Harper Houf Peterson Righellis Inc.
ENGINEERS ◆ PLANNERS
LANDSCAPE ARCHITECTS ◆ SURVEYORS

TECHNICAL MEMORANDUM

DATE: April 22, 2019

TO: Scott Reiter
Reiter Design Architect
7965 SW Cirrus Drive
Beaverton, Oregon 97008

FROM: Kent Snyder, PhD and Ivy Watson

RE: Cox Parcel Natural Resource Assessment of Critical Areas

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1. INTRODUCTION

The site is 0.78 acres on one tax lot (83128000) located at 3210 SW 6th Avenue, Camas, Washington 98607. The site is suburban upland within the City of Camas (Exhibit 1). A developer is planning to replace the existing structures with multiple residences.

Harper Houf Peterson Righellis (HHPR) scientists performed a natural resource assessment of the site to: 1) facilitate impact avoidance and minimization, and 2) provide information for environmental or planning permits.

Exhibit 1: Site location in Camas, Washington.

2. DATABASE AND FIELD REVIEW

HHPR reviewed available natural resource data, including Washington Department of Fish and Wildlife Priority Habitats and Species (PHS) data (WDFW 2019a), US Fish and Wildlife Service IPaC data (USFWS 2019a), Washington State Department of Natural Resources Natural Heritage Program (WNHP) GIS Rare Plants and High Quality Ecosystems Dataset (WNHP 2018), USDA Natural Resource Conservation Service (NRCS) soil survey maps (2019), and Clark County GIS maps (Clark County GIS 2019).

HHPR performed a pedestrian review of the site on November 9, 2018. Vegetation observed is characteristic of a residential lawn with various native and non-native tree species planted, mostly along the margin of the parcel. The lawn is a combination of non-native lawn grasses (e.g., tall fescue [*Schedonorus arundinaceus*], orchard grass [*Dactylis glomerata*], bromes [*Bromus* spp.], and bluegrass [*Poa* spp.]) and weedy forbs (e.g., rough cats-ear [*Hypochaeris radicata*], common dandelion [*Taraxacum officinale*], dove-foot geranium [*Geranium molle*], Queen Anne's lace [*Daucus carota*], English plantain

[*Plantago lanceolata*], and chickweed [*Cerastium* spp]) (Photographs 1 and 2, Attachment A). The northeast corner of the parcel has a thicket of teasel (*Dipsacus fullonum*), western white clematis (*Clematis ligusticifolia* var. *brevifolia*), and Himalayan blackberry (*Rubus armeniacus*) (Photograph 3).

Trees on the property are typically small (3 to 9 inches diameter breast height [DBH]) Douglas fir [*Pseudotsuga menziesii*], bigleaf maple [*Acer macrophyllum*], arborvitae (*Thuja* spp.), and various ornamental cypress species (*Cupressaceae* spp.) planted around the margins of the parcel (Table 2). The notable exceptions (native species) are: a 28-inch DBH western red cedar (*Thuja plicata*) southeast of the house, two Douglas fir (14 and 15 inches DBH) and one bigleaf maple (13 inches DBH) along the southern boundary, and a 28-inch DBH Oregon white oak (*Quercus garryana*) in the southwest corner of the parcel (Photograph 4).

3. WETLAND

Camas Municipal Code (CMC) section 16.53 addresses wetland designation, review, and protection. No wetlands or hydric soils are mapped on or adjacent to the site (Clark County GIS 2019, USDA NRCS 2019). There are no streams or ponds on the site. The closest waterbody, the west end of Camas Slough, is 300 feet south. The closest mapped wetlands and hydric soils are along Camas Slough. No evidence of wetland indicators (hydrophytic vegetation, hydric soil, or wetland hydrology) was observed during the site visit.

4. CRITICAL AQUIFER RECHARGE AREAS (CARA)

The site overlays the countywide, federally designated Troutdale Sole Source Aquifer, which is designated as a Critical Aquifer Recharge Area (CARA) in accordance with CMC 16.55. The closest mapped municipal wellhead protection area is 2.5 miles east of the parcel (Clark County GIS 2019).

