MEMORANDUM

Date: May 15, 2020 Project #: 23641.0

To: Kittelson & Associates, Inc.

From: Austin Bloom, DOWL

Project: I-5 Exit 30 Interchange Area Management Plan (IAMP)

Subject: Final TM#2 Appendix: Land Use, Population and Demographics Inventory: Environmental Constraints

LAND USE SUMMARY

This section summarizes Section 4(f) / Section 6(f) Resources and Cultural Sites that may be found within the study area. Information in this section was identified through a desktop review of existing information including maps, GIS data, published City of Medford (City) documents, the Jackson County website, and other state and federal online resources.

Section 4(f) / Section 6(f) Resources

Section 4(f) of the U.S. Department of Transportation (USDOT) Act of 1966 protects publicly-owned parks, recreational lands, wildlife and waterfowl refuges, and public and private historic sites of local, state, and national significance. Federally funded transportation projects cannot "use" Section 4(f) properties unless there are no feasible and prudent avoidance alternatives and all possible planning to minimize harm has occurred. A "feasible alternative" is defined as one that is possible to engineer, design, and build. A "use" that is subject to the provisions of Section 4(f) occurs:

- When land is permanently incorporated into a transportation facility;
- When there is a temporary occupancy of land that is adverse in terms of the statute's preservationist purpose; or
- When there is constructive use of the land.

Federal and statewide transportation departments must demonstrate that a proposed project will not use publicly-owned parks and recreation land. If use of a 4(f) resource cannot be avoided, there must be unique problems or unusual factors associated with the use of non-4(f) alternative options such as the cost; social, economic, and environmental impacts; and/or extensive community disruption. If a project proposes to use these resources, it must be well-documented and supported that alternatives were considered, no "feasible and prudent" alternative existed, and "all possible planning to minimize harm" occurred. Transportation projects that use public parks must fulfill the requirements of Title 23, USC Section 138, Section 4(f) of the USDOT Act of 1966, as amended.

Publicly owned parks and recreational Section 4(f) resources within the study area include two parks and one multi-use path (Appendix A, Figure 1). Railroad Park and Midway Park Area, adjacent to each other, are located on Bear Creek, west of I-5 and north of Crater Lake Highway. The Bear Creek Greenway trail system traverses the study area adjacent to I-5, following Bear Creek. Bear Creek Greenway is a 20-mile, paved, multi-use path that connects the cities of Ashland, Talent, Phoenix, Medford and Central Point (Jackson County, 2020). Within the City, the greenway crosses land within the public right-of-way and several parcels owned by the City, and it is managed by the City Parks, Recreation, and Facilities Department. The greenway trail system is an Oregon State-Designated Regional Trail.

No natural or wilderness areas, wildlife and waterfowl refuges, or other recreational lands are located within the study area or vicinity.

Section 6(f) of the Land, Water, and Conservation Fund (LWCF) Act protects federal investments and the quality of resources purchased or improved by the LWCF. 71 LWCF sites are located within Jackson County. Several parcels along the Bear Creek Greenway, within the study area, have been acquired with LWCF grants and are subject to Section 6(f) provisions. These parcels are west of I-5 and north of Crater Lake Highway and include portions of the greenway and the Midway Park area.

Historic Resources

According to the State Historic Preservation Office (SHPO), no resources listed or potentially eligible for listing on the National Register of Historic Places are located within the study area. Likewise, the Local Historic Society has not identified historic resources within this area. Furthermore, there are no archaeological sites recorded in the SHPO database within the study area. Hopkins Canal (Appendix A, Figure 2) traverses through the southwestern portion of the study area. It was built over 50 years ago and may be considered a historic resource. A National Register of Historic Places eligibility assessment of the canal may be required.

NATURAL RESOURCES

Natural resources were identified to determine potential design constraints. Additional resources considered in this study include air quality and hazardous materials. Information in this section was identified through a desktop review of existing information including maps, GIS data, published City documents, the Jackson County website, and other state and federal online resources. To determine the likelihood of wetlands or waterways in the study area, various mapping resources were used, including the United States Fish and Wildlife Service's (USFWS) National Wetland Inventory (NWI) maps, City Local Wetland Inventory (LWI) maps, United States Geological Survey (USGS) topographic quad maps, and aerial photographs. Other Oregon Wetlands is a subset of additional wetlands inventoried by the Oregon Natural Heritage Information Center Oregon Wetlands Cover (2009) that were not included in the NWI or LWI mapping.

Goal 5 Considerations

The Oregon Department of Land Conservation and Development (DLCD) is responsible for administering Oregon Administrative Rule (OAR) 660-023-000 which states that the purpose of Statewide Planning Goal 5 is, "… to conserve and protect significant Goal 5 resources." Goal 5 requires local jurisdictions to inventory riparian corridors, wetlands, wildlife habitat, wild and scenic waterways, and other natural resources and to consider these resources for protection before developing local projects. The City has adopted all statewide planning provisions for Statewide Goal 5 resources (City of Medford, 2018). These State Goal 5 resources include riparian corridors, wetlands, wildlife habitat, federal wild and scenic rivers, state scenic waterways, groundwater resources, approved Oregon recreation trails, natural areas, wilderness areas, mineral and aggregate resources, energy sources, and cultural areas (State of Oregon, 2020).

In compliance with Goal 5, the City Riparian Corridor Ordinance (2011-123) identifies two protected riparian corridors within the study area, the Bear Creek Corridor and Lone Pine Creek Corridor. These corridors are associated with Bear Creek and Lone Pine Creek, both tributaries of the Rogue River. The Medford Comprehensive Plan Riparian Corridor Map (Appendix A, Figure 2) identifies the location of the riparian corridors for both Bear Creek and Lone Pine Creek corridors. The code requirements for development within the riparian corridors can be found in the Medford Land Development Code, Sections 10.920-10.928. Development of the proposed project improvements within these Goal 5 resources would require an application for land use review with the City.

Based on the analysis of Goal 5 resources, six of the resources may require an application for land use review for development of the proposed project. These resources include locally significant wetlands and associated riparian corridors, groundwater resources, wildlife habitat, Section 4(f) resources, and soils.

FEMA Floodplain/Floodway

The Federal Emergency Management Agency (FEMA) maps and regulates development within floodplains. As shown in Table 1, the FEMA Flood Map Service Center has two FEMA Flood Insurance Rate Map panels for the study area (41029C1957F, Panel 1957 and 41029C1976F, Panel 1976); they show that the majority of the study area is designated an Area of Minimal Flood Hazard (Zone X), excluding areas along Bear Creek and Lone Pine Creek. Both Bear Creek and Lone Pine Creek are a Special Flood Hazard Area (Zone AE) surrounded by Other Areas of Flood Hazard (Zone X). FEMA Floodplain Mapping is located in Appendix B.

Table 1. FEMA Designated Flood Areas within the Study Area

Zone	Description
AE	Without Base Flood Elevation and Regulatory Floodway
X	0.2% Annual Chance Flood Hazard, Area of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile; Area of Minimal Flood Hazard

Source: Federal Emergency Management Agency

Soils

The Natural Resources Conservation Service (NRCS) Web Soil Survey shows nine soil units mapped within the study area (Appendix A, Figure 3). Parent materials for the soils primarily consists of alluvium. Two soil units within the study area have a hydric soil rating, Cove Clay, 0 to 3 percent slopes (35A) and Gregory Silty Clay Loam, 0 to 3 percent slopes (76A). All soils within the study area are classified as Farmland of Statewide Importance, All Areas are Prime Farmland, or Prime Farmland if Drained; however, all land within the study area has been previously disturbed and is not actively farmed (NRCS, 2020).

Wetlands and Waters

The study area is located within the Bear Creek Watershed (1710030801) within the Southern Oregon Coastal basin. However, Medford's water supply is sourced from Big Butte Springs, within the Big Butte Creek Watershed, approximately 30 miles northeast of Medford city limits.

Two creeks and three canals are located within the study area. Bear Creek flows centrally through the study area primarily west of I-5. Lone Pine Creek flows through the northeastern portion of the study area between the Crater Lake Highway/Whittle Avenue intersection and the Crater Lake Highway/Delta Waters Road intersection. Bear Creek and Lone Pine Creek are classified Essential Salmonid Habitat (ESH) by the Department of State Lands (DSL). Hopkins Canal traverses through the southwestern portion of the study area across OR99, Northgate Marketplace, and Rogue Valley Mall. Biddle Liner canal briefly flows through the southern portion of the study area, the Upton Lateral traverses the northeastern corner of the study area, and an unnamed canal connects Bear Creek and Hopkins Canal (Appendix A, Figure 2).

As noted above, the City's Riparian Corridor Ordinance (2011-123), identifies two riparian corridors within the study area, the Bear Creek Corridor and Lone Pine Creek Corridor. The Bear Creek Corridor is comprised of wetland vegetation, trees and shrubs, and herbaceous vegetation. The Lone Pine Creek riparian corridor has less vegetation diversity, as it primarily crosses commercial development within the study area.

The National Wild and Scenic Rivers System was created by Congress in 1968 (Public Law 90-542; 16 U.S.C. 1271 et seq.) to preserve certain rivers with outstanding natural, cultural, and recreational values in a free-flowing condition for the enjoyment of present and future generations (Rivers, 2017). Wild and Scenic rivers in Oregon include the Deschutes River, North Umpqua River, and portions of the Rogue River. No rivers designated as Wild and Scenic are located within the project vicinity. The nearest river to the study area, the Rogue River, is classified as a Wild and Scenic River; however, the portion of the river nearest to the study area is not designated. Additionally, no Oregon Scenic Waterways occur within the study vicinity.

The study area is not located within an Oregon Water Resources Department (OWRD) Groundwater Restricted or Critical Area. The OWRD Groundwater Information System Mapping Tool shows no wells within the study area or immediate vicinity.

The City completed a Local Wetlands Inventory in September 2002 (Wetland Consulting, 2002). The inventory shows one palustrine emergent wetland (approximately 14.49 acres) located within the study area. The wetland is mapped in the northeastern portion of the study area, adjacent to Hopkins Canal. The City has classified the wetland as a Locally Significant Wetland, a Goal 5 Resource requiring an application for land use review for development of the proposed project.

The USFWS NWI mapping tool maps the majority of Lone Pine Creek within the study area as a palustrine emergent wetland. The Other Oregon Wetlands inventory shows a wetland fringe along the entirety of Bear Creek within the study area (Oregon National Heritage Information Center, 2009) (Appendix A, Figure 4). These wetlands were not classified as locally significant within the study area.

Threatened and Endangered Species

The USFWS maintains the federal list of threatened and endangered species as well as a list of species that are candidates or proposed for possible addition to the federal list. An endangered species is in danger of extinction throughout all or a significant portion of its range. A threatened species is likely to become endangered in the foreseeable future. Species on this list receive protection under the Endangered Species Act (ESA). The purpose of the ESA is to protect and recover imperiled animal and plant species and the ecosystems upon which they depend. Section 7 of the ESA requires federal agencies to ensure the actions they take, including those they fund or authorize, are not likely to jeopardize the continued existence of threatened or endangered species, or to destroy or adversely modify designated critical habitat that is essential to listed species. Section 9 of the ESA prohibits the take of any threatened or endangered species without a special permit.

A review of the United States Fish and Wildlife Service Information for Planning and Consultation (IPaC) database shows fourteen threatened and endangered species and five critical habitats occurring in Jackson County, Oregon; however, only seven threatened and endangered species and one critical habitat are located within the study vicinity.

Additionally, Oregon's Sensitive Species Rule (OAR 635-100-0040) requires a Sensitive Species List regarding fish and wildlife conservation and management to prevent species from becoming eligible for Threatened or Endangered Species listing. Under the Sensitive Species List, species are designated by ecoregion as Sensitive Species or Sensitive-Critical. Sensitive Species are included in the Oregon Conservation Strategy and Sensitive-Critical species are a sub-designated of species that may become Threatened or Endangered if management and conservation measures are not taken. Twenty-six Sensitive Species and twelve Critical-Sensitive species are listed for the Klamath Mountains Ecoregion. Threatened, Endangered, or Sensitive Species that may be found within the study area are listed in Table 2. The study area is not located within Core Sage Grouse Habitat.

