

**Baseline Raptor Nest and Sensitive Species Surveys  
Schumann Wind Energy Facility  
Umatilla County, Oregon**

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**Final Report  
Spring 2017**



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## **INTRODUCTION**

The purpose of this report is to describe the final results of the 2017 pre-construction raptor nest and sensitive species surveys for the Schumann Wind Energy Facility (Schumann or Project; Figure 1). Schumann is a proposed 8 megawatt wind energy conversion facility in Umatilla County, Oregon. The Project site is approximately 743 acres of privately owned land, primarily used for dryland agriculture.

## **METHODS**

### **Raptor Nest Surveys**

Raptor nest survey protocols followed those described in the Project's *Avian Impact Monitoring Plan*, including ground-based surveys of all suitable raptor nest substrates (e.g., trees, powerline structures) within two miles (mi; 3.2 kilometers [km]) of turbine locations (Figure 1). The primary objective of the survey was to gather information on nest locations and raptor breeding effort near the Project. Per the Schumann *Avian Impact Monitoring Plan*, 2017 survey results will be used for comparison with post-construction raptor nest activity and success (WEST 2017).

Surveys were conducted from the ground by hiking throughout the 2-mi buffer and scoping all suitable raptor nest substrate for nest structures. Nests documented during previous surveys (in 2010, 2011, and 2016) for the nearby Chopin Wind Energy Facility were checked (WEST 2016), and any recently constructed nests were also identified. Occupied<sup>1</sup> nests were monitored until nest fates were determined.

### **Sensitive Species Surveys**

The primary objective of these surveys was to document the presence/absence and spatial occurrence of plant and animal species of concern within the survey area. Species of concern were defined to include federal threatened and endangered species, Oregon state-listed species (including state conservation strategy, critical, vulnerable, threatened, endangered, and rare species), or state or federal special-status species, such as bald and golden eagles protected under the Bald and Golden Eagle Protection Act (BGEPA 1940).

Sensitive species surveys were conducted in areas of suitable habitat (i.e., all non-agricultural lands) associated with proposed Project infrastructure and a 305-meter (m; 1,000-foot [ft]) buffer (Figure 2). A biologist familiar with detection of relevant sensitive species, including by sight, sound, and sign, searched for sensitive species by slowly walking pedestrians transects spaced approximately 50 m (164 ft) apart. Transect searches were conducted during daylight hours and as weather conditions permitted during two survey windows appropriate for the detection of

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<sup>1</sup> Nests were classified as occupied if any of the following were observed at the nest structure: (1) an adult in an incubating/brooding position, (2) eggs, or (3) nestlings or fledglings.

relevant sensitive species. All suitable habitats were surveyed during each of the two survey rounds. Date, time of observation, species, number of individuals, detection methods (auditory and/or visual), sex and age class, flight height (if applicable), activity, and habitat were recorded for all sensitive species observations. Locations were recorded using a hand-held global positioning system (GPS).

## **RESULTS**

### **Raptor Nest Surveys**

WEST biologist Jerry Baker conducted the initial raptor nest survey visits on April 14 and 17, with follow-up visits from late April through early June.

Six occupied red-tailed hawk (*Buteo jamaicensis*) nests were found within the 2-mi survey buffer, with the closest nests approximately 0.5 mi (0.8 km) from turbine locations (Figure 1). Red-tailed hawk nests were considered successful if nestlings survived to the 5-week mark (~80% of nestling stage). Five of the six red-tailed hawk nests were successful, resulting in eight fledglings (productivity: 1.3 young per occupied nest, or 1.6 young per successful nest; Table 1). Evidence of three occupied great-horned owl (*Bubo virginianus*) nests was also detected (Figure 1, Table 1). All three owl nests were successful<sup>2</sup>, resulting in a minimum of five fledglings (productivity: 1.7 young per occupied/successful nest; Table 1). No Swainson's hawk (*Buteo swainsoni*) nests were observed. Four unoccupied nests were also documented within the 2-mi buffer (Figure 1). No other raptor species were observed during the surveys.

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<sup>2</sup> In one instance (Nest #20), the nest was never found but a young fledgling was detected in the area. Condition of another nest (Nest #2) suggested that fledging occurred between visits.

