixed alluviums ranging from gravelly sandy loam to stony sandy loam. Ephemeral discontinuous channels and erosional features are found throughout the Study Area.

The Study Area is currently active rangeland. Historic land use based on aerial photographs shows portions of the Study Area appearing to be used for agricultural purposes. Ephemeral discontinuous channels and erosional features are found throughout the Study Area.

4.1 Federally Listed Species

No federally listed species were observed during the surveys.

4.2 Washington State Sensitive Species

4.2.1 State-listed and Candidate Species

4.2.1.1 Sagebrush Sparrow

Calls from sagebrush sparrow were heard [redacted] during the May 2021 field surveys. This area was observed to be fairly undisturbed and is located at the bottom of a crater-like formation.

4.2.1.2 Rocky Mountain Elk

During the field surveys, elk were observed within the Study Area, as well as antlers, scat, and tracks (Figure 3-2). WDFW (2020b), considers the Study Area and surrounding region year-round and wintering habitat for elk, with approximately 130 individuals associated with the Department of Energy's Arid Lands Ecology Reserve (Appendix C).

4.2.1.3 Sensitive Raptor Species

Burrowing Owl

No burrowing owls were observed during the field surveys. Many medium (greater than four inches) to large (six to 12 inches) burrows were observed throughout the Study Area, with many of them appearing inactive (i.e., burrows had collapsed, or openings were blocked by debris, dense cobwebs, or grass). [redacted] No active burrows were recorded in this Study Area during the field surveys. The abundance of mammal burrows noted during previous surveys suggests that adequate prey and available burrows for nesting are likely present in the Study Area. Furthermore, the Study Area appears to contain suitable grassland and shrub-steppe habitat to support burrowing owls. As such, nesting burrowing owls may occur within the Study Area.

Ferruginous Hawk

No individual ferruginous hawks were observed during the surveys. Based on field surveys, the Study Area appears to contain suitable foraging habitat and a prey base that includes small mammals such as ground squirrels, rabbits, hares, and gophers for this species but would not be expected to provide suitable habitat for nesting. Suitable nesting habitat for this species appears to be limited within the Study Area, as it does not appear to contain suitable rock outcrops, canyons, cliffs, or trees that could be used for nests. However, suitable nest substrate may be present in the surrounding area.

Prairie falcon

No individual prairie falcons were observed during the surveys. Based on field surveys, the Study Area appears to contain suitable foraging habitat and a prey base that includes small mammals such as ground squirrels, birds, and insects for this species but would not be expected to provide suitable habitat for nesting. However, suitable rock outcrops or cliffs that could support nesting falcons do not appear to be present within the Study Area. As such, the species would not be expected to nest onsite. Suitable nest substrates may be present in the surrounding area.

4.2.1.4 Fossorial Species

Biologists observed at least one very old burrow and/or a recently inactive burrow within nearly every transect, including many inactive burrows of suitable size for badgers, burrowing owls, and Townsend's ground squirrels. Small burrows, characteristic of use by ground squirrels, were also observed. Burrows were primarily located on steep slopes of ravines and gullies that had not been tilled. No signs of recent activity at burrow openings were detected. [redacted]. The same

potential burrows for badgers, burrowing owls, and Townsend's ground squirrels that were recorded in April were re-checked for changes or recent signs of activity in May. None of the previously recorded potential species changed to an occupied or active status (Figure 4-1).

American Badger

An American badger was seen [redacted]

Many badger-sized inactive and potential burrows were present. [redacted]

Townsend's Ground Squirrel

No Townsend's ground squirrel activity or active burrows were recorded during the field surveys. Because Townsend's ground squirrels typical aestivation occurs by early June, the lack of evidence of recent activity at burrow entrances does not indicate their absence within the Study Area. Due to the number of burrows observed, it was determined that these species may use the area for nesting or denning (TRC 2021). [redacted]

4.2.2 Raptor Nests

The entire Study Area and 0.5-mile buffer was surveyed for nesting raptors during the April 16, 2021 field visit. No raptor nests were recorded within the Study Area or within 0.5-mile of the Study Area (Figure 4-1). Therefore, a second raptor nest survey was not conducted during the May field survey. Red-tailed hawks were observed flying above the Study Area but were not seen in regular concentration in any particular portion of the Study Area. One northern harrier flushed from shrubs in the northern portion of the Study Area, but no nests were found in the vicinity. No cliffs or other suitable nesting substrates for the sensitive raptor species described above are located within 0.5 mile of the Study Area.

4.2.3 Migratory Birds

Based on field surveys of the Study Area, suitable foraging and nesting habitat for migratory birds protected under the MBTA, including the long-billed curlew, exists within the MPE.

During the April 2021 surveys, TRC biologists recorded observations of horned lark (*Eremophila alpestris*), red-tailed hawk (*Buteo jamaicensis*), common raven (*Corvus corax*), brown-headed cowbird (*Molothrus ater*), northern harrier, swallow species (*Hirundinidae sp.*), killdeer (*Charadrius vociferus*), and white-crowned sparrow (*Zonotrichia leucophrys*). None of these migratory bird species are federally listed under the ESA or considered state-listed or candidate species, or PHS according to the WDFW.

During the May 2021 surveys, biologists also recorded observation of horned lark, red-tailed hawk, common raven, brown-headed cowbird, northern harrier, and swallow species. In addition, biologists recorded western meadowlark (*Sturnella neglecta*), Brewer's blackbird (*Euphagus cyanocephalus*), red-winged blackbird (*Agelaius phoeniceus*), and American pipit (*Anthus rubescens*). Several horned lark nests also were found within the Study Area (Figure 4-1). These ground nests were found with one to four eggs, and one nest contained recently hatched chicks. None of these species are federally listed or state-listed as threatened, endangered, or candidate species.

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Figure 4-1. Wildlife Survey Results

Confidential – Not for Public Distribution

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4.2.4 Other Wildlife

One Pacific gopher snake (*Pituophis catenifer catenifer*) was observed within the Study Area and two coyotes (*Canis latrans*) were observed outside the Study Area to the north within the Yakima Training Center. The full list of wildlife species observed within the spring 2021 surveys is included in Appendix D.