Table 2. Federal and State listed Threatened, Endangered, or Sensitive Species

Common Name ***Scientific Name***	**USFWS** **Status**	**State** **Status**
Mammals		
Fisher *Pekania pennant*	Proposed Threatened	--
Gray wolf *Canis lupus*	Endangered	--
Townsend's big-eared bat *Corynorhinus townsendii*	--	Critical-Sensitive
Birds		
Lewis's woodpecker *Melanerpes lewis*	--	Critical-Sensitive
Oregon vesper sparrow *Pooecetes gramineus affinis*	--	Critical-Sensitive
Western purple martin *Progne subis*	--	Critical-Sensitive
Yellow-breasted chat *Icteria virens*	--	Critical-Sensitive
Northern spotted owl *Strix occidentalis caurina*	Threatened	--
Amphibians		
Foothill yellow-legged frog *Rana boylii*	--	Critical-Sensitive
Reptiles		
Western pond turtle *Actinemys marmorata*	--	Critical-Sensitive
Fish		
Umpqua chub *Oregonichthys kalawatseti*	--	Critical-Sensitive
Invertebrates		
Vernal pool fairy shrimp *Branchinecta lynchi*	Threatened	--

Common Name *Scientific Name*	USFWS Status	State Status
Plants		
Cook's lomatium *Lomatium cookii*	Endangered *Final Critical Habitat*	--
Gentner's fritillary *Fritillaria gentneri*	Endangered	--
Large-flowered woolly meadowfoam *Limnanthes pumila ssp. Grandiflora*	Endangered	--

Source: USFWS and Oregon Department of Fish and Wildlife (ODFW)

The ODFW Fish Habitat Distribution and Barriers web map identifies seven fish species as occurring in Bear Creek and two species occurring in Lone Pine Creek. Species identified within Bear Creek include fall Chinook salmon, coho, Pacific lamprey, rainbow trout, steelhead, and coastal cutthroat trout. Habitat includes spawning and rearing habitat. Spawning habitat for summer steelhead and residential habitat for coastal cutthroat trout were identified in Lone Pine Creek.

Wildlife Habitat

The study area is within the Urban Growth Boundary of Medford city limits, with elevations that range from 1,308 to 1,340 feet above mean sea level. USGS GAP Land Cover mapping shows land cover within the project limits consists primarily of Suburban, Urban and Rural Residential development. Small portions of the study area include Pasture or Hay, Open Water, Lowland Wetlands, Coastal and Valley Riparian, Mixed Oak, and Siskiyou Mixed Coniferous (Appendix A, Figure 5). As the study area is highly developed, minimal suitable wildlife habitat occurs. Suitable habitat would be limited to Railroad and Midway Park, the Bear Creek and Lone Pine Creek riparian corridors, dispersed wetlands, and landscape vegetation.

ODFW designates strategy species within Oregon ecoregions. The study area is within the Klamath Mountains Ecoregion for Oregon Conservation Strategy. Strategy species are species determined to have the greatest conservation need through factors including declining populations and management concerns (ODFW, 2016). Eighteen birds, three mammals, one reptile, two invertebrates, and five plants have observed strategy habitat within the study vicinity. Strategy habitats include oak woodlands, ponderosa pine woodlands, flowing water and riparian habitats, and wetlands. The majority of habitat for strategy species within the study area is along Bear Creek. A complete list of strategy species habitat within the study area can be found in the Oregon Conservation Strategy Report in Appendix C.

Air Quality

Particulate matter (PM) is a mixture of solid and liquid particles, such as dust, that contribute to air pollution. PM10 (approximately 10 micrometers) and PM2.5 (approximately 2.5 micrometers) are

inhalable particles that can be harmful to humans, as the PM can enter the lungs or bloodstream. PM is comprised of hundreds of different chemicals. Common sources of PM are construction sites, smokestacks, and industrial activities.

Carbon monoxide (CO) is a colorless, odorless gas that is harmful to humans when inhaled at high levels. High concentrations of CO can enter the bloodstream, reaching critical organs. Common sources of outdoor CO pollution are primarily motor vehicles, machinery, and other activities that burn fossil fuels.

The study area is located within the Medford-Ashland Maintenance Area and the Medford Urban Growth Boundary. The Medford-Ashland Maintenance Area, which includes Jackson County, Ashland, Phoenix, Talent, Medford, Central Point, White City, and Eagle Point, was developed under the 1990 Clean Air Act Amendments to address Particulate Matter 10 (PM_{10}) in the Rogue Valley. A plan to address PM_{10} concentrations was developed in 1991 to reduce PM_{10} pollution related to industry and residential wood stoves. Currently, the Medford-Ashland Maintenance Area is in attainment of National Ambient Air Quality Standards, including PM_{10} and $PM_{2.5}$.

Additionally, the City was in non-attainment for Carbon Monoxide (CO) standards between the 1970s and 1980s. In 2002, a State Implementation Plan for CO Maintenance was approved by the Environmental Protection Agency (EPA). A second CO Maintenance Plan was prepared by the Oregon Department of Environmental Quality (DEQ). The plan is valid through September 2022.

The Rogue Valley Metropolitan Planning Organization (RVMPO) Air Quality Conformity Determination found that the 2017-2042 Regional Transportation Plan and 2018-21 Transportation Improvement Program would meet air quality requirements for the Medford CO Maintenance Area and Medford-Ashland PM_{10} Maintenance Area.

Hazardous Materials / Substances

The National Pipeline Management Database shows no pipelines containing hazardous materials crossing the study area. According to the DEQ, six environmental cleanup sites, twelve hazardous waste sites, nineteen leaking underground storage tanks (LUST), and one underground storage tank (UST) are located within the study area. Of the six environmental cleanup sites, four are listed as No Further Action Required, two are Listed on Confirmed Release List or Inventory, and one is a Suspect Site Requiring Further Investigation. Additionally, fifteen of the LUST sites cleanups has been completed (Appendix A Figure 6).

Appendix A: Figure 1-6

Section 4(f) and 6(f) Resources

Interchange Management Study Area
Medford, Oregon

Figure
1

Coordinate System: NAD 1983 2011 StatePlane Oregon South FIPS 3602 Ft Intl
Data Source: Jackson County, 2020
Service Layer Credits: City of Medford

DOWL

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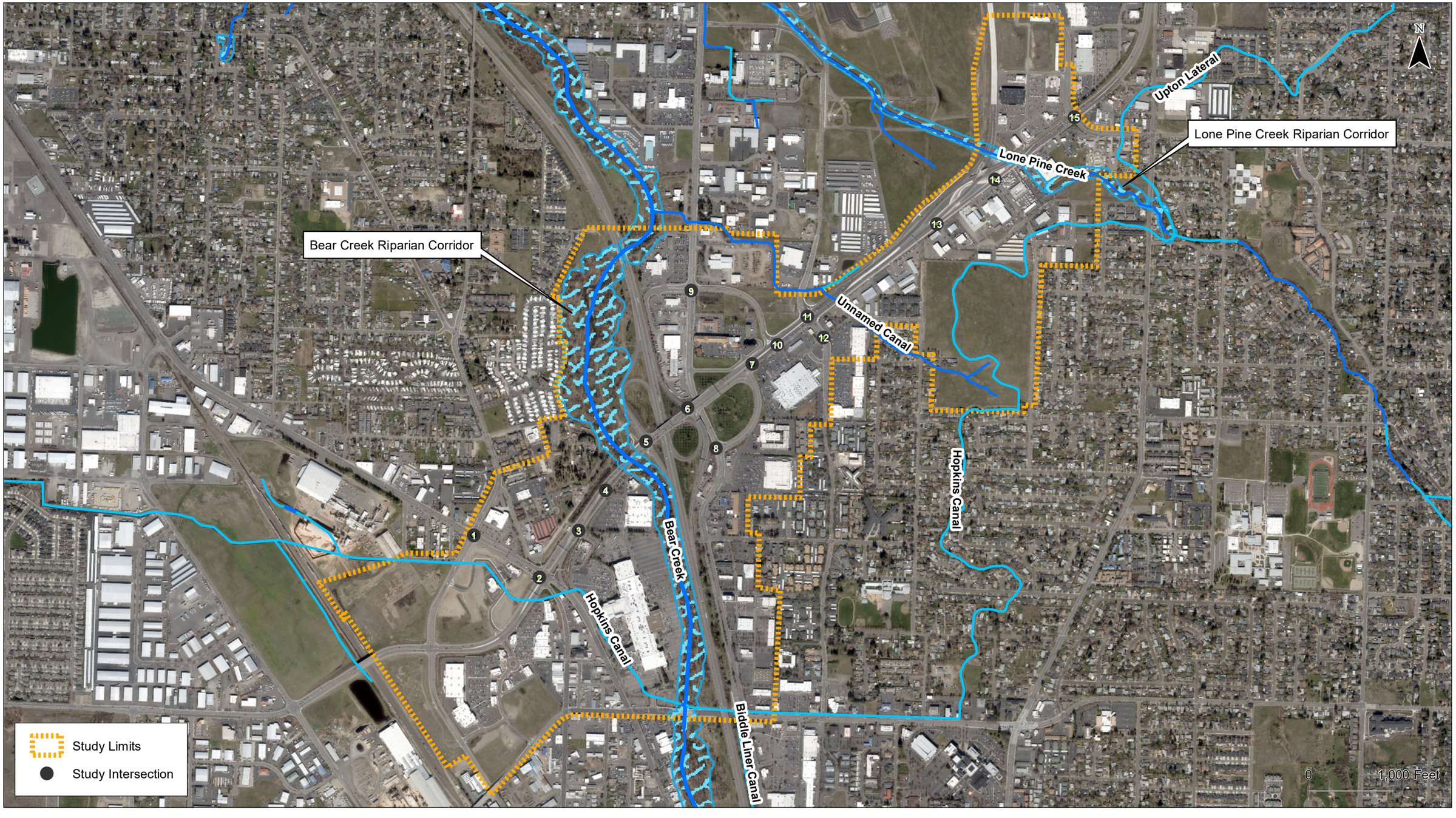

Waterways & Riparian Corridors

Interchange Management Study Area
Medford, Oregon

Figure
2

DOWL

Coordinate System: NAD 1983 2011 StatePlane Oregon South FIPS 3602 Ft Intl
Data Source: City of Medford, 2020
Service Layer Credits: City of Medford

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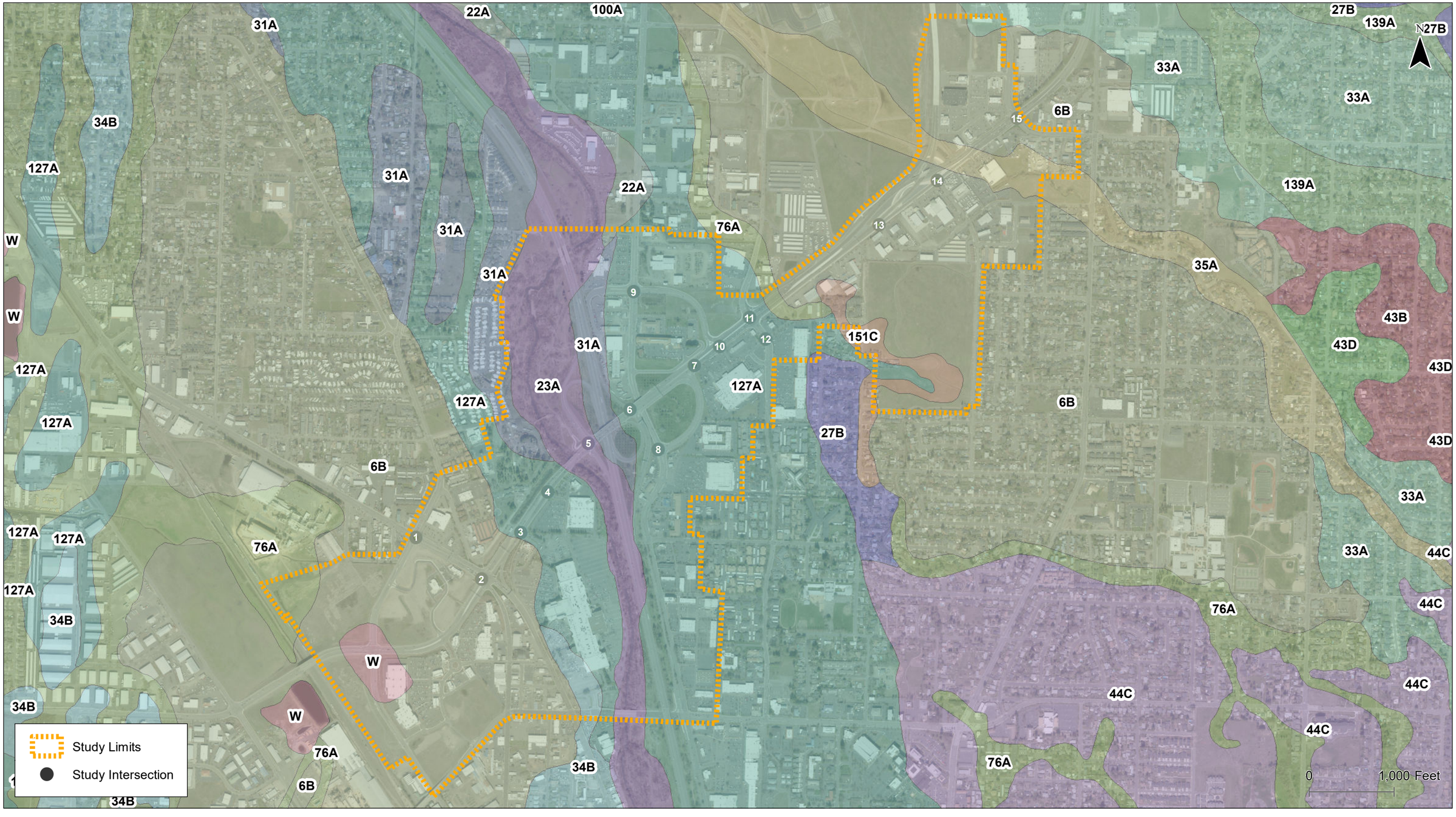