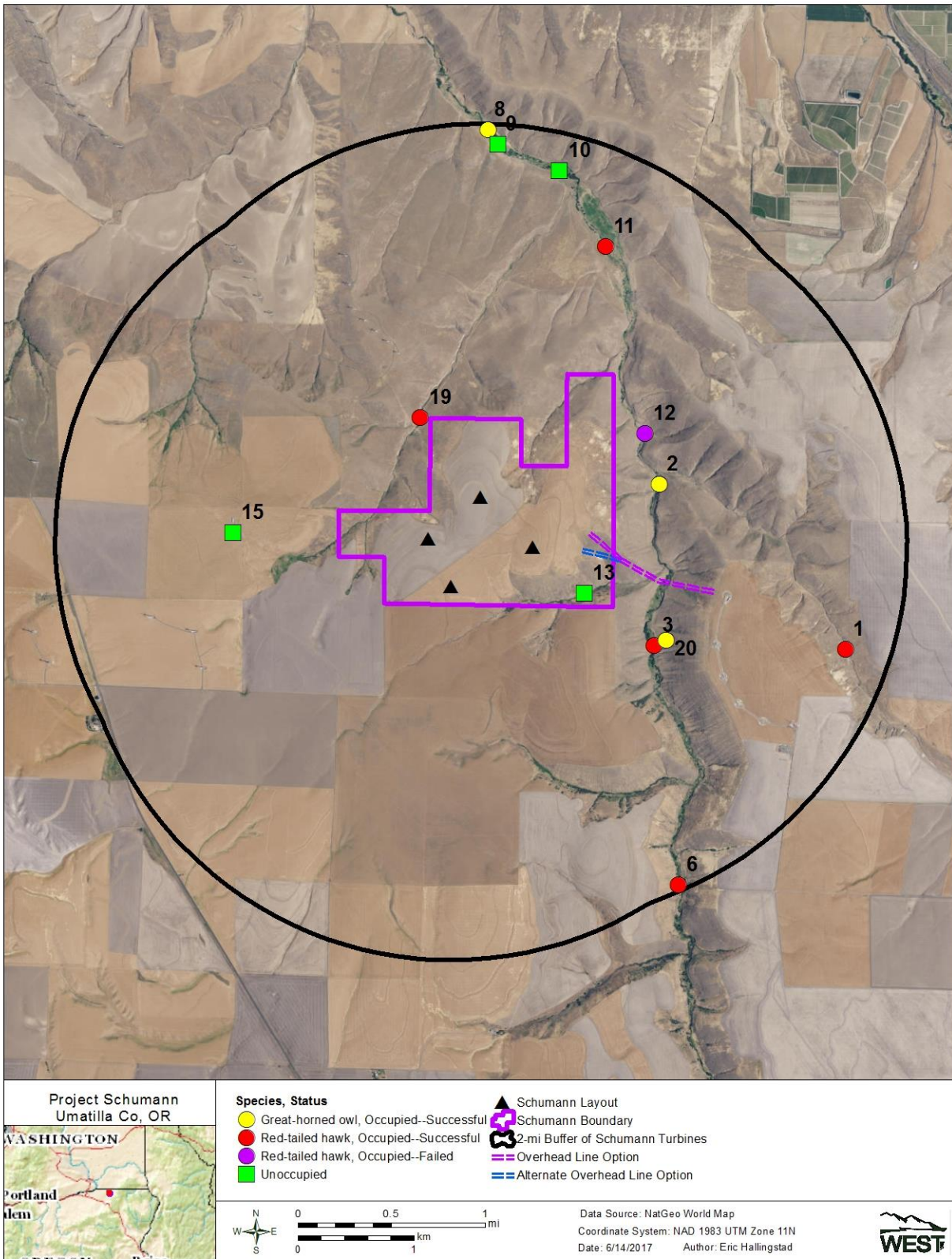


Figure 1. Final results of the 2017 raptor nest survey at the Schumann Wind Energy Facility.

Table 1. Stick nests observed during the 2017 raptor nest survey within a 2-mile buffer of proposed Schumann Wind Energy Facility turbines.