4.3 Habitats in the Study Area

Three habitats were identified in the Study Area: Cheatgrass-dominated pasture and mixed environs, shrub-steppe, and disturbed/reclaimed. Wetland delineation surveys identified several ephemeral channels in the Study Area (See Application for Site Certification, Attachment D). The acreage of each habitat types and delineated ephemeral channels in the Study Area are listed in Table 4-1. Figure 4-2 shows the three habitat types and ephemeral channels identified within the Study Area. The dominant habitat in the Study Area is the cheatgrass-dominated pasture and mixed environs (77 percent). Each habitat type is described below. Representative photographs of each habitat type are included in Appendix E.

Table 4-1. Habitat Types Identified in the Study Area

Habitat Types	Acres in the Study Area	Percent of the Study Area
Cheatgrass-dominated pasture and mixed environs	856.7	77
Shrub-steppe	225.5	20
Disturbed/Reclaimed	29.3	3
Ephemeral Channels	2.5	<1
Total	1,114	100

Cheatgrass-dominated Pasture and Mixed Environs

As noted above, the cheatgrass-dominated pasture and mixed environs is the dominant habitat type in the Study Area. This habitat type was clearly defined by the previous indicators of cropland in the field and aerial imagery. The ground surface is uneven and has the appearance of fallow fields that have been plowed. The soil is loose and appears to have little to no soil structure. These areas are predominantly flat with slopes of one to five percent.

This area was determined to meet the WDFW Wind Power Guidelines pasture and mixed environs description due to the habitat location in flat or generally rolling terrain and its use as an unimproved pasture with predominately non-native grass and forb species present and little or no active management occurring. The dominant vegetation is weedy invasive forb and grass species including cheatgrass (*Bromus tectorum*), flixweed (*Descurainia sophia*), tumblemustard (*Sisymbrium altissimum*), and Russian thistle (*Salsola tragus*). Based the Wind Power Guidelines, pasture and mixed environs classification is Class IV.

Shrub-steppe

The shrub-steppe habitat type was the second most common habitat type in the Study Area (20 percent). This habitat type was located on the northern portion of the Study Area, outside the

areas that have been historically plowed. The boundaries for this habitat type were based on the boundary of the plowed areas mapped as cheatgrass-dominated pasture and mixed environs, the presence of native forbs and grasses, and cryptobiotic crusts in areas.

The shrub-steppe habitat had a higher cover of native grass, forb, and shrub species than the rest of the Study Area. Dominant native species observed included Indian ricegrass (*Oryzopsis hymenoides*), needle and thread (*Hesperostipa comata*), Sandberg bluegrass (*Poa secunda*), green rabbitbrush (*Chrysothamnus viscidiflorus*), big sagebrush (*Artemisia tridentata*), phlox longifolia (*Phlox longifolia*), Carey's balsamroot (*Balsamorrhiza careyana*), and slender hawksbeard (*Crepis atribarba*).

Disturbances in the shrub-steppe habitat type include cattle grazing, wildfire, and the establishment of invasive and noxious weed species. Cattle were observed in the Study Area during field surveys. The percent cover of non-native invasive species was high. Many of the non-native species are "increaser" species, species that increase in cover in reaction to grazing pressure. Dominant non-native species included cheatgrass, blue mustard, and bindweed (*Convolvulus arvensis*). Portions of the shrub-steppe community in the northern portion of the Study Area were burned in the 1987 Lambing fire and the entire Study Area was burned in the 2016 Range 12 fire (Northwest Coordination Center 2021a, b). There were few patches or single individuals of big sagebrush species observed in the shrub-steppe habitat. Much of the big sagebrush observed were dead or a quarter to half of the shrub was dead. Portions of the shrub-steppe community in the northern portion of the Study Area were burned in the 1987 Lambing fire and the entire Study Area was burned in the 2016 Range 12 fire (Northwest Coordination Center 2021a, b).

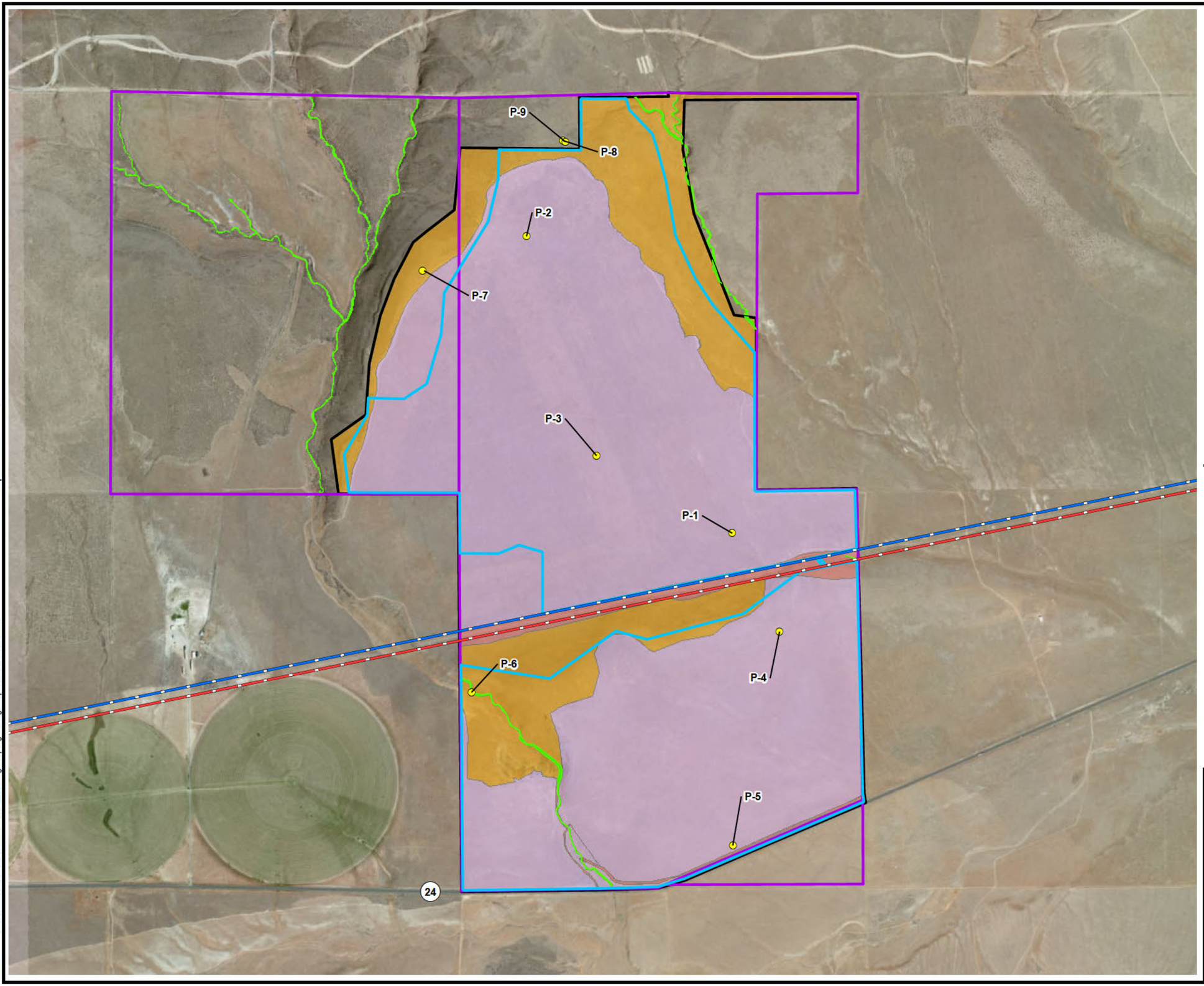
Based the Wind Power Guidelines, shrub-steppe habitats are designated as Class II. The shrub-steppe habitat quality in the northern part of the Study Area is moderate (135 acres), based on the connectivity with the Yakima Training Center, the surrounding disturbance areas including the former agricultural field, cattle grazing, transmission line and various roads, the high cover of invasive and increaser species, and the presence of cryptobiotic crusts. The portion of shrub-steppe habitat in the middle of the Study Area, south of the transmission lines (Figure 4-2) is low quality (90.5 acres), based on the lack of connectivity with other shrub-steppe habitat areas, the high cover of invasive species present, and the high areas of bare ground present.