NRCS Soil Survey

Interchange Management Study Area
Medford, Oregon

Figure
3

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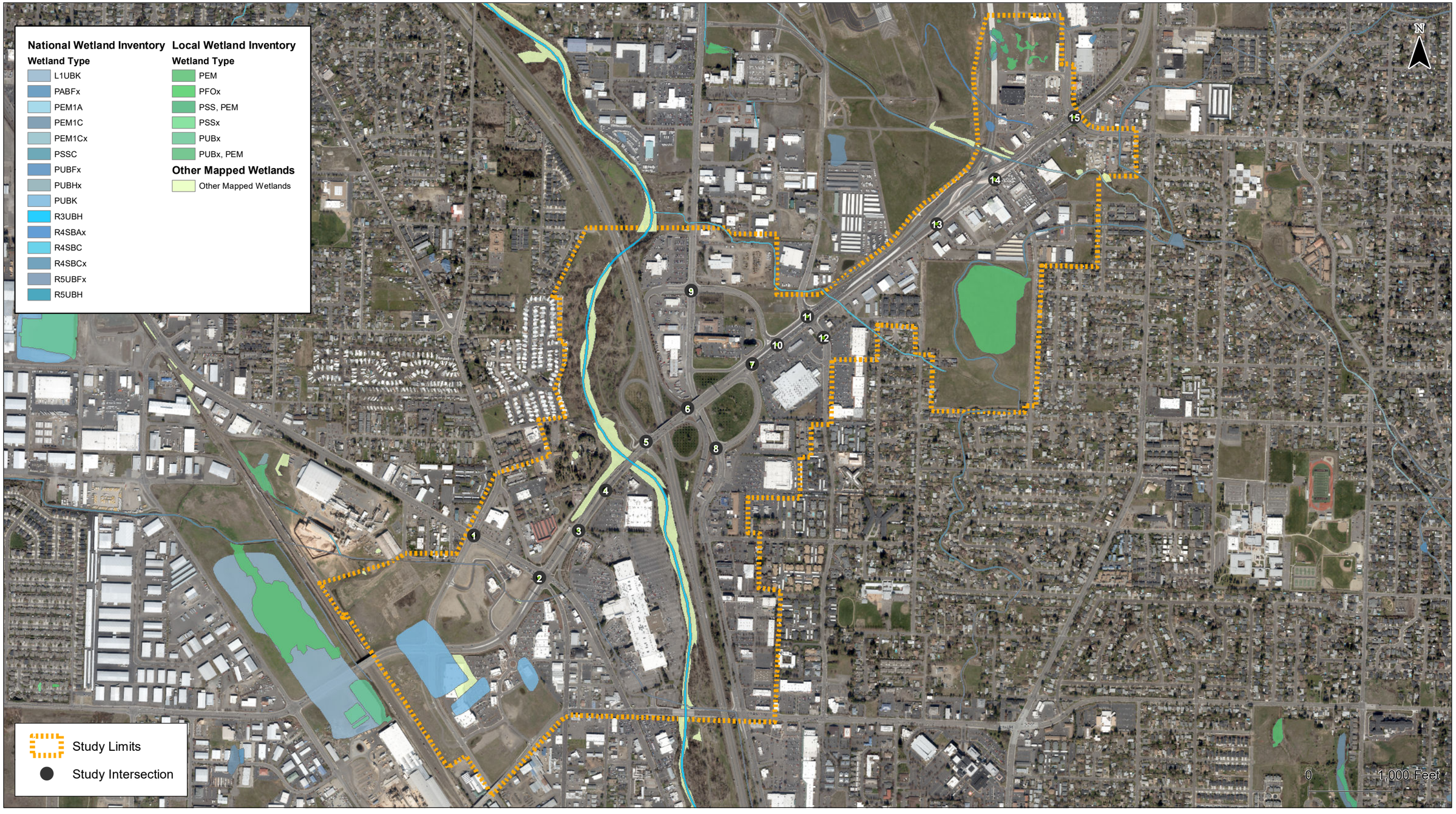
DOWL

Coordinate System: NAD 1983 2011 StatePlane Oregon South FIPS 3602 Ft Intl
Data Source: Natural Resources Conservation Service, 2020
Service Layer Credits: City of Medford ; Natural Resources Conservation Service



Wetlands

Interchange Management Study Area
Medford, Oregon

Figure
4

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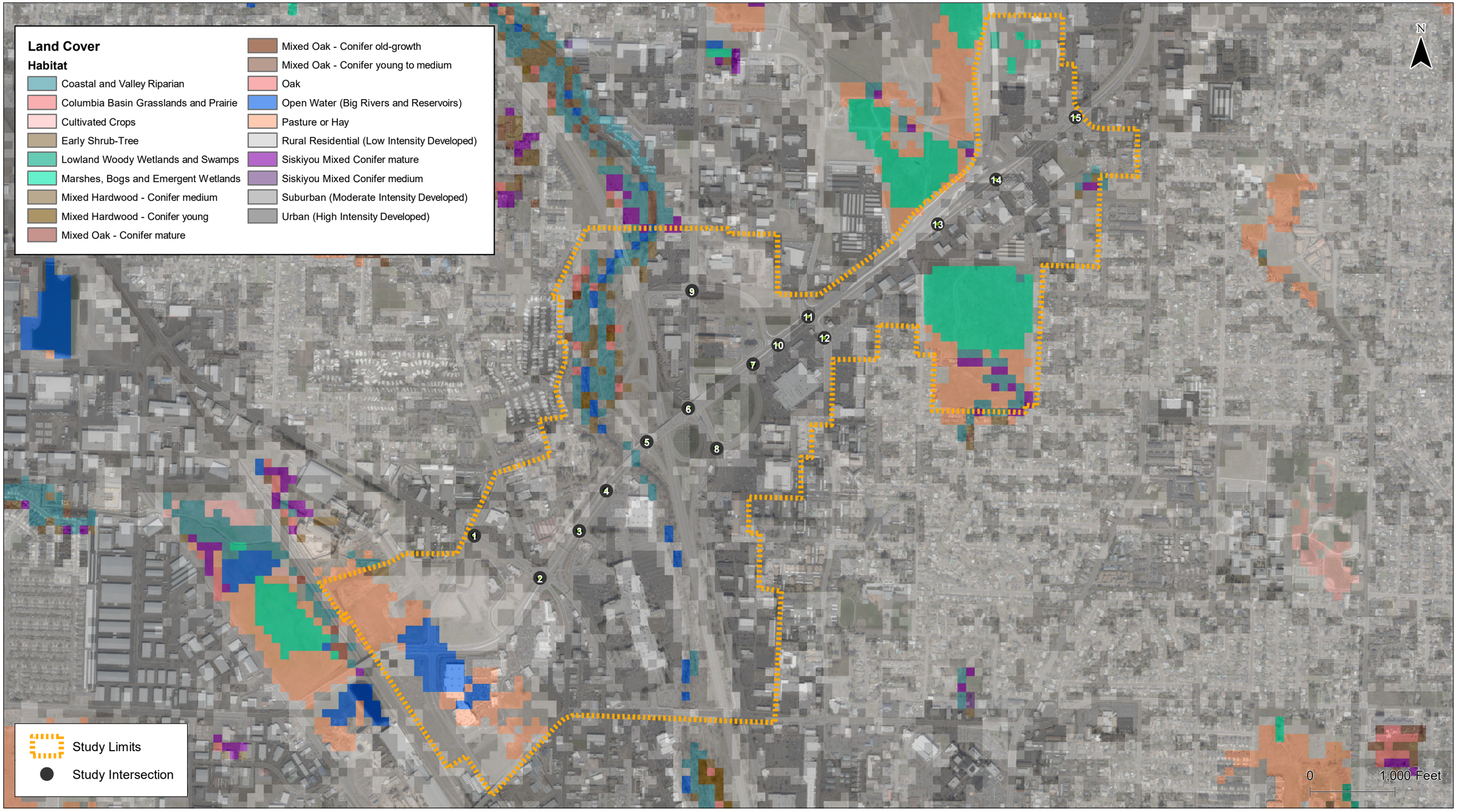
DOWL

Coordinate System: NAD 1983 2011 StatePlane Oregon South FIPS 3602 Ft Intl
Data Source: USFWS, 2020; Wetland Consulting, 2002; and ONHIC, 2009
Service Layer Credits: City of Medford ; City of Medford



Habitat / Land Cover

Interchange Management Study Area
Medford, Oregon

Figure
5

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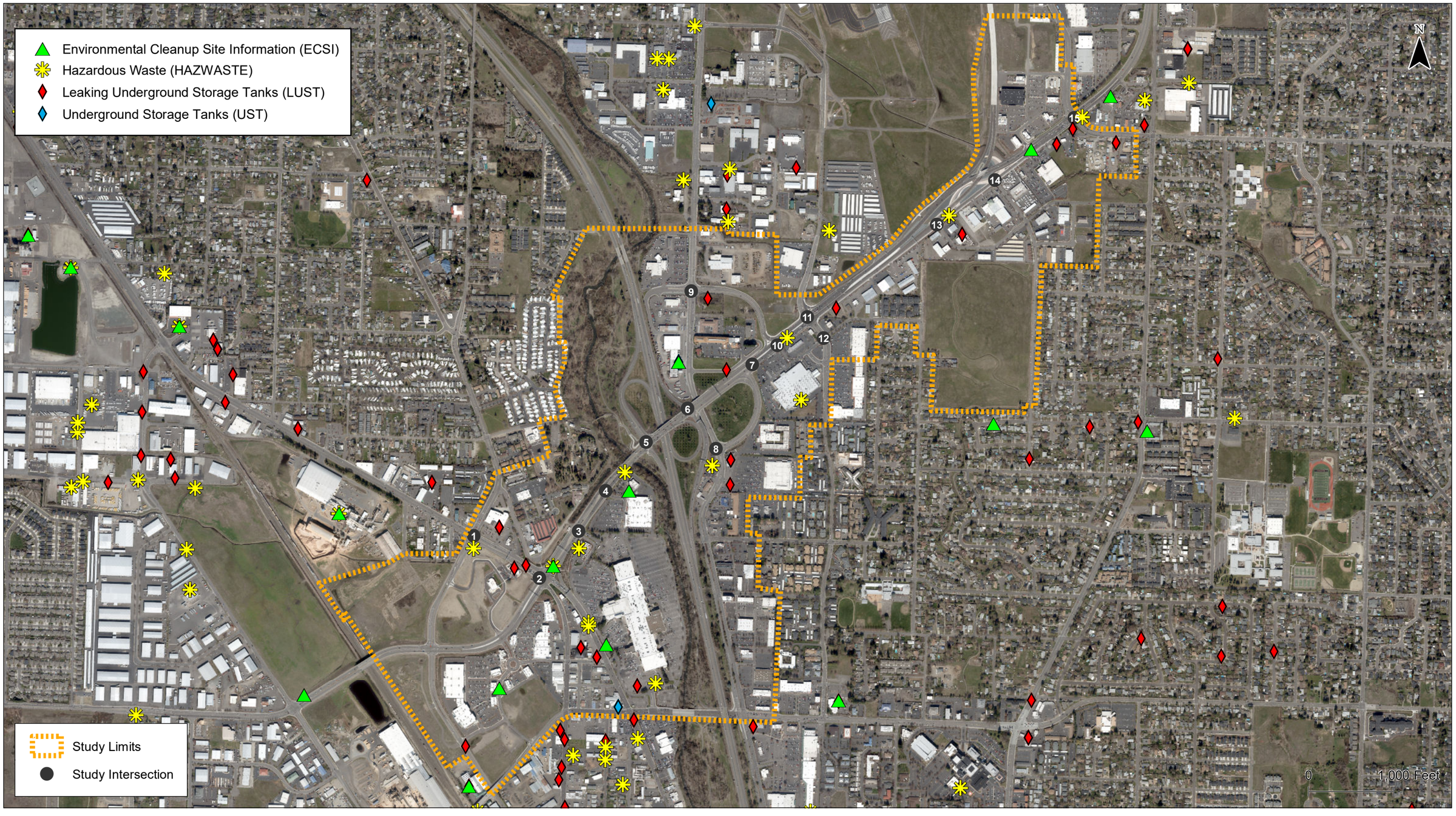
DOWL