Nest #	Species	Final Status	UTMs (Nad 83 Z11)		Substrate	Initial Observation Comments	Follow-up Visit Comments
1	red-tailed hawk	Occupied, Successful	386739	5083306	Black Locust	Incubating, adult flushed.	One fledgling branched out, ~8 weeks old.
2	great-horned owl	Occupied, Successful	385135	5084725	Black Locust	Both adults present, one chick visible.	Nest empty, condition suggests fledging occurred.
3	red-tailed hawk	Occupied, Successful	385095	5083337	Black Locust	Incubating, adult flushed.	One nestling, ~7 weeks old.
6	red-tailed hawk	Occupied, Successful	385303	5081273	Black Cottonwood	Incubating, both adults present.	Two nestlings ready to fledge.
8	great-horned owl	Occupied, Successful	383666	5087774	Black Locust	2+ nestlings visible.	Three nestlings ready to fledge.
9	stick nest	Unoccupied	383746	5087656	Black Locust	Nest empty.	Nest empty.
10	stick nest	Unoccupied <sup>1</sup>	384280	5087422	Box Elder	Nest empty.	Nest empty.
11	red-tailed hawk	Occupied, Successful	384675	5086772	Black Locust	Incubating, both adults present.	Two nestlings on nest edge, ready to fledge.
12	red-tailed hawk	Occupied, Failed	385013	5085159	Black Locust	One nestling visible.	Nest empty, nestling(s) would not have fledged yet.
13	stick nest	Unoccupied	384489	5083788	Black Cottonwood	Nest empty.	Nest empty.
15	stick nest	Unoccupied	381464	5084306	Black Locust	Old nest. Empty.	Nest empty.
19	red-tailed hawk	Occupied, Successful	383079	5085298	Willow spp.	One nestling visible. Both adults present.	Two nestlings, ~7 weeks old.
20	great-horned owl	Occupied, Successful	385194	5083382	Deciduous Tree	Approximate nest location. Adult flushed, one fledgling nearby.	Could not locate nest.

<sup>1</sup> A red-tailed hawk was briefly seen at this nest on May 10th, but no evidence of a breeding attempt was observed.

## Sensitive Species Surveys

WEST biologist Jerry Baker conducted the first sensitive species survey visit on May 1 and May 8, with the second visit taking place on May 31 and June 5.

Twenty-five bird species, three mammal species, one reptile species, and one amphibian species were observed during the field surveys (Appendix A). None of the species recorded were sensitive; however, big game species are typically of interest to the Oregon Department of Fish and Wildlife and are therefore included in Table 2 with locations shown in Figure 2. Species totals may reflect repeated observations of the same individuals. On several occasions, fawns and calves were seen with their mothers in the Pine Creek drainage complex.

**Table 2. Sensitive species observed at the Schumann Wind Energy Facility during 2017 sensitive species surveys.**

Species	Scientific Name	Status	# of grps	# of obs
elk	<i>Cervus canadensis</i>	big game	1	1
mule deer	<i>Odocoileus hemionus</i>	big game	14	76
<b>Total</b>			<b>15</b>	<b>77</b>

grps = groups; obs = observations

## DISCUSSION

No federally-listed threatened or endangered species, federal/state species of concern, or eagles were observed during 2017 surveys at the Project. In a report prepared for the adjacent Chopin Wind Energy Facility, we analyzed the robust pre-construction survey datasets and predicted that potential adverse effects of the Chopin Project on wildlife populations would be minimal (*Reinterpretation of Baseline Survey Results for the modified Chopin Wind Energy Facility*; WEST 2015). The Project is also within 2.0 mi (3.2 km) of two operating wind energy facilities: Combine Hills and Stateline. Pre- and post-construction surveys have been conducted for these two facilities, and results demonstrated that estimated fatality rates were consistent with the averages for other regional wind energy projects (Erickson et al. 2004, Young et al. 2006, Erickson et al. 2007, Enz. et al. 2012). Furthermore, no occupied raptor nests were observed within 0.5 mi of proposed Schumann turbine locations. For these reasons, we conclude that it is unlikely that sensitive species would be impacted by the development of Schumann.

Observations of one elk calf and several mule deer fawns within the Pine Creek drainage suggest that this area is used by big game during the calving season. WEST recommends that construction of the Project occurs outside of the spring season to minimize potential impacts on big game calving activity.