Disturbed/Reclaimed

The disturbed/reclaimed habitat type is located along the transmission line route and its associated access road. This area is dominated by crested wheatgrass (*Agropyron cristatum)*, cheatgrass, flixweed, and bulbous blue grass (*Poa bulbosa*). Based on the even spacing of the crested wheatgrass in this area, it is assumed that that some of the vegetation in this area was part of the seed mix used to reclaim the transmission line right-of-way after its installation.

Ephemeral Channels

Wetland and waterbody delineation surveys were conducted in December 2018, July 2020, and May 2021 in the Project Site Control Boundary. Based on the field surveys, nine ephemeral channels were delineated within the Project Site Control Boundary (Figure 4-2). Three of these channels are found in the Study Area. Two of the channels are located in the northeast portion of the Study Area next to the shrub-steppe habitat. The third channel crosses northwest to southeast in the southwest corner of the Study Area. The channels vary in width and lack recent



LEGEND

- Project Site Control Boundary
- Study Area
- Proposed Maximum Project Extent
- Photograph Location
- Cheatgrass Dominated Pasture and Mixed Environs
- Disturbed/Reclaimed
- Ephemeral Channel
- Shrub-steppe
- Midway to Moxee 115 kV
- Union Gap to Midway 230 kV
- (24) State Route 24

NOTES

1. BASE MAP IMAGERY FROM ESRI/MAXAR 2019.

N

0 1,000 2,000 Feet

1" = 1,250 '
1:15,000

PROJECT:
CYPRESS CREEK RENEWABLES, LLC
HIGH TOP SOLAR, LLC
YAKIMA COUNTY, WASHINGTON

TITLE:
HABITAT TYPES PRESENT IN THE HIGH TOP STUDY AREA

DRAWN BY:	R. BLAKE	PROJ. NO.:	422984
CHECKED BY:	P. LORENZ		
APPROVED BY:	E. BERGQUIST		**FIGURE 4-2**
DATE:	MARCH 2022		

TRC
11180 NW Maple St. Suite 310
Issaquah, WA 98027
425-395-0010
www.trccompanies.com

FILE NO.: Fig 4-2 High Top Habitats Wildlife.mxd

TRC - GIS
Coordinate System: NAD 1983 StatePlane Washington South FIPS 4602 Feet (Foot US)
Map Rotation: 0
Plot Date: 3/25/2022, 09:26:49 AM by RBLAKE – LAYOUT: ANSI B(11"x17")
Path: S:\GIS\1-PROJECTS\CCR\Northwest\422984-High Top\Fig 4-2 High Top Habitats Wildlife.mxd

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signs of scouring or erosion. The substrate in the ephemeral channels is gravelly loam interspersed with cobbles. Upland vegetation was observed along the channels and in some areas was found in the channels. The ephemeral channels vary in width from 0.5 foot wide at their headwaters, to between three and five feet wide at the southern (downstream) end of the Study Area.

5.0 Potential Project Impacts

5.1 Summary of Survey Results

- No federally listed or state-listed species were observed within or near the Study Area.
- No raptor nests were recorded within the Study Area or a 0.5-mile buffer.
- Many migratory bird species were observed during the 2021 surveys.
- Several state-sensitive species were observed within the Study Area during the May survey. These included:
  - Sagebrush sparrow, a state candidate species and SGCN, [redacted]
  - Rocky Mountain elk, a state PHS, recorded in the Study Area. An elk antler, scat, and tracks were also observed.
  - American badger, a state SGCN, [redacted]
- Many old and/or inactive burrows were noted during surveys. Numerous potential burrows that could be used by badgers, burrowing owls, or Townsend's ground squirrels, were recorded.
- Approximately 225.5 acres of low (90.5 acres) and moderate (135 acres) quality shrub-steppe habitat is located in the Study Area. Approximately 119.4 acres of shrub-steppe habitat will be located in the MPE.