Coordinate System: NAD 1983 2011 StatePlane Oregon South FIPS 3602 Ft Intl
Data Source: City of Medford, 2020
Service Layer Credits: City of Medford ; USGS GAP Data



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Hazardous Materials

Interchange Management Study Area
Medford, Oregon

Figure
6

DOWL

Coordinate System: NAD 1983 2011 StatePlane Oregon South FIPS 3602 Ft Intl
Data Source: ODEQ, 2020
Service Layer Credits: City of Medford ; Oregon DEQ Facility Porfiler-Lite Permitted Sites

Appendix B: Flood Mapping

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures.** Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Universal Transverse Mercator (UTM) zone 10. The **horizontal datum** was NAD83, GRS1980 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum.** For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov/ or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC- 3, #9202
1315 East- West Highway
Silver Spring, MD 20910- 3282

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713- 3242**, or visit its website at http://www.ngs.noaa.gov/.

Base map information shown on this FIRM was derived from multiple sources. Base map files were provided in digital format by Jackson County GIS Services, State of Oregon OLCD, and the National Geodetic Survey. This information was compiled at various map scales during the time period 2003-2006.

This map reflects more detailed and up- to- date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables *in the Flood Insurance Study report (which contains authoritative hydraulic data)* may reflect stream channel distances that differ from what is shown on this map.

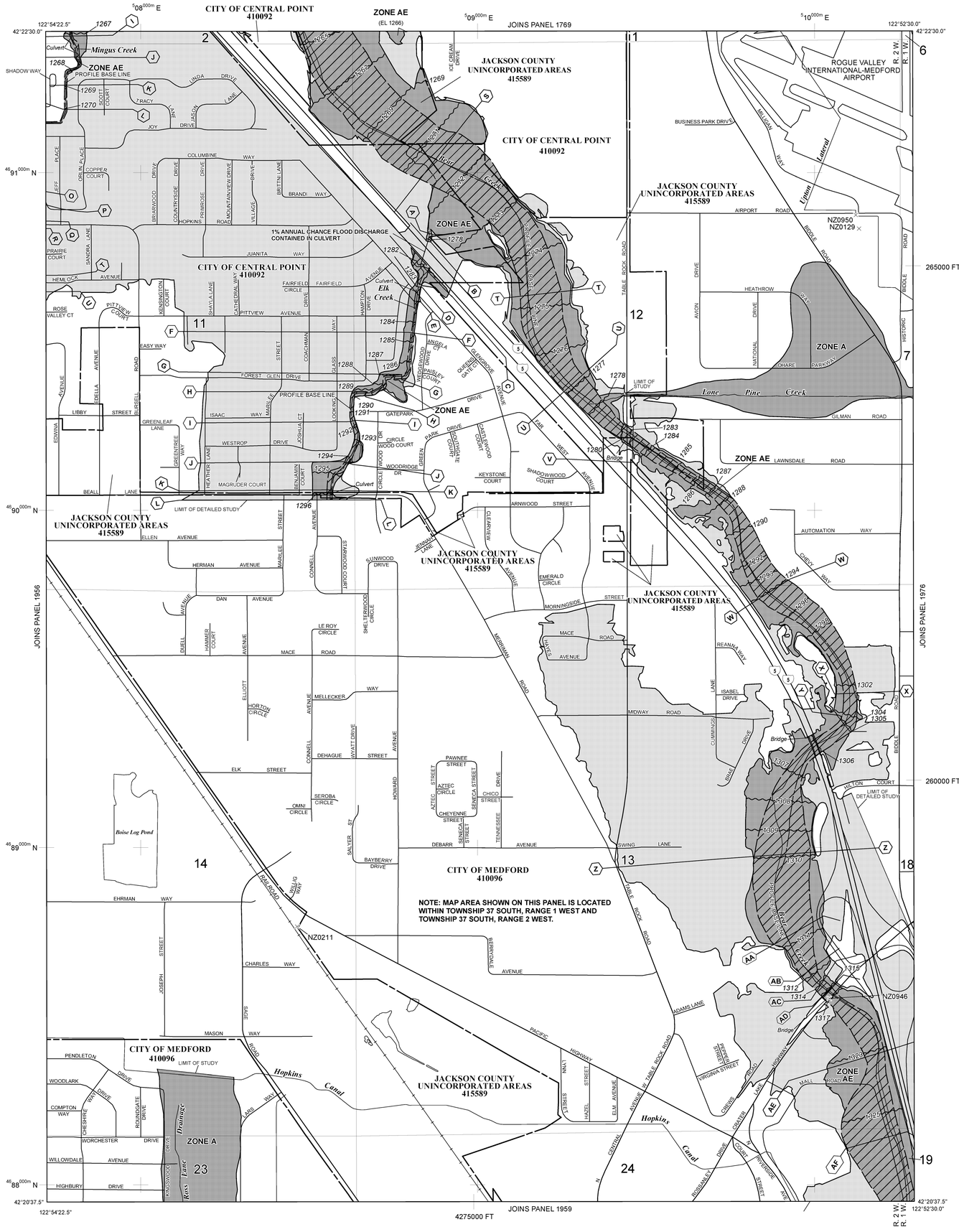
Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de- annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the **FEMA Map Information eXchange** at **1-877-FEMA MAP** (1-877-336-2627) for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study report, and /or digital versions of this map. The FEMA Map Information eXchange may also be reached by Fax at 1-800-358-9620 and its website at http://www.msc.fema.gov/.

If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call **1- 877- FEMA MAP** (1- 877- 336- 2627) or visit the FEMA website at http://www.fema.gov/.

The **profile baselines** depicted on this map represent the hydraulic modeling baselines that match the flood profiles in the FIS report. As a result of improved topographic data, the profile baseline, in some cases, may deviate significantly from the channel centerline or appear outside the SFHA.



LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A No Base Flood Elevations determined.

ZONE AE Base Flood Elevations determined.

ZONE AH Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.

ZONE AO Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.

ZONE AR Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.

ZONE A99 Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.

ZONE V Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.

ZONE VE Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X Areas determined to be outside the 0.2% annual chance floodplain.

ZONE D Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

Floodplain boundary

Floodway boundary

Zone D boundary

CBRS and OPA boundary

Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.

513 — Base Flood Elevation line and value; elevation in feet*

(EL 987) — Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988 (NAVD 88)

A — A — Cross section line

23 — 23 — Transect line

97°07'30", 32°22'30" — Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)

4275000 mN — 1000-meter Universal Transverse Mercator grid ticks, zone 10

6000000 FT — 5000-foot grid ticks: Oregon State Plane coordinate system, south zone (FIPSZONE 3602), Lambert Conformal Conic

DX5510 — Bench mark (see explanation in Notes to Users section of this FIRM panel)

M1.5 — River Mile

MAP REPOSITORIES
Refer to Map Repositories list on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
May 3, 2011
EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1- 800- 638- 6620.

MAP SCALE 1" = 500'
250 0 500 1000 FEET
150 0 150 300 METERS

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 1957F

FIRM
FLOOD INSURANCE RATE MAP
JACKSON COUNTY, OREGON
AND INCORPORATED AREAS

PANEL 1957 OF 2327
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
JACKSON COUNTY	415589	1957	F
CENTRAL POINT, CITY OF	410092	1957	F
MEDFORD, CITY OF	410096	1957	F

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
41029C1957F

EFFECTIVE DATE
MAY 3, 2011

Federal Emergency Management Agency

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole- foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures.** Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Universal Transverse Mercator (UTM) zone 10. The **horizontal datum** was NAD83, GRS1980 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum.** For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov/ or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC- 3, #9202
1315 East- West Highway
Silver Spring, MD 20910- 3282

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713- 3242**, or visit its website at http://www.ngs.noaa.gov/.

Base map information shown on this FIRM was derived from multiple sources. Base map files were provided in digital format by Jackson County GIS Services, State of Oregon OLCD, and the National Geodetic Survey. This information was compiled at various map scales during the time period 2003-2006.

This map reflects more detailed and up- to- date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables *in the Flood Insurance Study report (which contains authoritative hydraulic data)* may reflect stream channel distances that differ from what is shown on this map.

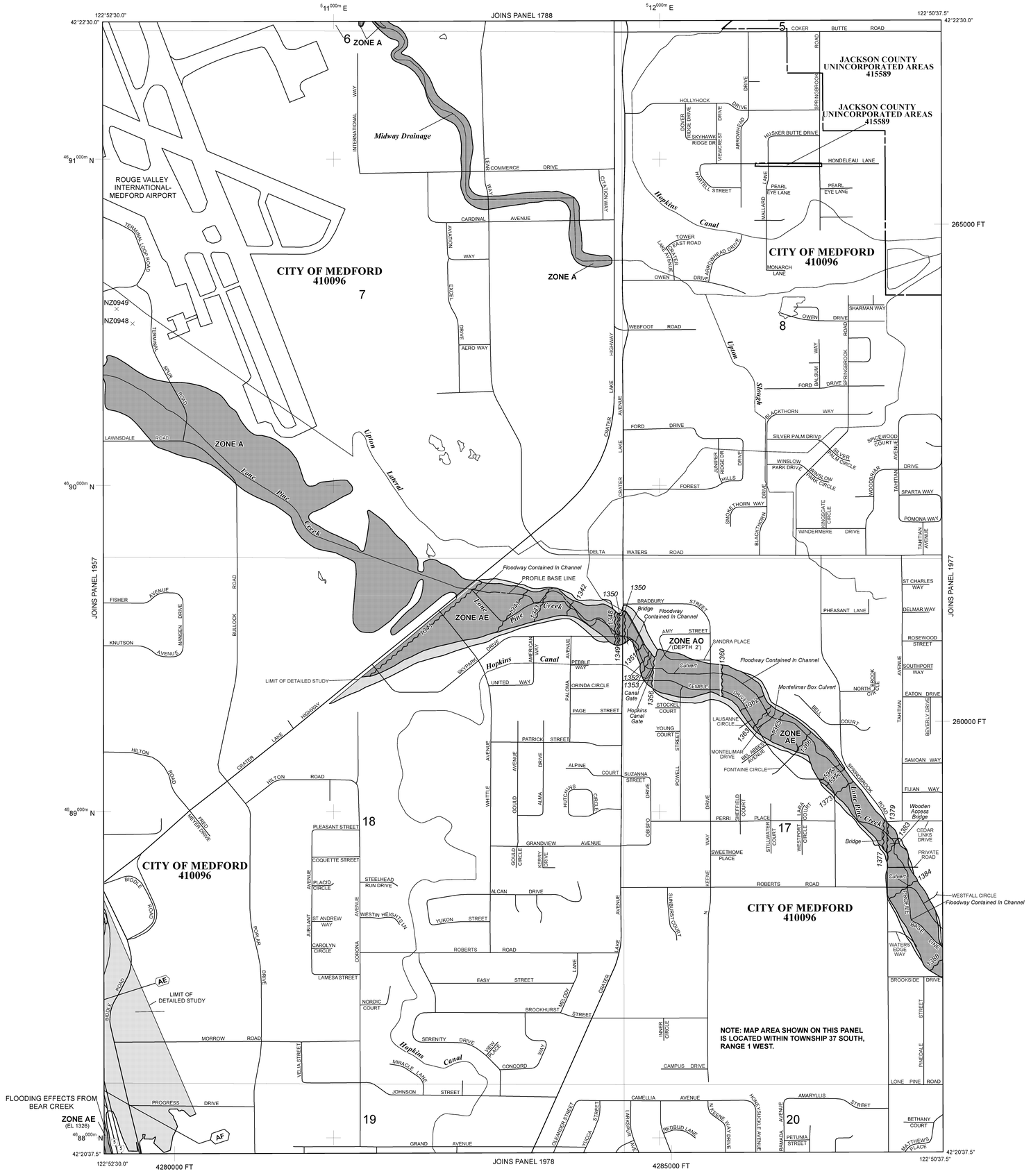
Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de- annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the **FEMA Map Information eXchange** at **1-877-FEMA MAP** (1-877-336-2627) for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study report, and /or digital versions of this map. The FEMA Map Information eXchange may also be reached by Fax at 1-800-358-9620 and its website at http://www.msc.fema.gov/.

