

CHAPTER 2 - ENVIRONMENTAL CONSIDERATIONS

This section identifies key environmental considerations pertaining to the operation and improvements of the Airport. Environmentally sensitive areas identified during the inventory will be used to screen future development for the Airport. The following sections are included to provide a baseline of the existing environmental conditions on and around the Airport. The information presented is a high-level overview provided for planning purposes and is not intended to satisfy the requirements of the National Environmental Policy Act (NEPA).

ENVIRONMENTAL OVERVIEW

The Environmental Overview provides an initial review of environmental resources that are known to occur on or near an airport. The intent of the preliminary review is to assist in the avoidance and minimization of environmental effects throughout the airport master planning process. Environmental overview conditions were assessed primarily through research of existing studies and documents, agency database searches, local inquiry, and limited field investigation and field coordination. The overview analysis included these environmental categories:

- ▶ Air Quality
- ▶ Biological Resources
- ▶ Climate
- ▶ Coastal Resources
- ▶ Department of Transportation Act, Section 4(f)
- ▶ Farmlands and Soils
- ▶ Hazardous Materials, Pollution Prevention, and Solid Waste
- ▶ Historical, Architectural, Archaeological, and Cultural Resources
- ▶ Land Use
- ▶ Natural Resources and Energy Supply
- ▶ Noise and Noise-Compatible Land Use
- ▶ Socioeconomic, Environmental Justice, and Children’s Environmental Health and Safety Risks
- ▶ Light Emissions and Visual Impacts
- ▶ Water Resources

Table 2-1 describes data sources, including links, used in this Airport Environmental Review.

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Table 2-1: Description of Data Sources

Source	Description	Link
Federal		
Environmental Protection Agency (EPA): National Ambient Air Quality Standards (NAAQS)	The Clean Air Act requires the EPA to set National Ambient Air Quality Standards (40 CFR part 50) for pollutants considered harmful to public health and the environment.	https://www.epa.gov/clean-air-act-overview
Environmental Protection Agency (EPA): NEPAAssist Tool	NEPAAssist is a tool that facilitates the environmental review process and project planning in relation to environmental considerations.	https://www.epa.gov/nepa/nepassist
Environmental Protection Agency (EPA): UST Finder	The UST Finder is a web application that contains a comprehensive, state-sourced national map of underground storage tank (UST) and leaking UST (LUST) data.	https://www.epa.gov/ust/ust-finder
Environmental Protection Agency (EPA): How's My Waterway? Database	The <i>How's My Waterway?</i> database provides the general public with information about the condition of their local waters based on data that state, federal, tribal, and local agencies, as well as other contributors, have provided to the EPA.	https://mywaterway.epa.gov/
National Oceanic and Atmospheric Administration (NOAA) Fisheries: Critical Habitat	The NOAA evaluates, identifies, and designates areas that may be critical habitat to support recovery of ESA-listed species.	https://www.fisheries.noaa.gov/national/endangered-species-conservation/critical-habitat
National Oceanic and Atmospheric Administration (NOAA) Fisheries: Essential Fish Habitat	The NOAA identifies and protects essential fish habitat that fish and other species depend on to survive and reproduce.	https://www.fisheries.noaa.gov/national/habitat-conservation/essential-fish-habitat
National Register of Historic Places	The official list of the Nation's historic places worthy of preservation.	https://www.nps.gov/subjects/national-register/index.htm
National Wild and Scenic Rivers System	The National Wild and Scenic Rivers systems preserves certain rivers with outstanding natural, cultural, and recreational values in free-flowing condition.	https://www.rivers.gov/oregon.php
US Census Bureau: Small Area Income and Poverty Estimates (SAIPE)	The SAIPE Program produces estimates of median household incomes for states and counties and poverty estimates for states, counties, and school districts.	https://www.census.gov/about/policies/quality/corrections/saipe.html

Source	Description	Link
US Census Bureau: Population Estimates Program	The Population Estimates Program uses current data on births, deaths, and migration to calculate population change.	https://www.census.gov/data/developers/data-sets/popest-popproj.html
US Department of Agriculture: Natural Resources Conversion Service: Web Soil Survey	The Web Soils Survey provides soil data and information produced by the National Cooperative Soil Survey.	https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm
US Fish and Wildlife Service (USFWS): Information Planning and Consultation (IPaC)	IPaC offers the ability to obtain an informal list of endangered species, critical habitat, migratory birds, wildlife refuges, and wetlands under the USFWS jurisdiction that are known or expected to be on or near the project area.	https://ecos.fws.gov/ipac/
US Geological Survey: National Water Information System National Wetlands Inventory (NWI)	The NWI produces and provides information on the characteristics, extent, and status of the Nation's wetlands and deep-water habitats and other wildlife habitats.	https://www.fws.gov/wetlands/
State		
Marion County GIS Database	The database provides GIS information for the County.	https://gis-marioncounty.opendata.arcgis.com/
Oregon Department of Environmental Quality	The department provides access to environmental information and databases to restore, maintain, and enhance the state's air, land, and water.	https://www.oregon.gov/deq/pages/index.aspx
State of Oregon: Oregon Coastal Management Program	The Oregon Coastal Management Program protects coastal and ocean resources to ensure livable, resilient communities.	https://www.oregon.gov/lcd/OCMP/Pages/index.aspx
StreamNet	StreamNet provides information regarding fisheries and aquatic data for the Pacific Northwest, with a focus on the Columbia River Basin.	https://www.streamnet.org/