5. FREQUENTLY FLOODED AREAS

Frequently Flooded Areas (CMC 16.57) are the Areas of Special Flood Hazards (commonly referred to as the 100-year floodplain) identified by the Federal Emergency Management Agency (FEMA) and shown on the most current Flood Insurance Rate Map (FIRM) for the area. No Frequently Flooded Areas are located on or adjacent to the site (Clark County GIS 2019). The closest Frequently Flooded Area is the floodway fringe, approximately 140 feet south, associated with the Camas Slough.

Table 1. Species and diameter of trees greater than or equal to 6 inches DBH.

Common Name	Scientific Name	DBH (inches)												
		6	7	8	9	10	11	12	13	14	15	16	17	28
Douglas fir	*Pseudotsuga menziesii*									1	1			
Western red cedar	*Thuja plicata*													1
Oregon white oak	*Quercus garryana*													1
Bigleaf maple	*Acer macrophyllum*	1*	2*	1*					1					
Norway maple (non-native)	*Acer platanoides*				2*									
Japanese maple (non-native)	*Acer palmatum*	2*	1*											
Pine (non-native)	*Pinus* sp.												1	
Cypress (non-native)	*Cupressaceae* spp.			2	2									

* Stems of a multi-stemmed tree that splits below 4.5 feet above the ground (DBH) and thus each stem counts as a tree.

6. GEOLOGIC HAZARDOUS AREAS[1]

Geologic Hazardous Areas (CMC 16.59) are Erosion Hazard Areas, defined as those areas with slopes greater than 40%; Landslide Hazard Areas, generally described as having historic or active landslides, or a combination of geologic, topographic, and

[1] This section provides information for general planning and is not a geologically hazardous area analysis prepared by a qualified civil engineer with a geotechnical background or a geologist with experience analyzing relevant geologic systems.

hydrologic factors that create a potential for landslides; Seismic Hazard Areas defined as, "an area subject to severe risk of damage as a result of earthquake-induced soil liquefaction, ground shaking amplification, slope failure, settlement, or surface faulting" (CMC 16.59.020.C); and other geologically hazardous areas susceptible to events such as mass wasting, debris flows, rock falls, and differential settlements.

No areas of erosion hazard are mapped on the site (Clark County GIS 2019) and no slopes greater than 40% are present.

The site and surrounding areas are mapped as Areas of Potential Instability for landslide hazards (Clark County GIS 2019).

The liquefaction hazard for the site is mapped as either bedrock or Very Low (Clark County GIS 2019). The National Earthquake Hazards Reduction Program (NEHRP) rating for the site is mapped as Class B (Clark County GIS 2019), the lowest relative hazard.

7. FISH AND WILDLIFE HABITAT CONSERVATION AREAS

Fish

The closest occurrence of fish listed as Threatened, Endangered, or Sensitive (TES), associated Critical Habitat, or Essential Fish Habitat is Camas Slough and the Columbia River (300 feet south) (WDFW 2019a, NOAA Fisheries 2019, USFWS 2019a).

Wildlife

Fish and Wildlife Habitat Conservation Areas (CMC 16.61) are those used by any state or federally designated endangered, threatened, or sensitive fish or wildlife species; Priority Habitats and areas associated with Priority Species as defined by WDFW; waterbodies including lakes, streams, rivers, and naturally occurring ponds; Habitats of Local Importance; and Riparian Management Areas and Riparian Buffers extending up to 175 feet from the edge of waterbodies.

An Endangered Species Act (ESA) list of animal species potentially affected by activities at the project site, obtained from the USFWS IPaC service (2019a; Attachment B), identified three federally-listed animal species: gray wolf (*Canis lupus*, Northern Rocky Mountain Distinct Population Segment, federally-listed Endangered[2], state-listed Endangered), streaked horned lark (*Eremophila alpestris strigata*, federally-listed Threatened, state-listed Endangered), and western yellow-billed cuckoo (*Coccyzus americanus*, federally-listed Threatened, state-listed Endangered). No critical habitat has

[2] On March 15, 2019 the USFWS published a proposed rule to remove the gray wolf from listing under the ESA. Federal Register 84 (51):9648-9687.

been designated for the gray wolf, and the project is outside critical habitat for the bird species.