If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call **1- 877- FEMA MAP** (1- 877- 336- 2627) or visit the FEMA website at http://www.fema.gov/.

The **profile baselines** depicted on this map represent the hydraulic modeling baselines that match the flood profiles in the FIS report. As a result of improved topographic data, the profile baseline, in some cases, may deviate significantly from the channel centerline or appear outside the SFHA.



LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A No Base Flood Elevations determined.

ZONE AE Base Flood Elevations determined.

ZONE AH Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.

ZONE AO Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.

ZONE AR Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.

ZONE A99 Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.

ZONE V Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.

ZONE VE Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X Areas determined to be outside the 0.2% annual chance floodplain.

ZONE D Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

Floodplain boundary

Floodway boundary

Zone D boundary

CBRS and OPA boundary

Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.

513 Base Flood Elevation line and value; elevation in feet*

(EL 987) Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988 (NAVD 88)

Cross section line

Transect line

97°07'30", 32°22'30" Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)

4275 000mN 1000-meter Universal Transverse Mercator grid ticks, zone 10

6000000 FT 5000-foot grid ticks: Oregon State Plane coordinate system, south zone (FIPSZONE 3602), Lambert Conformal Conic

DX5510 Bench mark (see explanation in Notes to Users section of this FIRM panel)

M1.5 River Mile

MAP REPOSITORIES
Refer to Map Repositories list on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
May 3, 2011
EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

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MAP SCALE 1" = 500'
250 0 500 1000 FEET
150 0 150 300 METERS

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 1976F

FIRM
FLOOD INSURANCE RATE MAP
JACKSON COUNTY, OREGON
AND INCORPORATED AREAS

PANEL 1976 OF 2327
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
JACKSON COUNTY	415589	1976	F
MEDFORD, CITY OF	410096	1976	F

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
41029C1976F

EFFECTIVE DATE
MAY 3, 2011

Federal Emergency Management Agency

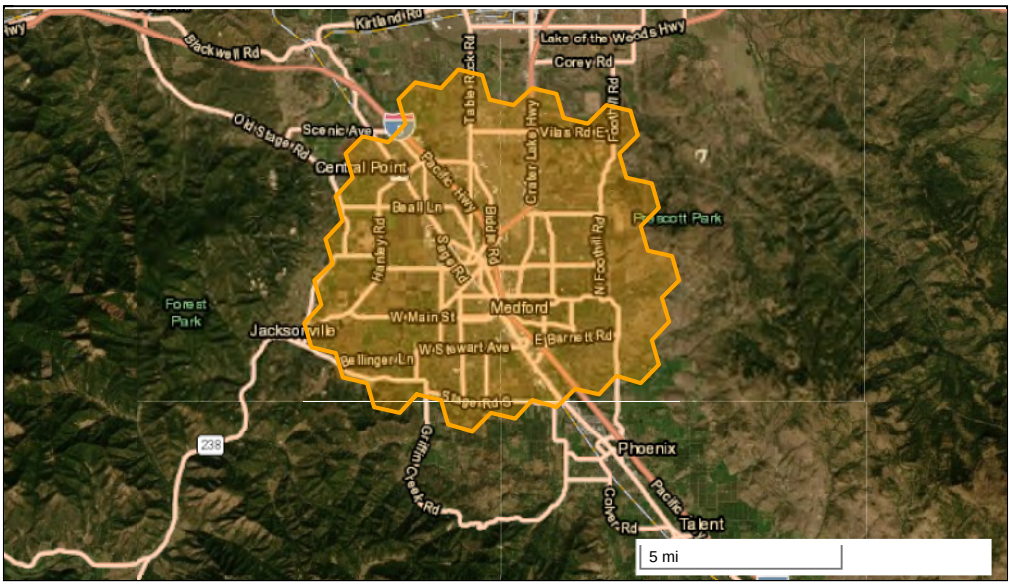
Appendix C: Special Status Species

ODFW Compass

Oregon Conservation Strategy Report

I-5 Exit 30 Study Area

Feb 07, 2020



Leaflet | Sources: ESRI, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), © OpenStreetMap contributors, and the GIS User Community

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Area mi²: 57

Ecoregions:

- Klamath Mountains

Conservation Opportunity Areas:

- Antelope Creek-Paynes Cliffs, COA 099

Strategy Habitats:

- Oak Woodlands
- Ponderosa Pine Woodlands
- Flowing Water and Riparian Habitats
- Wetlands

Documented Strategy Fish:

- Oregon Basin Redband Trout
- Coastal Cutthroat Trout
- Coho Salmon

Observed Strategy Wildlife:

- Acorn Woodpecker
- Peregrine Falcon (American)
- American White Pelican
- Big-flowered Wooly Meadowfoam
- Chipping Sparrow
- Common Nighthawk
- Cook's Desert Parsley
- Dwarf Meadowfoam
- Ferruginous Hawk
- Fisher
- Fringed Myotis
- Gentner's Fritillary
- Grasshopper Sparrow
- Lewis's Woodpecker
- Loggerhead Shrike
- Northern Spotted Owl
- Olive-sided Flycatcher
- Pileated Woodpecker
- Snowy Egret
- Townsend's Big-eared Bat
- Vernal Pool Fairy Shrimp
- Wayside Aster

Western Bluebird
Western Bumble Bee
Western Meadowlark
Western Pond Turtle
White-headed Woodpecker
Willow Flycatcher
Yellow-Breasted Chat

Modeled Strategy Wildlife Habitat :

Acorn Woodpecker
Peregrine Falcon (American)
American White Pelican
Black-backed Woodpecker
Brewer's Sparrow
California Mountain Kingsnake
California Myotis
Chipping Sparrow
Clouded Salamander
Coastal Tailed Frog
Common Nighthawk
Ferruginous Hawk
Fisher
Flammulated Owl
Fringed Myotis
Grasshopper Sparrow
Great Gray Owl
Hoary Bat
Lewis's Woodpecker
Loggerhead Shrike
Long-legged Myotis
Mountain Quail
Northern Goshawk
Northern Sagebrush Lizard
Northern Spotted Owl
Olive-sided Flycatcher
Oregon Vesper Sparrow
Pallid Bat
Pileated Woodpecker
Ringtail
Short-Eared Owl
Silver-haired Bat
Snowy Egret
Townsend's Big-eared Bat
Western Bluebird
Burrowing Owl (Western)
Western Gray Squirrel
Western Meadowlark
Western Pond Turtle
Western Rattlesnake
Western Toad
White-headed Woodpecker
Willow Flycatcher
Yellow-Breasted Chat

For information on data sources see http://dfw.state.or.us/maps/compass/reportingtool.asp

Oregon Department of Fish and Wildlife
SENSITIVE SPECIES LIST

Frequently Asked Questions

It is Oregon's policy "to prevent the serious depletion of any indigenous species" (ORS 496.012). The Oregon Administrative Rules (OAR) for threatened and endangered species (OAR 635-100-0080 to 0194) are intended to help implement this policy. In accordance with these rules, species can be classified as "threatened" (any native species likely to become endangered within the foreseeable future throughout any significant part of its range within the state) or "endangered" (any native species determined to be in danger of extinction). However, recovering species when their populations are severely depleted can be difficult and expensive. In addition, designation of such species can be socially and economically divisive.

To provide a positive, proactive approach to species conservation, a "sensitive" species classification was created under Oregon's Sensitive Species Rule (OAR 635-100-0040). The Sensitive Species List focuses fish and wildlife conservation, management, and research and monitoring activities on species that need conservation attention. It serves as an early warning system for biologists, land managers, policy makers, and the public. It helps to ensure that conservation actions are prioritized, cost-efficient, and effective. Although the intent of the Sensitive Species List is to prevent species from declining to the point of qualifying as threatened or endangered, this list is not used as a "candidate" list for species to be considered for listing on Oregon's State List of Threatened and Endangered Species (OAR 635-100-0125).

What is a "Sensitive Species"?

"Sensitive" refers to fish and wildlife that are facing one or more threats to their populations and/or habitats. Consistent with OAR 635-100-0040(2), "Sensitive Species" are defined as having small or declining populations, are at-risk, and/or are of management concern. Implementation of appropriate conservation measures to address existing or potential threats may prevent them from declining to the point of qualifying for threatened or endangered status.

For the purpose of the Sensitive Species List, "species" refers to any group (taxon) of fish or wildlife that interbreeds and is substantially reproductively isolated. This interpretation of the term "species" may include species, subspecies, or a geographically-specific population grouping of a species or subspecies.

What factors are considered in designating a "Sensitive Species"?

The factors considered for designating a "Sensitive Species" include: declining population; imminent or active deterioration of primary habitat; populations impacted by Key Conservation Issues (see the Oregon Conservation Strategy (2016) for details), disease, predation, contaminants, and other natural or human-caused factors; over-utilization; inadequate existing state or federal programs for management or conservation of species and/or primary habitats; and naturally limited range or rare occurrence.

What does the "Sensitive-Critical" designation mean?

The Sensitive Species List consists of two categories, "Sensitive" and "Sensitive-Critical". Species or taxa with a "Sensitive-Critical" sub-designation are Sensitive Species of particular conservation

concern. “Sensitive-Critical” species have current or legacy threats that are significantly impacting their abundance, distribution, diversity, and/or habitat. They may decline to the point of qualifying for threatened or endangered status if conservation actions are not taken.

Are species on the list considered “Sensitive” statewide?

Species are designated as “Sensitive” by geographic groupings of population segments or habitats, or by ecoregion, depending on the taxa. Species Management Units (SMU) are the listing unit for fish (Figure 1; per the Native Fish Conservation Policy; OAR 535-007-0504(6)). Ecoregions are the listing unit for amphibians, reptiles, birds, and mammals (Figure 2). Oregon has nine ecoregions, including the: Blue Mountains, Coast Range, Columbia Plateau, East Cascades, Klamath Mountains, Northern Basin and Range, West Cascades, Willamette Valley, and Nearshore. A species may be designated as both “Sensitive” and “Sensitive-Critical” in different SMUs or ecoregions, depending on the regional level of conservation concern.

How is the Sensitive Species List used?

The Oregon Department of Fish and Wildlife (ODFW) uses the Sensitive Species List, in conjunction with the Oregon Conservation Strategy, to promote and guide conservation actions. These actions are also designed to encourage voluntary efforts that will improve species’ status. Once threats to species are identified, conservation opportunities and strategies can be developed. These actions may include:

- monitoring populations to detect either positive or negative changes in populations;
- conducting further research to identify threats and methods to address the threats;
- educating people about what these species need to persist and what actions people can take to assist in species’ conservation.
- partnering with land management agencies to maintain, improve, and restore habitat;
- providing technical expertise, incentives, and recognition to landowners who provide habitat;
- creating cooperative agreements with assurances for private landowners who provide habitat;
- cooperatively incorporating species’ needs into activities that could negatively affect them; and
- bringing together land managers, researchers, and other people to share information.