Air Quality

An air quality analysis generally applies to projects that, due to their size, scope, or location, have the potential to change or diminish air quality standards. These standards, governed by the Clean Air Act of 1970 (CAA) and the Environmental Protection Agency (EPA), are known as National Ambient Air Quality Standards (NAAQS).

EPA standards address six pollutants known as *criteria air pollutants*: carbon monoxide (CO), nitrogen dioxide (NO₂), ozone (O₃), sulfur dioxide (SO₂), lead (Pb), and two types of particulate matter (PM₁₀ and PM_{2.5}). Federal regulations require states to define areas for NAAQS as attainment, non-attainment, or maintenance areas. Areas defined as attainment areas meet NAAQS; non-attainment and maintenance areas have concentrations of pollutants that exceed air quality, and states develop EPA-approved State Implementation Plans (SIPs) to address air quality and to identify a plan to bring non-attainment and maintenance areas into compliance. Compliance with NAAQS means that ambient outdoor levels of defined air pollutants are safe for human health and the environment.

According to the EPA's Green Book, SLE is in a nonattainment area for 1-hour ozone; however, the data is noted as "incomplete." The Salem-Keizer Area was designated as "attainment/unclassifiable" for 8-hour ozone in 2004. The 1-hour ozone standard was revoked in 2005 and the EPA set provisions that required maintenance plans under the CAA for areas that were designated attainment/unclassifiable for 8-hour ozone if the area had been previously designated as nonattainment for 1-hour ozone. In 2007, the State of Oregon submitted a maintenance plan for the 8-hour ozone, including the Salem-Keizer Area. This maintenance plan was approved by the EPA in December of 2011.

SLE is also in a maintenance area for carbon monoxide. In June 2007, the Oregon Department of Environmental Quality prepared an SIP to demonstrate that the Salem-Keizer Area has met and will continue to meet the NAAQS for carbon monoxide.

Projects that would increase air traffic operations or change aircraft fleet mix may require air quality modeling or detailed analyses to evaluate potential long-term air quality impacts. However, most projects that involve short-term air quality impacts associated with construction activities (e.g., dust, construction equipment, etc.) would not likely be limited by the nonattainment or maintenance designations.

Biological Resources (Threatened and Endangered Species)

Section 7(a)(2) of the Federal Endangered Species Act (ESA) requires that the FAA ensure that a proposed action does not jeopardize the continued existence of any endangered or threatened species or adversely affect its habitat. Project sponsors who seek federal agency approvals or funding must coordinate with the United States Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) concerning listed or candidate species.

USFWS mapping notes that the Airport vicinity coincides with the potential range (current or historic) of the following species listed as Threatened or Endangered under the federal Endangered Species Act (**Table 2-2**).

Table 2-2: Threatened and Endangered Species near SLE

Names	Status
Birds	
Marbled murrelet (<i>Brachyramphus marmoratus</i>)	Threatened
Northern spotted owl (<i>Strix occidentalis caurina</i>)	Threatened
Streaked horned lark (<i>Eremophila alpestris strigata</i>)	Threatened
Yellow-billed cuckoo (<i>Coccyzus americanus</i>)	Threatened
Insects	
Fender's blue butterfly (<i>Icaricia icarioides fender</i>)	Endangered
Monarch butterfly (<i>Danaus plexippus</i>)	Candidate
Flowering Plants	
Kincaid's lupine (<i>Lupinus sulphureus ssp. kincaidii</i>)	Threatened
Nelson's checker-mallow (<i>Sidalcea nelsoniana</i>)	Threatened
Willamette daisy (<i>Erigeron decumbens</i>)	Endangered

Source: USFWS IPaC, 2022

Turnstone Environmental Consultants performed botanical surveys and habitat assessments for the streaked horned lark in both August 2020 and July 2021 for two separate proposed projects on SLE property. The August 2020 report surveyed an area located southwest of the passenger terminal and showed no ESA-listed plants within the study area. The July 2021 report surveyed an area located south of Runway Ends 34 and 31; this survey showed one ESA-listed plant present in the study area.