None of these species is mapped by WDFW (2019a) within 2 miles of the site. Additionally, there is no habitat at the project or immediate vicinity suitable to support any of these species. Although gray wolves can occupy almost any habitat, the project vicinity is considered too urbanized for this species and no wolf packs have been confirmed in the Southern Cascade Mountains (WDFW 2019b). The streaked horned lark, which nests and winters in open fields, including airports and abandoned agricultural fields, utilizes larger expanses (typically larger than 300 acres) that are bare or sparsely vegetated (USFWS 2013). Western yellow-billed cuckoos require relatively large (>50 acres) and contiguous patches of riparian habitat for nesting; cottonwood-willow forests (*Populus – Salix* spp.) are typically used (USFWS 2014).

The project site lies within a Cave Rich Area, an approximately 6 mile by 8.5 mile rectangle mapped across southeastern Clark County. No caves were observed on the site or in the vicinity. No other Priority Habitats or Species (PHS) are mapped on the site. The closest mapped PHS feature is a Riverine habitat along Camas Slough, approximately 800 feet southeast of the site.

Plants

An ESA list of plant species potentially affected by activities at the project site, obtained from the USFWS IPaC service (2019a), identified two federally-listed plant species: golden paintbrush (*Castilleja levisecta*, federally-listed Threatened, state-listed Endangered) and water howellia (*Howellia aquatilis*, federally-listed and state-listed Threatened). Golden paintbrush occurs in upland prairies, on generally flat grasslands. All extant populations are located in the Puget Sound Lowlands (Caplow 2004). In Clark County, water howellia occurs "in a mosaic of wetlands and Oregon ash and Oregon white oak communities in the floodplain of the Columbia River" (USFWS 2019b). Neither species is mapped by WDFW (2019a) or WNHP (2018) within 1 mile of the site. Additionally, no habitat suitable to support these species was observed during the site visit.

The possible presence of TES plant species was also evaluated through WNHP spatial data (2018). This rare plant spatial data set indicates the presence of one additional state-listed species within a 1 mile radius of the project vicinity: tall bugbane (*Actaea elata* var *elata*, state-listed Sensitive). The species occurs in the shade of dense conifer forests usually dominated by Douglas fir, western hemlock (*Tsuga heterophylla*), and western red cedar. Site visits established that the necessary habitat for tall bugbane is not present within or adjacent to the project site, which is principally residential lawns.

Habitats of Local Importance

The Oregon white oak in the southwest corner of the property, being 28 inches in DBH, qualifies as a Habitat of Local Importance (CMC section 16.61.010.A.3.a.i.).

Noxious Weeds and Invasive/Nuisance Plants

The following plant species observed on the parcel are on the 2019 Washington State noxious weed list (Washington State Noxious Weed Control Board 2019) (as Class C weeds) and thus noxious weeds under CMC section 8.06.060.E.1.: rough cats-ear, Queen Anne's lace, teasel, and Himalayan blackberry. However, because the site visit was conducted in November, this list may not be exhaustive.

A Norway maple occurs in the southeast corner of the parcel. Other than non-reproducing cultivars, this species is typically considered an invasive or nuisance species in the region (e.g., City of Issaquah, City of Oswego, City of Portland).

Invasive Animals

None of the top 50 priority species (Washington State Recreation and Conservation Office 2019) were observed on the parcel during the November 9, 2018 site visit.

8. REFERENCES

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Attachment A: Photographs

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Photograph 1: Bedrock exposed in the lawn of grasses and weedy forbs. Photograph taken November 9, 2018.

Photograph 2: View to the southeast corner of the property. Railroad tracks of BNSF Railway visible through trees and shrubs. Photograph taken November 9, 2018.

Photograph 3: View looking northeast showing thicket of teasel and Himalayan blackberry. Photograph taken November 9, 2018.

Photograph 4: View looking southwest showing large Oregon white oak tree. Photograph taken November 9, 2018.