5.2 Impacts to Wildlife Species

Based on the results of the field surveys, direct impacts to wildlife species described above as a result of the Project are expected to be minimal. No occupied burrows were identified during surveys, however, due to the number of burrows observed, it was determined that sensitive fossorial species may use the area for nesting or denning. Suitable nesting and foraging habitat for migratory birds exists within the Study Area. Nesting habitat for raptors and other sensitive avian species within the Study Area is limited. According to the California Burrowing Owl Consortium (1993), impacts to the burrowing owl and its habitat occur when there is:

1. Disturbance or harassment within 50 meters of occupied burrows.
2. Destruction of burrows and burrow entrances. Burrows include structures such as culverts, concrete slabs and debris piles that provide shelter to burrowing owls.
3. Destruction and/or degradation of foraging habitat adjacent to occupied burrows.

Vegetation removal and fencing within the MPE would temporarily and permanently displace nesting, denning, foraging, and migrating wildlife with the potential to occur in the MPE. If construction activities were to occur during the primary nesting season for migratory birds (April 1 through August 31) and breeding season for fossorial species, impacts could include direct

loss of individuals, nests, eggs, and young. Impacts to big game species include loss of foraging habitat and the interruption of migration routes through the MPE.

5.3 Impacts to Priority Habitats

Much of the Study Area has been converted from native shrub-steppe habitat to invaded grassland, with evidence of agricultural use and plowing occurring historically and current grazing use. Approximately 225.5 acres of low (90.5 acres) and moderate (135 acres) quality shrub-steppe habitat is located in the Study Area. Approximately 119.4 acres of shrub-steppe habitat will be located in the MPE. The shrub-steppe habitat is considered a Washington Priority Habitat.

6.0 Mitigation Measures

Consultation with the WDFW is ongoing regarding the development of mitigation measures to avoid impacts to wildlife species.

The following avoidance and mitigation measures have been developed to ensure that significant impacts to wildlife resources are avoided during Project implementation:

- **WL-1**: Avoidance measures include 1) siting facilities predominantly on the previously plowed and disturbed areas of the MPE, wherever possible, 2) siting the substation adjacent to the interconnecting transmission line for both Projects, 3) leaving unfenced and avoiding disturbance in f the ephemeral channels in the MPE, which will provide corridors for wildlife movement and wildlife connectivity function.
- **WL-2**: Mitigation measures to avoid impacts to nesting migratory birds including burrowing owls, and fossorial species if required by an agency, will be developed in consultation with the WDFW and EFSEC. Details regarding the implementation of mitigation measures for impacts to the active nests and burrows, if any, will be identified prior to construction within the MPE.
- **WL-3**: Minimization measures include:
  - Siting facilities predominantly on the previously plowed and disturbed areas of the MPE, whenever possible.
  - Implement the Vegetation Management Plan which will include noxious weed control measures to limit further spread of noxious weeds in the MPE.
- **WL-4:** A Habitat Restoration and Mitigation Plan will be developed in consultation with WDFW and EFSEC. The Plan will detail the implementation of mitigation measures for impacts to the shrub-steppe habitat.
- **WL-5**: Best Management Practices include:
  - When necessary, downward-directed lighting will be used to minimize horizontal or skyward illumination. Unnecessary lighting like steady-burning, high intensity lights will be turned off at night to limit attraction of migratory birds and bats.
  - Where applicable, above-ground collector or transmission lines are designed and constructed to minimize avian electrocution, per the guidelines outlined in Avian Power Line Interaction Committee standards (APLIC 2012).
  - In accordance with WAC 173-60-050, construction activities will only occur between the hours of seven a.m. and ten p.m.

- Environmental awareness training will be provided to construction and operation staff and contractors on applicable wildlife resource protection measures, including: (1) federal and state laws (e.g., those that prohibit animal collection or removal); and (2) awareness of sensitive habitats and bird species, potential bird nesting areas, and general wildlife issues.
- Traffic speeds on unpaved roads will be limited to 25 miles per hour to minimize generation of fugitive dust and wildlife collisions.
- Following decommissioning, reclamation shall help to reduce the likelihood of ecological resource impacts in disturbed areas.

7.0 Summary of Effects and Significant Unavoidable Impacts After Mitigation

No potentially significant unavoidable impacts are anticipated after consultation with WDFW is complete and the appropriate mitigation has been determined.

8.0 References

Avian Power Line Interaction Committee (APLIC). 2012. *Reducing Avian Collisions with Power Lines: The State of the Art in 2012*. Edison Electric Institute and APLIC. Washington, D.C.

California Burrowing Owl Consortium. 1993. *Burrowing Owl Survey Protocol and Mitigation Guidelines.*

Call, M.W. 1978. *Nesting Habitats and Surveying Techniques for Common Western Raptors.* Technical Note TN-316. Prepared for Bureau of Land Management, Denver Service Center. 103 pp. + appendices.

Clarke, S. E., and S. A. Bryce. 1997. *Hierarchical Subdivisions of the Columbia Plateau and Blue Mountains Ecoregions, Oregon and Washington.* Gen. Tech. Rep. PNW-GTR-395. Portland, Oregon, U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 114 p.

eBird. 2021a. *Burrowing owl species observation map.* Accessed February 18, 2021, at: https://ebird.org/map/ferhaw?neg=true&env.minX=-119.93228062083627&env.minY=46.72449970238056&env.maxX=-119.86045750176682&env.maxY=46.74714740166738&zh=true&gp=false&ev=Z&mr=1-12&bmo=1&emo=12&yr=all&byr=1900&eyr=2021.

_____. 2021b. *Prairie Falcon Species Observation Map.* Accessed February 18, 2021, at: https://ebird.org/map/prafal?neg=true&env.minX=-120.79392990097404&env.minY=46.46221830361576&env.maxX=-119.35890197753906&env.maxY=46.91462729047414&zh=true&gp=true&ev=Z&mr=1-12&bmo=1&emo=12&yr=all&byr=1900&eyr=2021.

_____. 2021c. *Prairie Falcon Species Observation Map.* Accessed February 18, 2021, at: https://ebird.org/map/prafal?neg=true&env.minX=-120.79392990097404&env.minY=46.46221830361576&env.maxX=-

119.35890197753906&env.maxY=46.91462729047414&zh=true&gp=true&ev=Z&mr=1-12&bmo=1&emo=12&yr=all&byr=1900&eyr=2021.