## REFERENCES

- Bald and Golden Eagle Protection Act (BGEPA). 1940. 16 United States Code (USC) § 668-668d. Bald Eagle Protection Act of 1940, June 8, 1940, Chapter 278, Section (§) 2, 54 Statute (Stat.) 251; Expanded to include the related species of the golden eagle October 24, 1962, Public Law (PL) 87-884, 76 Stat. 1246. As amended: October 23, 1972, PL 92-535, § 2, 86 Stat. 1065; November 8, 1978, PL 95-616, § 9, 92 Stat. 3114.
- Enz, T., K. Bay, M. Sonnenberg, and A. Palochak. 2012. Post-Construction Monitoring Studies for the Combine Hills Turbine Ranch, Umatilla County, Oregon. Final Report: January 7 - December 2, 2011. Prepared for Eurus Energy America Corporation, San Diego, California. Prepared by Western EcoSystems Technology, Inc. (WEST), Walla Walla, Washington.
- Erickson, W. P., J. Jeffrey, K. Kronner, and K. Bay. 2004. Stateline Wind Project Wildlife Monitoring Annual Report. July 2001 - December 2003. Technical report peer-reviewed by and submitted to FPL Energy, the Oregon Energy Facility Siting Council, and the Stateline Technical Advisory Committee. Western EcoSystems Technology, Inc. (WEST), Cheyenne, Wyoming, and Northwest Wildlife Consultants, Inc. (NWC), Pendleton, Oregon. December 2004.
- Erickson, W. P., K. Kronner, and K. J. Bay. 2007. Stateline 2 Wind Project Wildlife Monitoring Report, January - December 2006. Technical report submitted to FPL Energy, the Oregon Energy Facility Siting Council, and the Stateline Technical Advisory Committee.
- Western EcoSystems Technology, Inc., (WEST). 2015. Reinterpretation of Baseline Survey Results for the modified Chopin Wind Energy Facility, Umatilla County, Oregon, April 29, 2015. Prepared for Chopin Wind, LLC, San Diego, California. Prepared by Western EcoSystems Technology, Inc., (WEST). Cheyenne, Wyoming.
- Western EcoSystems Technology, Inc., (WEST). 2016. Technical Memorandum: 2016 Chopin Nest Survey – Final Results, June 24, 2016. Prepared for Chopin Wind, LLC, San Diego, California. Prepared by Western EcoSystems Technology, Inc., (WEST). Cheyenne, Wyoming.
- Western EcoSystems Technology, Inc., (WEST). 2017. Avian Impact Monitoring Plan for the Schumann Wind Energy Facility, Umatilla County, Oregon, rev. May 16, 2017. Prepared for Schumann Wind, LLC, San Diego, California. Prepared by Western EcoSystems Technology, Inc., (WEST). Cheyenne, Wyoming.
- Young, D.P., Jr., J. Jeffrey, W. P. Erickson, K. Bay, V. K. Poulton, K. Kronner, R. Gritski, and J. Baker. 2006. Eurus Combine Hills Turbine Ranch. Phase 1 Post Construction Wildlife Monitoring First Annual Report: February 2004 - February 2005. Technical report prepared for Eurus Energy America Corporation, San Diego, California, and the Combine Hills Technical Advisory Committee, Umatilla County, Oregon. Prepared by Western EcoSystems Technology, Inc. (WEST), Cheyenne, Wyoming, and Walla Walla Washington, and Northwest Wildlife Consultants, Inc. (NWC), Pendleton, Oregon. February 21, 2006.