Attachment B: IPaC Species List

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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

Clark 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 No critical habitat has been designated for this species.	Proposed Endangered

Birds

NAME	STATUS
Streaked Horned Lark Eremophila alpestris strigata There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/7268	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

Flowering Plants

NAME	STATUS
Golden Paintbrush Castilleja levisecta No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/7706	Threatened
Water Howellia Howellia aquatilis No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/7090	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.)

Bald Eagle Haliaeetus leucocephalus — Breeds Jan 1 to Sep 30
This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.
https://ecos.fws.gov/ecp/species/1626

Clark's Grebe Aechmophorus clarkii — Breeds Jan 1 to Dec 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Great Blue Heron Ardea herodias fannini — Breeds Mar 15 to Aug 15
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Lesser Yellowlegs Tringa flavipes — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9679

Olive-sided Flycatcher Contopus cooperi — Breeds May 20 to Aug 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/3914

Red-throated Loon Gavia stellata — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Rufous Hummingbird selasphorus rufus — Breeds Apr 15 to Jul 15
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/8002

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.

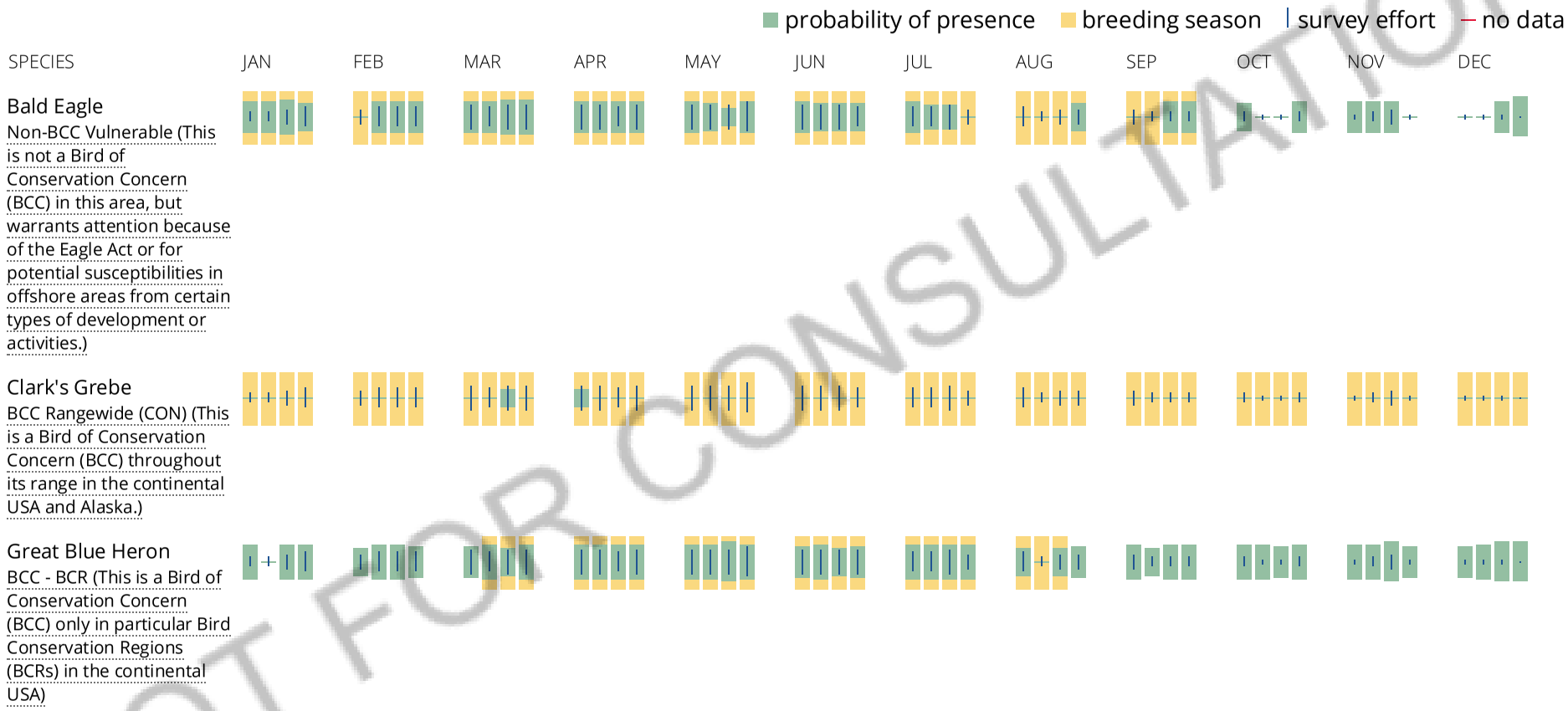
Survey Effort (|)