Feeney, L. 1992. *Site Fidelity in Burrowing Owls.* Unpublished paper presented to Raptor Research Annual Meeting, November 1992. Seattle, Washington.

Fellows, S.D., and S.L. Jones. 2009. *Status Assessment and Conservation Action Plan for the Long-billed Curlew (Numenius americanus).* U.S. Department of Interior, Fish and Wildlife Service, Biological Technical Publication, FWS/BTP-R6012-2009, Washington, D.C.

Finger, R., G. J. Wiles, J. Tabor, and E Cummins. 2007. *Washington Ground Squirrel Surveys in Adams, Douglas, and Grant Counties, Washington, 2004.* Washington Department of Fish and Wildlife, Olympia, Washington. 47 pp.

Foxworthy, B.L. 1962. *Geology and Ground-Water Resources of the Ahtanum Valley, Yakima County Washington.* Geological Survey Water Supply Paper 1598. U.S. Govt. Printing Office.

Goodman, S. 2003. *2003 Protocol for Washington Ground Squirrel Surveys.* Washington Department of Fish and Wildlife. Olympia.

Google Earth. 2021. Aerial imagery of 46°31'55.32"N, 119°58' 19.84"W Accessed May 2021.

Grier, J.W., and R.W. Fyfe. 1987. *Preventing Research and Management Disturbance.* Pp. 173-182 In B.A.G. Pendleton, B.A. Milsap, K.W. Cline, and D.M. Bird, eds. Raptor management techniques, Institute of Wildlife Research, National Wildlife Federation, Scientific and Technical Series No. 10. 420 pp.

Northwest Coordination Center. 2021a. *Washington Large Fires 1973-2020 Shapefile.* Available from ArcGIS Online.

_____ 2021b. *Fire_1980_1989 shapefile.* Available from ArcGIS Online.

Rich, T. 1984. *Monitoring Burrowing Owl Populations: Implications of Burrow Re-use.* Wildlife Society Bulletin 12: 178-180.

_____. 2021. *Wetland Delineation Report.*

U.S. Fish and Wildlife Service (USFWS). 2022. *Information for Planning and Conservation. Consultation Code: 01EWFW00-2022-SLI-0504*. March 1, 2022.

_____. 2021*. Birds of Conservation Concern 2021*. United States Department of the Interior, U.S. Fish and Wildlife Service, Migratory Birds, Falls Church, Virginia.

_____. U.S. Fish and Wildlife Service (USFWS). 2020. *Information for Planning and Conservation.* Accessed June-July 2020 at: https://ecos.fws.gov/ipac/

Washington Department of Fish and Wildlife (WDFW). 2009. *Wind Power Guidelines. Olympia, Washington.* 30pp

_____. 2013. *Threatened and Endangered Wildlife in Washington: 2012 Annual Report*. Washington Department of Fish and Wildlife, Olympia, Washington.

.

_____. 2020a. *Species of Concern Database*. Species list for Yakima County, Washington. Accessed June-July 2020 at: https://wdfw.wa.gov/conservation/endangered/

_____. 2020b. Priority Habitats and Species List and Database. Accessed June-July 2020 at: https://wdfw.wa.gov/conservation/phs/list/

_____. 2021a. *Threatened and Endangered Species*. Washington Department of Fish and Wildlife, Olympia, Washington. Revised October 2021.

_____. 2021b. *Burrowing owl (Athene cunicularia).* Accessed June 2021 at: https://wdfw.wa.gov/species-habitats/species/athene-cunicularia#desc-range

_____. 2021c. *Washington ground squirrel (Urocitellus washingtoni).* Accessed June 2021 at: https://wdfw.wa.gov/species-habitats/species/urocitellus-washingtoni#desc-range

Washington Wildlife Habitat Connectivity Working Group (WHCWG). 2010. *Washington Connected Landscapes Project: Statewide Analysis.* Washington Departments of Fish and Wildlife, and Transportation, Olympia, WA. Accessed June 2021 at: https://waconnected.org/statewide-analysis/

_____. 2011. *Washington Connected Landscapes Project: Statewide Analysis.* Washington Departments of Fish and Wildlife, and Transportation, Olympia, WA. Accessed February 2022 at: https://waconnected.org/wp-content/themes/whcwg/docs/statewide-connectivity/Appendix_E_maps_2011_0228/GreaterSage-grouse_LCP_size11x17.pdf

Washington State Department of Transportation (WSDOT). 2021. *WSDOT Carcass Removal Search Report Data for SR-24 Mileposts 24 to 31*. Provided by G. Kalisz (WSDOT) to P. Lorenz (TRC). October 27, 2021.

Yakima County. 2020. Yakima County Maps. Accessed June -July 2020 at: https://yakimacounty.maps.arcgis.com/home/index.html.

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Appendix A. Agency Consultation

Confidential - Not for Public Distribution

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Appendix B. USFWS IPaC Report

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
Washington Fish And Wildlife Office
510 Desmond Drive Se, Suite 102
Lacey, WA 98503-1263
Phone: (360) 753-9440 Fax: (360) 753-9405
http://www.fws.gov/wafwo/

In Reply Refer To: January 21, 2022
Consultation Code: 01EWFW00-2022-SLI-0504
Event Code: 01EWFW00-2022-E-01270
Project Name: High Top Solar Project

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, and proposed species, designated and proposed critical habitat, and candidate species that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. The species list is currently compiled at the county level. Additional information is available from the Washington Department of Fish and Wildlife, Priority Habitats and Species website: http://wdfw.wa.gov/mapping/phs/ or at our office website: http://www.fws.gov/wafwo/species_new.html. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether or not the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species, and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:
http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.). You may visit our website at http://www.fws.gov/pacific/eagle/for information on disturbance or take of the species and information on how to get a permit and what current guidelines and regulations are. Some projects affecting these species may require development of an eagle conservation plan: (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Also be aware that all marine mammals are protected under the Marine Mammal Protection Act (MMPA). The MMPA prohibits, with certain exceptions, the "take" of marine mammals in U.S. waters and by U.S. citizens on the high seas. The importation of marine mammals and marine mammal products into the U.S. is also prohibited. More information can be found on the MMPA website: http://www.nmfs.noaa.gov/pr/laws/mmpa/.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Related website:
National Marine Fisheries Service: http://www.nwr.noaa.gov/protected_species/species_list/species_lists.html