The August 2020 report stated that the study area has the potential to support streaked horned lark activity; however, during three survey visits, no birds were observed. The July 2021 report stated that no streaked horned larks were observed during a site visit; however, other ground-nesting birds were observed (Turnstone, 2020 and 2021).

The USFWS IPaC also identifies birds that are protected under the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. Activities that may affect migratory birds, eagles, or their habitat should follow regulations and implement appropriate conservation measures. The birds in **Table 2-3** are birds of particular concern because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention because of project location.

Table 2-3: Migratory Birds

Name	Status	Breeding Season
Bald Eagle (<i>Haliaeetus leucocephalus</i>)	Not a BCC, warrants attention because of the Eagle Act	January 1 – September 30
Black swift (<i>Cypseloides niger</i>)	BCC	June 15 – September 10
Cassin’s finch (<i>Aechmophorus clarkii</i>)	BCC	June 1 – August 31
Evening grosbeak (<i>Coccothraustes vespertinus</i>)	BCC	May 15 – August 10
Golden Eagle (<i>Aquila chrysaetos</i>)	Not a BCC, warrants attention because of the Eagle Act	January 1 – August 31
Lesser Yellowlegs (<i>Tringa flavipes</i>)	BCC	Breeds elsewhere
Olive-sided Flycatcher (<i>Contopus cooperi</i>)	BCC	May 20 – August 31
Rufous Hummingbird (<i>Selasphorus rufus</i>)	BCC	April 15 – July 15
Short-billed Dowitcher (<i>Limnodromus griseus</i>)	BCC	June 1 – August 10
Western Grebe (<i>Aechmophorus occidentalis</i>)	BCC	June 1 – August 31
Wrentit (<i>Chamaea fasciata</i>)	BCC	March 15 – August 10

Source: USFWS IPaC, 2022

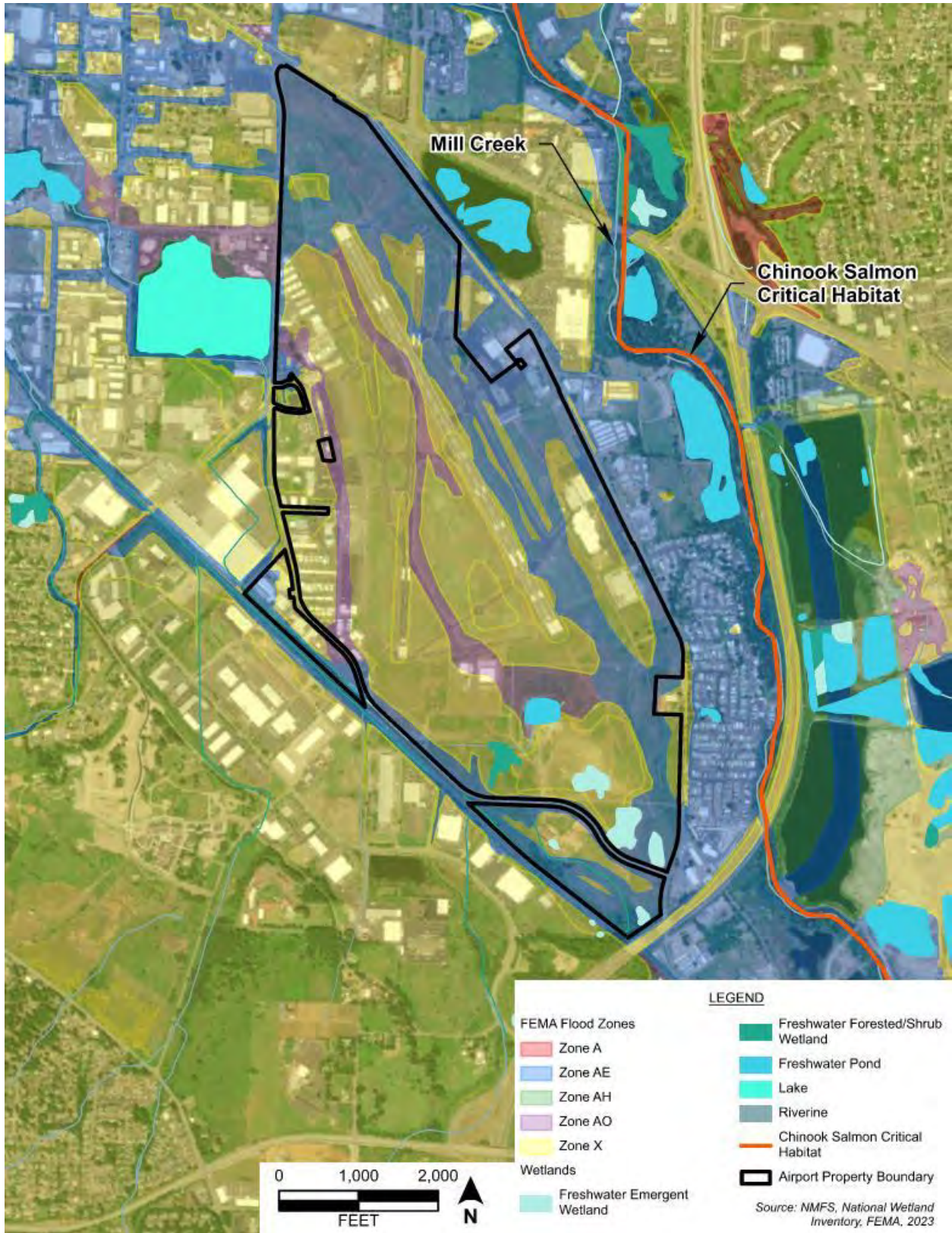
The National Marine Fisheries Service (NMFS) has documented occurrences of Chinook salmon (*Oncorhynchus tshawytscha*) within the Airport vicinity. Mill Creek, located approximately 1,000 feet from Airport property (**Figure 2-1**), is designated as Critical Habitat for Chinook salmon (NMFS, 2022).