Although the Sensitive Species List is primarily a non-regulatory tool, it is referenced in the Department’s Chemical Process Mining Consolidated Application and Permit Review Standards (OAR 635 Division 420) and In-Water Blasting Permits (OAR 635 Division 425). Also, the Department’s biologists provide reviews of a variety of proposed land and water management actions based, in part, on Oregon Conservation Strategy Strategy Species and Sensitive Species list priorities. Being included on the Sensitive Species List also provides additional regulatory oversight, landowner incentives, and public records limits with other state agencies, which reference them in their Oregon Administrative Rules. These agencies include the Columbia River Gorge Commission, Department of Energy, Energy Facility Siting Council, Department of Forestry, Department of Geology and Mineral Industries, Department of Land Conservation and Development, Department of State Lands, Parks and Recreation Department, State Marine Board, and Water Resources Department.

How does the Sensitive Species List relate to the Oregon Conservation Strategy?

The Oregon Conservation Strategy (OCS) is the state’s overarching strategy for conserving fish and wildlife, and provides a shared set of priorities for addressing Oregon’s conservation needs. It serves as the official State Wildlife Action Plan for Oregon and is a requirement of the federal State Wildlife Grant Program. The OCS brings together the best available scientific information, and presents a menu of recommended voluntary actions and tools for all Oregonians to define their own conservation role. The goals of the OCS are to maintain healthy fish and wildlife populations by maintaining and restoring

functioning habitats, preventing declines of at-risk species, and reversing declines in these resources where possible. The OCS Strategy Species are species of greatest conservation need that include wildlife (i.e., amphibians, birds, mammals, and reptiles), fish, invertebrates, plants, and algae.

The Sensitive Species List is, for the most part, a subset of the species identified in the OCS. Although very similar in purpose, there are some important distinctions between the OCS Strategy Species List and the Sensitive Species List. The OCS Strategy Species List has a broader scope and is not limited by ODFW's management authorities. The Sensitive Species List is limited to fish, amphibians, reptiles, birds, and mammals; it does not include: 1) invertebrates, plants, algae, or fish and marine mammals that occur only in the nearshore ecoregion, that are identified in the OCS or 2) species already listed by the state as threatened or endangered.

For more information on the special needs, limiting factors, data gaps, recommended conservation actions, and resources available for each OCS Strategy Species, visit the Oregon Conservation Strategy website. For information on the legal status of invertebrate species, contact the Oregon Department of Agriculture and Oregon Biodiversity Information Center. For information on the legal status of plants, contact the Oregon Department of Agriculture.

What if there is not enough information to determine whether a species should be "Sensitive"?

The status of some species cannot be determined because basic information on distribution, abundance, and/or habitat associations is not known. This basic information is needed before population status or threats can be evaluated. These species are identified in the Oregon Conservation Strategy as Data Gap Species and are listed by ecoregion.

How is the Sensitive Species List updated?

The Sensitive Species List is reviewed and updated every five years. Each taxonomic group of animals is reviewed by ODFW biologists and scientific experts from other agencies, universities, and private organizations. The scientists are asked to consider new and historical information on species distribution, population trends, and biological needs; changes in threats; gaps in knowledge and data; recent conservation actions; and state and federal programs or regulations. The scientists may propose to remove, add, or re-classify species based on this information. The draft list is then peer-reviewed by state, federal, university, and consulting biologists. The Sensitive Species List is an administrative list and is not formally adopted through a rule-making process.

In addition, any person may request that a species be added to or removed from the Sensitive Species List through a written request that outlines the status of the species and how its condition meets the criteria cited in OAR 635-100-0040(6).

Why are species that are "threatened" or "endangered" under the federal Endangered Species Act included on the Sensitive Species List?

The State of Oregon and the federal government maintain separate lists of threatened and endangered species under different federal and state laws. Some species are listed as threatened or endangered under federal law but not under state law and may be included as state "Sensitive Species".

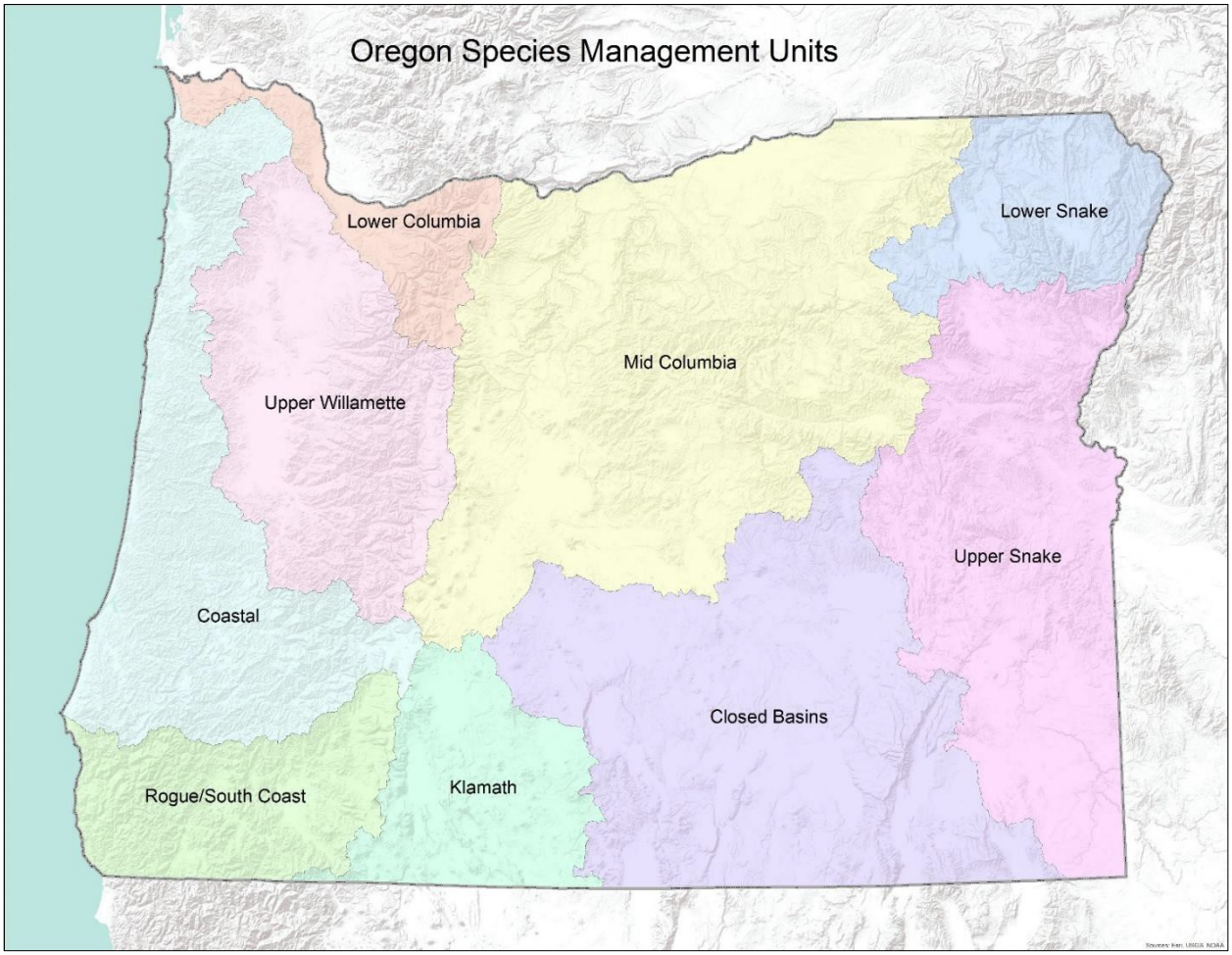


Figure 1. General location of Species Management Units (SMUs) used for determining status of fish. Note that actual SMU boundaries identified in the Sensitive Species List are species-specific and may vary between species or be at a smaller scale than indicated in this figure (especially in the Closed Basins SMU, which encompasses numerous smaller SMUs identified on the list).

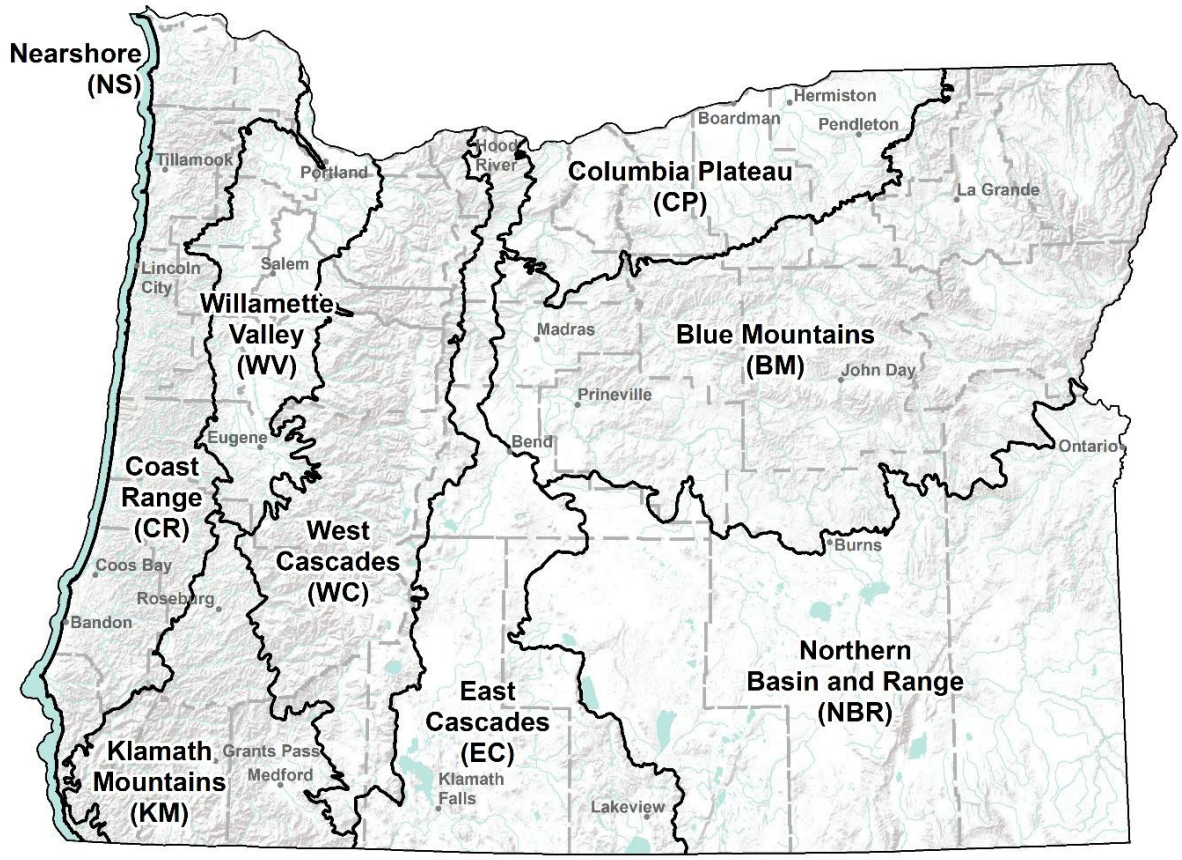


Figure 2. Ecoregions used for determining status of wildlife (i.e., amphibians, reptiles, birds, and mammals). More information about Oregon's ecoregions is available at http://www.oregonconservationstrategy.org/ecoregions/. Map produced by ODFW, Oregon Conservation Strategy GIS Analyst. Data sources: ODFW, Oregon Biodiversity Information Center, ESRI, USGS.

Oregon Department of Fish and Wildlife
SENSITIVE SPECIES LIST

The 2019 Sensitive Species List has 152 taxa, including 95 wildlife taxa (32 “Sensitive-Critical”, 71 “Sensitive”) and 57 fish taxa (17 “Sensitive-Critical”, 40 “Sensitive”). Note that some species may be designated as “Sensitive” in one ecoregion and “Sensitive-Critical” in another ecoregion. Refer to the table below (organized by taxon) for more information.