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

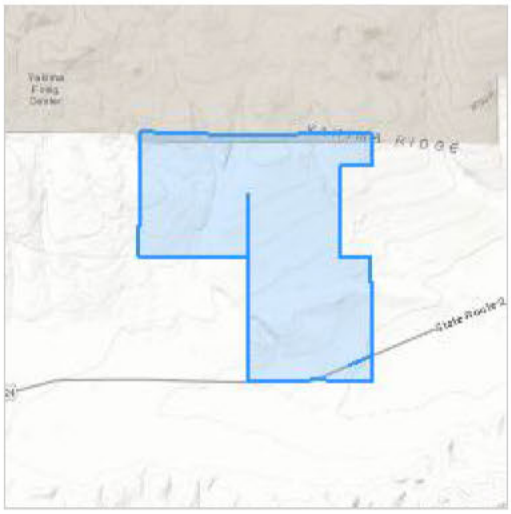
This species list is provided by:

Washington Fish And Wildlife Office
510 Desmond Drive Se, Suite 102
Lacey, WA 98503-1263
(360) 753-9440

Project Summary

Consultation Code: 01EWFW00-2022-SLI-0504
Event Code: Some(01EWFW00-2022-E-01270)
Project Name: High Top Solar Project
Project Type: POWER GENERATION
Project Description: Proposed 80MW Solar Site
Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@46.53416085,-119.98888410000521,14z



Counties: Yakima County, Washington

Endangered Species Act Species

There is a total of 3 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Birds

NAME	STATUS
Yellow-billed Cuckoo *Coccyzus americanus* Population: Western U.S. DPS There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/3911	Threatened

Fishes

NAME	STATUS
Bull Trout *Salvelinus confluentus* Population: U.S.A., conterminous, lower 48 states There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/8212	Threatened

Insects

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

IPaC **U.S. Fish & Wildlife Service**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Yakima County, Washington

Local office

Washington Fish And Wildlife Office

(360) 753-9440
(360) 753-9405

510 Desmond Drive Se, Suite 102
Lacey, WA 98503-1263

http://www.fws.gov/wafwo/

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information.
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS

Gray Wolf Canis lupus — Endangered
U.S.A.: All of AL, AR, CA, CO, CT, DE, FL, GA, IA, IN, IL, KS, KY, LA, MA, MD, ME, MI, MO, MS, NC, ND, NE, NH, NJ, NV, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WI, and WV; and portions of AZ, NM, OR, UT, and WA. Mexico.
There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/4488

Gray Wolf Canis lupus — Proposed Endangered
Western Distinct Population Segment
No critical habitat has been designated for this species.

North American Wolverine Gulo gulo luscus — Proposed Threatened
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/5123

Birds

NAME	STATUS
Marbled Murrelet Brachyramphus marmoratus There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/4467	Threatened
Yellow-billed Cuckoo Coccyzus americanus There is **proposed** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/3911	Threatened

Fishes

NAME	STATUS
Bull Trout Salvelinus confluentus There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/8212	Threatened

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE.

"BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)

Long-billed Curlew Numenius americanus
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/5511

Breeds Apr 1 to Jul 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (▪)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

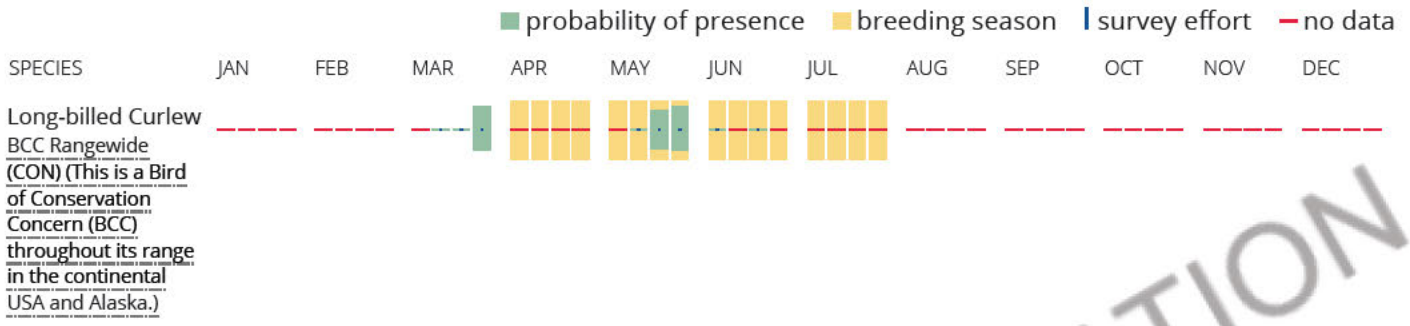
Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures and/or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ “What does IPaC use to generate the migratory birds potentially occurring in my specified location”. Please be aware this report provides the “probability of presence” of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the “no data” indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting

point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

RIVERINE

R4SBC

A full description for each wetland code can be found at the National Wetlands Inventory website