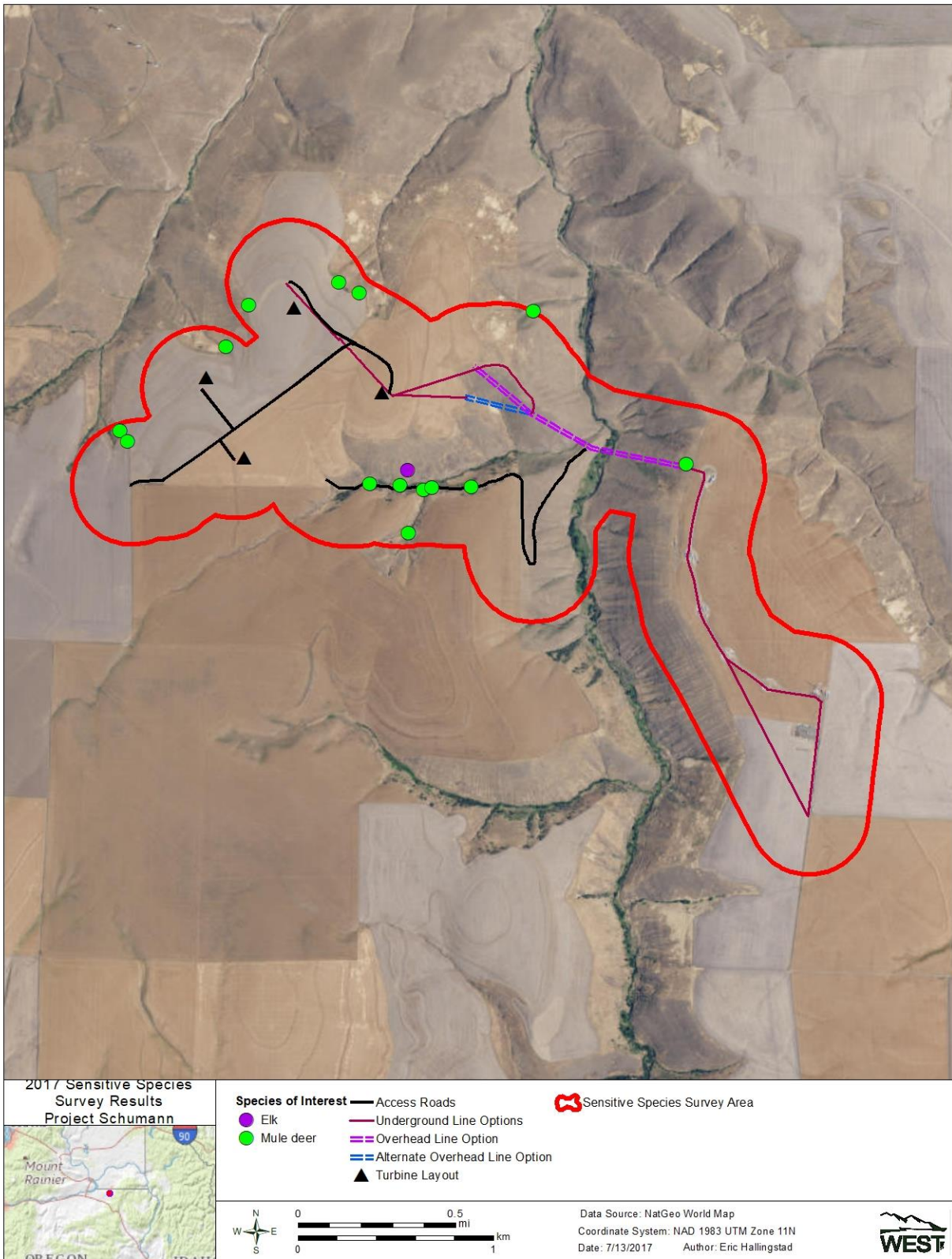


Figure 2. Locations of sensitive species documented during 2017 sensitive species surveys at the Schumann Wind Energy Facility.

**Appendix A. Wildlife Observed during 2017 Sensitive Species Surveys at the Schumann  
Wind Energy Facility**

**Appendix A. Wildlife observed during 2017 sensitive species surveys at the Schumann Wind Energy Facility in Umatilla County, Oregon.**

<b>Common Name</b>	<b>Scientific Name</b>
<b>Birds</b>	
American kestrel	<i>Falco sparverius</i>
American robin	<i>Turdus migratorius</i>
black-billed magpie	<i>Pica hudsonia</i>
brown-headed cowbird	<i>Molothrus ater</i>
Bullock's oriole	<i>Icterus bullockii</i>
cliff swallow	<i>Petrochelidon pyrrhonota</i>
eastern kingbird	<i>Tyrannus tyrannus</i>
European starling	<i>Sturnus vulgaris</i>
great blue heron	<i>Ardea herodias</i>
great horned owl	<i>Bubo virginianus</i>
horned lark	<i>Eremophila alpestris</i>
house wren	<i>Troglodytes aedon</i>
lazuli bunting	<i>Passerina amoena</i>
northern rough-winged swallow	<i>Stelgidopteryx serripennis</i>
red-tailed hawk	<i>Buteo jamaicensis</i>
red-winged blackbird	<i>Agelaius phoeniceus</i>
ring-necked pheasant	<i>Phasianus colchicus</i>
rock wren	<i>Salpinctes obsoletus</i>
savannah sparrow	<i>Passerculus sandwichensis</i>
song sparrow	<i>Melospiza melodia</i>
spotted towhee	<i>Pipilo maculatus</i>
western kingbird	<i>Tyrannus verticalis</i>
western meadowlark	<i>Sturnella neglecta</i>
western wood-pewee	<i>Contopus sordidulus</i>
white-crowned sparrow	<i>Zonotrichia leucophrys</i>
<b>Mammals</b>	
badger	<i>Taxidea taxus</i>
elk	<i>Cervus canadensis</i>
mule deer	<i>Odocoileus hemionus</i>
<b>Amphibians</b>	
Pacific tree frog	<i>Pseudacris regilla</i>
<b>Reptiles</b>	
garter snake	<i>Thamnophis ordinoides</i>