FISH

Common Name	Scientific Name	Sensitive	Sensitive-Critical
Alvord Chub	*Siphateles alvordensis*	Range-Wide (NBR)	
Bull Trout	*Salvelinus confluentus*	Deschutes SMU (BM, EC, WC)	Hells Canyon SMU (BM)
		Grande Ronde SMU (BM)	John Day SMU (BM, CP)
		Hood River SMU (WC)	Klamath Lake SMU (EC, WC)
		Imnaha SMU (BM)	Malheur River SMU (BM, NBR)
		Walla Walla SMU (BM)	Odell Lake SMU (EC, WC)
		Willamette SMU (WC, WV)	Umatilla SMU (BM, CP)
Chinook Salmon - Fall	*Oncorhynchus tshawytscha*	Mid-Columbia River SMU/ Deschutes ESU (BM, CP, EC)	Lower Columbia River SMU/ESU (CR, WC, WV, NS)
Chinook Salmon - Spring	*Oncorhynchus tshawytscha*	Coastal SMU/ESU (CR, KM, WC, NS)	Lower Columbia River SMU/ESU (WC, WV, NS)
		Middle Columbia SMU/ESU (BM, CP, EC, NS)	Willamette SMU/Upper Willamette River ESU (WC, WV, NS)
		Rogue SMU/Southern Oregon/Northern California Coasts ESU (CR, KM, WC, NS)	
Chum Salmon	*Oncorhynchus keta*		Coastal SMU/Pacific Coast ESU (CR, NS)
			Lower Columbia SMU, Columbia River ESU (CR, WV, NS)

Common Name	Scientific Name	Sensitive	Sensitive-Critical
Coastal Cutthroat Trout	*Oncorhynchus clarkii clarkii*	Lower Columbia SMU/ Southwestern Washington/Columbia River ESU (CR, WC, WV, NS)	
Coho Salmon	*Oncorhynchus kisutch*	Coastal Coho Salmon SMU/Oregon Coast ESU (CR, NS)	
		Klamath SMU/Southern Oregon/Northern California Coasts ESU (EC, KM, NS)	
		Rogue SMU/Southern Oregon/Northern California Coasts ESU (CR, KM, WC, NS)	
Foskett Speckled Dace	*Rhinichthys osculus robustus*	Range-Wide (NBR)	
Goose Lake Sucker	*Catostomus occidentalis lacusanserinus*	Range-Wide (EC)	
Great Basin Redband Trout	*Oncorhynchus mykiss newberrii*	Catlow Valley SMU (NBR)	
		Chewaucan SMU (NBR)	
		Fort Rock SMU (NBR)	
		Goose Lake SMU (EC)	
		Malheur Lakes SMU (BM, NBR)	
		Upper Klamath Basin SMU (EC, WC)	
		Warner Lakes SMU (NBR)	
Green Sturgeon	*Acipenser medirostris*	Northern DPS (CR, KM, NS)	
			Southern DPS (CR, KM, NS)
Miller Lake Lamprey	*Entosphenus minimus*	Range-Wide (EC)	
Millicoma Dace	*Rhinichthys cataractae*	Range-Wide (CR)	
Modoc Sucker	*Catostomus microps*	Range-Wide (EC)	
Oregon Chub	*Oregonichthys crameri*	Range-Wide (WC, WV)	
Pacific Brook Lamprey	*Lampetra pacifica*	Range-Wide (WV)	
Pacific Lamprey	*Entosphenus tridentata*	Range-Wide (CR, CP, EC, KM, WC, WV, NS)	
Pit Sculpin	*Cottus pitensis*	Range-Wide (EC, NBR)	
Steelhead - Summer / Coastal Rainbow Trout	*Oncorhynchus mykiss / irideus*	Coastal SMU/Oregon Coast ESU (CR, KM, WC)	Lower Columbia SMU/ESU (CR, WC, WV)
		Rogue SMU/Klamath Mountains Province ESU (CR, KM, WC)	

Common Name	Scientific Name	Sensitive	Sensitive-Critical
Steelhead - Summer / Columbia Basin Rainbow Trout	*Oncorhynchus mykiss / gairdneri*	Lower Snake SMU/Snake River Basin ESU (BM)	Middle Columbia SMU/ESU (BM, CP, EC)
		Upper Snake SMU/Snake River Basin ESU (BM)	
Steelhead - Winter / Coastal Rainbow Trout	*Oncorhynchus mykiss / irideus*	Willamette SMU/Upper Willamette River ESU (WC, WV)	Lower Columbia SMU/ESU (CR, WC, WV)
Umpqua Chub	*Oregonichthys kalawatseti*		Range-Wide (CR, KM, WC)
Western Brook Lamprey	*Lampetra richardsoni*	Range-Wide (BM, CR, CP, WC, WV)	
Western River Lamprey	*Lampetra ayresii*	Range-Wide (CR, CP, WV, NS)	
Westslope Cutthroat Trout	*Oncorhynchus clarki lewisi*		Range-Wide (BM, CP)
White Sturgeon	*Acipenser transmontanus*	Lower Columbia/Coastal Population (NS, CR, WV, WC)	

AMPHIBIANS

Common Name	Scientific Name	Sensitive	Sensitive-Critical
Cascade Torrent Salamander	*Rhyacotriton cascadae*	WC, WV	
Cascades Frog	*Rana cascadae*	EC, WC	
Clouded Salamander	*Aneides ferreus*	CR, KM, WC, WV	
Coastal Tailed Frog	*Ascaphus truei*	CR, KM, WC	
Columbia Spotted Frog	*Rana luteiventris*		BM, NBR
Columbia Torrent Salamander	*Rhyacotriton kezeri*	CR, WV	
Cope's Giant Salamander	*Dicamptodon copei*	CR, EC, WC	
Del Norte Salamander	*Plethodon elongatus*	CR, KM	
Foothill Yellow-legged Frog	*Rana boylii*		CR, KM, WC, WV
Larch Mountain Salamander	*Plethodon larselli*		WC
Northern Red-legged Frog	*Rana aurora*	CR, KM, WC, WV	
Oregon Slender Salamander	*Batrachoseps wrighti*	WC, WV	
Oregon Spotted Frog	*Rana pretiosa*		EC, WC
Rocky Mountain Tailed Frog	*Ascaphus montanus*	BM	
Siskiyou Mountains Salamander	*Plethodon stormi*		KM
Southern Torrent Salamander	*Rhyacotriton variegatus*	CR, KM, WV	
Western Toad	*Anaxyrus boreas*	BM, CR, EC, KM, NBR, WC	

REPTILES

Common Name	Scientific Name	Sensitive	Sensitive-Critical
California Mountain Kingsnake	*Lampropeltis zonata*	CR, CP, EC, KM, WC	
Northern Sagebrush Lizard	*Sceloporus graciosus graciosus*	CP	
Western Painted Turtle	*Chrysemys picta bellii*		BM, CR, CP, EC, WC, WV
Western Pond Turtle	*Actinemys marmorata*		CR, EC, KM, WC, WV
Western Rattlesnake	*Crotalus oreganus*		WV

BIRDS

Common Name	Scientific Name	Sensitive	Sensitive-Critical
Acorn Woodpecker	*Melanerpes formicivorus*	KM, WV	
American Three-toed Woodpecker	*Picoides dorsalis*	BM, EC	
American White Pelican	*Pelecanus erythrorhynchos*	EC, NBR	
Black Brant	*Branta bernicla nigricans*	CR, NS	
Black Oystercatcher	*Haematopus bachmani*	NS	
Black Swift	*Cypseloides niger borealis*	WC	
Black-backed Woodpecker	*Picoides arcticus*	BM, EC	
Black-necked Stilt	*Himantopus mexicanus*	NBR	
Bobolink	*Dolichonyx oryzivorus*	BM, NBR	
Brewer's Sparrow	*Spizella breweri breweri*	CP	
Burrowing Owl (Western)	*Athene cunicularia hypugaea*	NBR	BM, CP
Caspian Tern	*Hydroprogne caspia*	CR, EC, NBR, NS	
Chipping Sparrow	*Spizella passerina*	WV	
Columbian Sharp-tailed Grouse	*Tympanuchus phasianellus columbianus*		BM
Common Nighthawk	*Chordeiles minor*	CP, KM	WV
Dusky Canada Goose	*Branta canadensis occidentalis*	WV	
Ferruginous Hawk	*Buteo regalis*	BM, NBR	CP
Flammulated Owl	*Psiloscops flammeolus*	BM, EC, KM, WC	
Fork-tailed Storm-Petrel	*Oceanodroma furcata*	NS	
Franklin's Gull	*Leucophaeus pipixcan*	NBR	
Grasshopper Sparrow	*Ammodramus savannarum perpallidus*	CP, KM	WV
Great Gray Owl	*Strix nebulosa*	BM, EC, KM, WC	
Greater Sage-Grouse	*Centrocercus urophasianus*	NBR	BM
Greater Sandhill Crane	*Antigone canadensis tabida*	EC, NBR, WC	
Harlequin Duck	*Histrionicus histrionicus*	CR, WC	
Juniper Titmouse	*Baeolophus ridgwayi*	NBR	

Common Name	Scientific Name	Sensitive	Sensitive-Critical
Leach's Storm-Petrel	*Oceanodroma leucorhoa leucorhoa*	NS	
Lewis's Woodpecker	*Melanerpes lewis*		BM, CP, EC, KM, WC
Loggerhead Shrike	*Lanius ludovicianus*	BM, CP	
Long-billed Curlew	*Numenius americanus*	BM, EC, NBR	CP
Mountain Quail	*Oreortyx pictus*	NBR	
Northern Goshawk	*Accipiter gentilis atricapillus*	EC, WC	
Olive-sided Flycatcher	*Contopus cooperi*	BM, CR, WC, WV	EC
Oregon Vesper Sparrow	*Pooecetes gramineus affinis*		KM, WV
Peregrine Falcon (American)	*Falco peregrinus anatum*	CR, NBR	
Pileated Woodpecker	*Dryocopus pileatus*	BM	
Purple Martin (Western)	*Progne subis arboricola*		CR, KM, WC, WV
Red-necked Grebe	*Podiceps grisegena*		EC
Rock Sandpiper	*Calidris ptilocnemis tschuktschorum*	NS	
Sagebrush Sparrow	*Artemisiospiza nevadensis*		CP
Short-eared Owl	*Asio flammeus flammeus*	WV	
Snowy Egret	*Egretta thula*	NBR	
Streaked Horned Lark	*Eremophila alpestris strigata*		WV
Swainson's Hawk	*Buteo swainsoni*	BM, CP, EC, NBR	
Trumpeter Swan	*Cygnus buccinator*	BM, EC, NBR	
Tufted Puffin	*Fratercula cirrhata*		CR, NS
Upland Sandpiper	*Bartramia longicauda*		BM
Western Bluebird	*Sialia mexicana*	WV	
Western Meadowlark	*Sturnella neglecta*		WV
White-breasted (Slender-billed) Nuthatch	*Sitta carolinensis aculeata*	WV	
White-headed Woodpecker	*Picoides albolarvatus*		BM, EC, KM
Willow Flycatcher	*Empidonax traillii*	NBR	WV
Yellow Rail	*Coturnicops noveboracensis noveboracensis*		EC
Yellow-breasted Chat	*Icteria virens auricollis*		KM, WV

MAMMALS

Common Name	Scientific Name	Sensitive	Sensitive-Critical
American Pika	*Ochotona princeps*	BM, EC, NBR, WC	
California Myotis	*Myotis californicus*	BM, CR, EC, KM, NBR, WC, WV	
Columbian White-tailed Deer	*Odocoileus virginianus leucurus*		CR, WV
Fisher	*Pekania pennanti*		CR, KM, WC
Fringed Myotis	*Myotis thysanodes*	BM, CR, EC, KM, NBR, WC, WV	
Hoary Bat	*Lasiurus cinereus*	BM, CR, CP, EC, KM, NBR, WC, WV	
Long-legged Myotis	*Myotis volans*	BM, CR, EC, KM, NBR, WC	
Pacific Marten	*Martes caurina*	BM, CR, EC, KM, WC	
Pallid Bat	*Antrozous pallidus*	BM, CP, EC, KM, NBR	
Pygmy Rabbit	*Brachylagus idahoensis*	NBR	
Red Tree Vole	*Arborimus longicaudus*	CR, KM, WC	
Ringtail	*Bassariscus astutus*	CR, KM, WC	
Rocky Mountain Bighorn Sheep	*Ovis canadensis canadensis*	BM	
Sierra Nevada Red Fox	*Vulpes vulpes necator*	EC, KM, WC	
Silver-haired Bat	*Lasionycteris noctivagans*	BM, CR, CP, EC, KM, NBR, WC, WV	
Spotted Bat	*Euderma maculatum*	BM, CP, EC, KM, NBR	
Townsend's Big-eared Bat	*Corynorhinus townsendii*		BM, CR, CP, EC, KM, NBR, WC, WV
Western Gray Squirrel	*Sciurus griseus*	WV	
White-tailed Jackrabbit	*Lepus townsendii*	NBR	