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

Appendix C. PHS High Top Report

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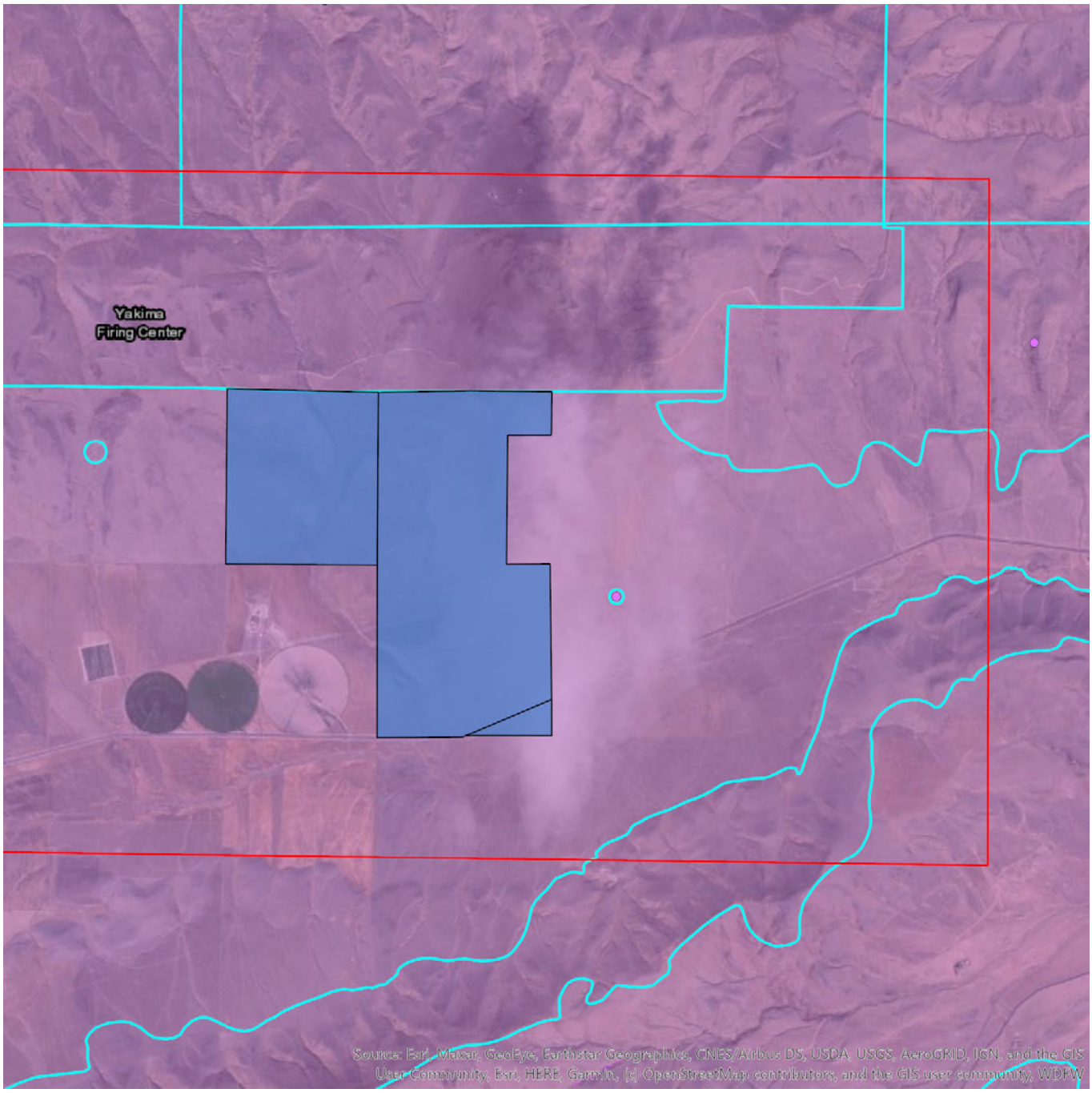
Priority Habitats and Species on the Web



Report Date: 05/17/2021

PHS Species/Habitats Overview:

Occurence Name	Federal Status	State Status	Generalized Location
Burrowing owl	N/A	Candidate	No
Shrub-steppe	N/A	N/A	No
Elk	N/A	N/A	No
Townsend's Ground Squirrel - nancyae	N/A	N/A	No
Greater Sage-grouse	Fed Spp Concern	Threatened	Yes
Ferruginous hawk	N/A	Threatened	Yes

PHS Species/Habitats Details:

Burrowing owl	
Scientific Name	*Athene cunicularia*
Priority Area	Breeding Area
Site Name	BLACK ROCK
Accuracy	GPS
Notes	MULTIPLE BURROWS
Source Record	143844
Source Dataset	WS_OccurPoint
Source Date	WS_OccurPoint
Source Name	FIDORRA, J/WDFW
Source Entity	WA Dept. of Fish and Wildlife
Federal Status	N/A
State Status	Candidate
PHS Listing Status	PHS Listed Occurrence
Sensitive	N
SGCN	Y
Display Resolution	AS MAPPED
ManagementRecommendations	http://wdfw.wa.gov/publications/pub.php?id=00026
Geometry Type	Points

Burrowing owl	
Scientific Name	*Athene cunicularia*
Priority Area	Breeding Area
Accuracy	1/4 mile (Quarter Section)
Notes	BURROWING OWL NEST: 2 ADULTS JUST WEST OF DRIVEWAY TO RANCH HOUSE (TAYLOR RANCH). 1999: NO BURROWS FOUND, BUT HABITAT INTACT. PG 9242 2000: LANDOWNER HAS NOT SEEN OWLS FOR 10 YRS. NONE SEEN PG. 0065
Source Record	55194
Source Dataset	WS_OccurPoint
Source Date	WS_OccurPoint
Source Name	BERNATOWICZ, J/WDFW
Source Entity	WA Dept. of Fish and Wildlife
Federal Status	N/A
State Status	Candidate
PHS Listing Status	PHS Listed Occurrence
Sensitive	N
SGCN	Y
Display Resolution	AS MAPPED
ManagementRecommendations	http://wdfw.wa.gov/publications/pub.php?id=00026
Geometry Type	Points

Shrub-steppe	
Priority Area	Terrestrial Habitat
Site Name	RATTLESNAKE HILLS
Accuracy	1/4 mile (Quarter Section)
Notes	SHRUB-STEPPE
Source Record	901434
Source Dataset	PHSREGION
Source Name	FITZNER, LISA WDW
Source Entity	WA Dept. of Fish and Wildlife
Federal Status	N/A
State Status	N/A
PHS Listing Status	PHS Listed Occurrence
Sensitive	N
SGCN	N
Display Resolution	AS MAPPED
Geometry Type	Polygons