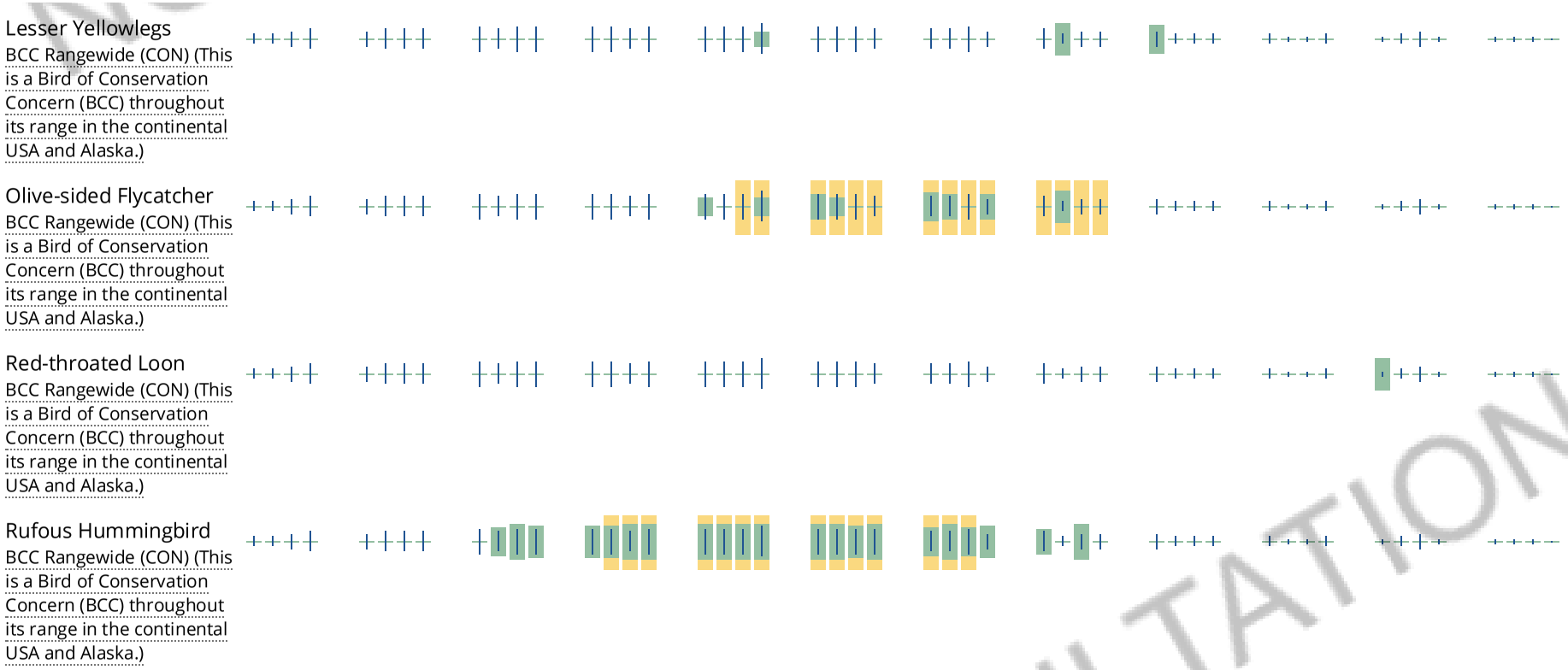
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

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.

THERE ARE NO KNOWN WETLANDS AT THIS LOCATION.

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.