Ecoregions: BM: Blue Mountains**,** CR: Coast Range**,** CP: Columbia Plateau**,** EC: East Cascades**,** KM: Klamath Mountains**,** NBR: Northern Basin and Range**,** WC: West Cascades**,** WV: Willamette Valley**,** NS: Nearshore

IPaC Information for Planning and Consultation **U.S. Fish & Wildlife Service**

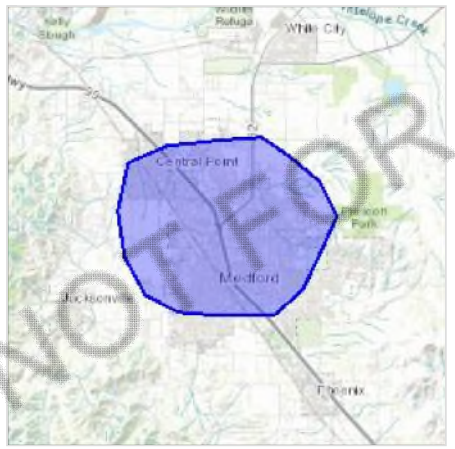
IPaC resource list

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

Jackson County, Oregon



Local office

Oregon Fish And Wildlife Office

(503) 231-6179
(503) 231-6195

2600 Southeast 98th Avenue, Suite 100
Portland, OR 97266-1398

https://www.fws.gov/oregonfwo/articles.cfm?id=149489416

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.

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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
Fisher Pekania pennanti No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/3651	Proposed Threatened
Gray Wolf Canis lupus There is **final** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/4488	Endangered

Birds

NAME	STATUS
Northern Spotted Owl Strix occidentalis caurina There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/1123	Threatened

Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp Branchinecta lynchi There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/498	Threatened

Flowering Plants

NAME	STATUS
Cook's Lomatium Lomatium cookii There is **final** critical habitat for this species. Your location overlaps the critical habitat. https://ecos.fws.gov/ecp/species/1583	Endangered
Gentner's Fritillary Fritillaria gentneri No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/8120	Endangered
Large-flowered Woolly Meadowfoam Limnanthes pumila ssp. grandiflora There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/1090	Endangered

Critical habitats

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

This location overlaps the critical habitat for the following species:

NAME	TYPE
Cook's Lomatium Lomatium cookii https://ecos.fws.gov/ecp/species/1583#crithab	Final

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.)
Allen's Hummingbird Selasphorus sasin This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9637	Breeds Feb 1 to Jul 15
Bald Eagle Haliaeetus leucocephalus 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	Breeds Jan 1 to Sep 30
California Thrasher Toxostoma redivivum This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Jan 1 to Jul 31
Clark's Grebe Aechmophorus clarkii This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Jan 1 to Dec 31
Golden Eagle Aquila chrysaetos 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/1680	Breeds Jan 1 to Aug 31

Great Blue Heron Ardea herodias fannini This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Mar 15 to Aug 15
Lesser Yellowlegs Tringa flavipes This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Marbled Godwit Limosa fedoa This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9481	Breeds elsewhere
Olive-sided Flycatcher Contopus cooperi This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3914	Breeds May 20 to Aug 31
Rufous Hummingbird selasphorus rufus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8002	Breeds Apr 15 to Jul 15
Semipalmated Sandpiper Calidris pusilla This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Short-billed Dowitcher Limnodromus griseus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9480	Breeds elsewhere
Western Screech-owl Megascops kennicottii kennicottii This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Mar 1 to Jun 30
Whimbrel Numenius phaeopus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9483	Breeds elsewhere

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.

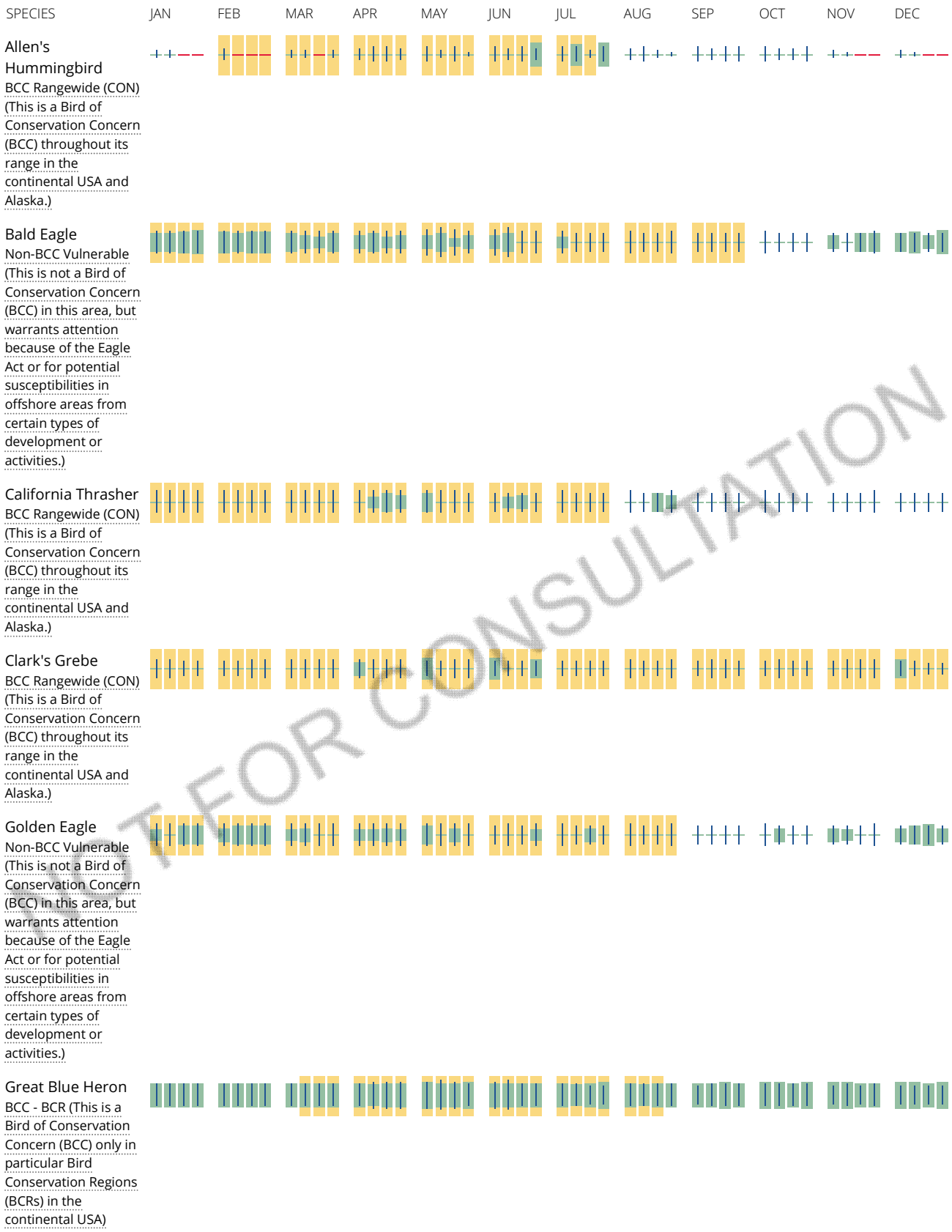
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

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.

■ probability of presence ■ breeding season | survey effort – no data



Lesser Yellowlegs
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

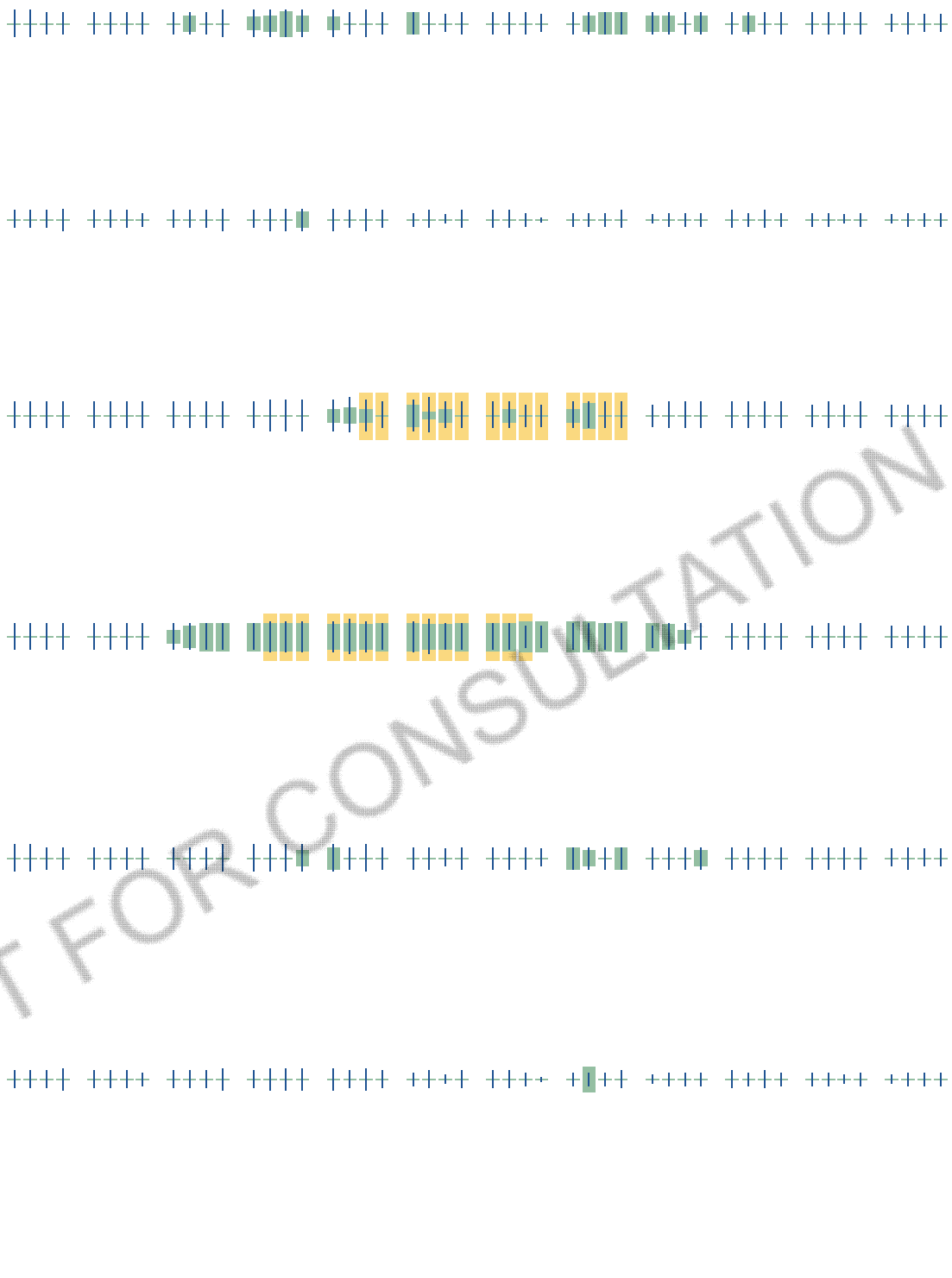
Marbled Godwit
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Olive-sided Flycatcher
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Rufous Hummingbird
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Semipalmated Sandpiper
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Short-billed Dowitcher
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Western Screech-owl
BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)

Whimbrel
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

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.

WETLAND INFORMATION IS NOT AVAILABLE AT THIS TIME

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the NWI map to view 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.