Elk	
Scientific Name	*Cervus elaphus*
Priority Area	Regular Concentration
Site Name	RATTLESNAKE
Accuracy	1/4 mile (Quarter Section)
Notes	ELK WINTERING AREA, 130 ANIMALS ARID LANDS ECOLOGY RESERVE
Source Record	901605
Source Dataset	PHSREGION
Source Entity	WA Dept. of Fish and Wildlife
Federal Status	N/A
State Status	N/A
PHS Listing Status	PHS Listed Occurrence
Sensitive	N
SGCN	N
Display Resolution	AS MAPPED
ManagementRecommendations	http://wdfw.wa.gov/publications/pub.php?id=00614
Geometry Type	Polygons

Shrub-steppe	
Priority Area	Terrestrial Habitat
Site Name	HANFORD-TRAINING CENTER CONNECTION
Accuracy	1/4 mile (Quarter Section)
Notes	CORRIDOR BETWEEN THE HANFORD RESERVATION & YAKIMA TRAINING CENTER USED BY ELK,DEER,SAGE GROUSE,LOGGERHEAD SHRIKE, & JACK RABBIT.NATIVE SHRUB STEPPE IN GOOD TO EXCELLENT CONDITION MIXED W/CRP LANDS.STEEP ROCKY SLOPES SUPPORT NESTING FALCONS.
Source Record	901671
Source Dataset	PHSREGION
Source Name	FITZNER, LISA
Source Entity	WA Dept. of Fish and Wildlife
Federal Status	N/A
State Status	N/A
PHS Listing Status	PHS Listed Occurrence
Sensitive	N
SGCN	N
Display Resolution	AS MAPPED
Geometry Type	Polygons

Shrub-steppe	
Priority Area	Terrestrial Habitat
Site Name	YAKIMA TRAINING CENTER AND VICINITY
Accuracy	1/4 mile (Quarter Section)
Notes	LARGE AREA OF SHRUB STEPPE HABITAT. SOME HIGH QUALITY INTERMIXED WITH AREAS OF FAIR AND POOR QUALITY THAT HAS BEEN IMPACTED BY LAND USE PRACTICES ON THE TRAINING CENTER.
Source Record	920175
Source Dataset	PHSREGION
Source Name	TESKE, MARK WDFW
Source Entity	WA Dept. of Fish and Wildlife
Federal Status	N/A
State Status	N/A
PHS Listing Status	PHS Listed Occurrence
Sensitive	N
SGCN	N
Display Resolution	AS MAPPED
Geometry Type	Polygons

Townsend's Ground Squirrel - nancyae	
Scientific Name	*Urocitellus townsendii nancyae*
Priority Area	Regular Concentration
Accuracy	Map 1:12,000 <= 33 feet
Notes	DELINEATION IS NOT PRECISE
Source Record	5607
Source Dataset	WS_OccurPolygon
Source Date	WS_OccurPolygon
Source Name	BARNARD, K/UNKNOWN
Source Entity	WA Dept. of Fish and Wildlife
Federal Status	N/A
State Status	N/A
PHS Listing Status	PHS LISTED OCCURRENCE
Sensitive	N
SGCN	Y
Display Resolution	AS MAPPED
Geometry Type	Polygons

Greater Sage-grouse	
Scientific Name	*Centrocercus urophasianus*
Notes	This polygon mask represents one or more records of the above species or habitat occurrence. Contact PHS Data Release (360-902-2543) for obtaining information about masked sensitive species and habitats.
Federal Status	Fed Spp Concern
State Status	Threatened
PHS Listing Status	PHS Listed Occurrence
Sensitive	Y
SGCN	Y
Display Resolution	TOWNSHIP
ManagementRecommendations	http://wdfw.wa.gov/publications/pub.php?id=00026

Ferruginous hawk	
Scientific Name	*Buteo regalis*
Notes	This polygon mask represents one or more records of the above species or habitat occurrence. Contact PHS Data Release (360-902-2543) for obtaining information about masked sensitive species and habitats.
Federal Status	N/A
State Status	Threatened
PHS Listing Status	PHS Listed Occurrence
Sensitive	Y
SGCN	Y
Display Resolution	TOWNSHIP
ManagementRecommendations	http://wdfw.wa.gov/publications/pub.php?id=00026

Greater Sage-grouse	
Scientific Name	*Centrocercus urophasianus*
Notes	This polygon mask represents one or more records of the above species or habitat occurrence. Contact PHS Data Release (360-902-2543) for obtaining information about masked sensitive species and habitats.
Federal Status	Fed Spp Concern
State Status	Threatened
PHS Listing Status	PHS Listed Occurrence
Sensitive	Y
SGCN	Y
Display Resolution	TOWNSHIP
ManagementRecommendations	http://wdfw.wa.gov/publications/pub.php?id=00026

Appendix D. List of Species Observed at the High Top, LLC Solar Project

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Wildlife Species Observed During the June 30 through July 2, 2020; April 13th to April 16th, 2021; and May 14th to May16th, 2021 Survey at the High Top Solar Project, Yakima County, Washington.

Type/Species	Scientific Name	Status[1]
Birds		
American Pipit	*Anthus rubescen*	MB
Brewers Blackbird	*Euphagus cyanocephalus*	MB
Brown-headed Cowbird	*Molothrus ater*	MB
Common Raven	*Corvus corax*	MB
Horned Lark	*Eremophila alpestris*	MB
Killdeer	*Charadrius vociferous*	MB
Northern Harrier	*Circus hudsonius*	MB/BCC
Red-tailed Hawk	*Buteo jamaicensis*	MB
Red-winged Blackbird	*Agelaius phoeniceus*	MB
Sagebrush Sparrow	*Artemisiospiza nevadensis*	State Candidate/MB
Swallow	*Hirundinidae sp.*	MB
Western Meadowlark	*Sturnella neglecta*	MB
White-crowned Sparrow	*Zonotrichia leucophrys*	MB
Mammals		
American Badger	*Taxidea taxus*	State SGCN
Coyote	*Canis latrans*	
Rocky Mountain Elk	*Cervus elaphus nelson*	PHS
Reptiles		
Pacific Gopher Snake	*Pituophis catenifer*	

[1]MB = Migratory Bird; BCC = Birds of Conservation Concern; SGCN = Species of Greatest Conservation Need; PHS = Priority Habitat Species

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Appendix E. Representative Photos

Confidential - Not for Public Distribution