Winter-run steelhead (*Oncorhynchus mykiss*), fall- and spring-run Chinook salmon (*Oncorhynchus tshawytscha*), coastal cutthroat trout (*Oncorhynchus clarkii clarkii*), and pacific lamprey (*Entosphenus tridentatus*) are documented to occur in the Willamette River, located northeast of the Airport (StreamNet, 2022). Mill Creek and the Willamette River are both considered critical habitat for Chinook salmon; however, neither is located within Airport boundaries. The Airport is located in an area that is considered Essential Fish Habitat (EFH) for pacific salmon under the Magnuson-Stevens Fisheries Conservation and Management Act based on the accessibility (current or historic) of these waters to coho and Chinook salmon (NOAA, 2022).

Key issues to be considered during this master planning process include the potential for stormwater-related impacts to Chinook salmon and Critical Habitat in Mill Creek and the Willamette River caused by increases in impervious surfaces.

Coordination with the Oregon Department of Environmental Quality will be necessary for work that may affect any of the biological resources listed in this section. Best Management Practices (BMPs) will be utilized to protect the water quality of the streams.

Figure 2-1: Environmental Considerations



Climate

The Council on Environmental Quality (CEQ) has indicated that global climate change should be considered in a NEPA analysis. However, the CEQ states that, "it is not currently useful for the NEPA analysis to attempt to link specific climatological changes, or the environmental impacts thereof, to the particular project or emissions, as such direct linkage is difficult to isolate and to understand." Scientific research is ongoing to better understand climate change, but any increased concentrations of greenhouse gases (GHGs) in the atmosphere can affect global climate change. GHGs are defined as including carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆).

Air analyses performed to support NEPA compliance will identify the extent to which GHGs could be produced during construction and operation of proposed master plan projects. The air quality analyses will occur as part of formal environmental analysis undertaken to comply with NEPA.

Coastal Resources

The Coastal Zone Management Act established the Federal Coastal Zone Management Program to encourage and assist states in preparing and implementing management programs to "preserve, protect, develop, and where possible, to restore or enhance the resources of the nation's coastal zones." SLE is located approximately 50 miles east of the Pacific Ocean and is not located within a coastal zone management area.

Department of Transportation Section 4(f) Properties

Section 4(f) resources include public parks, recreational areas, wildlife or waterfowl refuges, and historic sites. Under Section 4(f), the Secretary of Transportation may approve a transportation program or project requiring the use of publicly owned land off a public park, recreation area, or wildlife or waterfowl refuge of national, state, or local significance, or land of an historic site of national, state, or local significance, only if there is no feasible and prudent alternative to using that land and the program or project includes all possible planning to minimize harm resulting from the use.

The term use—as it relates to Section 4(f)—denotes an adverse impact to, or occupancy of, a Section 4(f) property. There are three conditions under which use occurs:

- ▶ Permanent Incorporation occurs when a Section 4(f) property is acquired outright for a transportation project;
- ▶ Temporary Occupancy occurs when the temporary use of property is adverse in terms of Section 4(f)'s preservationist purpose.
- ▶ Constructive Use occurs when the proximity of impacts of a transportation project on a Section 4(f) property are so great, even without acquisition of the property, that the activities, features, and attributes of the property are substantially impaired.

The nearest Section 4(f) property is the Robert S. Farrell High School located approximately 0.65 mile southwest of the Airport. There are no Section 4(f) resources identified on the Airport.

Farmland and Soils

Pursuant to the Farmland Protection Policy Act of 1981, as amended, the U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) reviews federal actions that convert undeveloped or agricultural land that is considered prime, unique, or of statewide or local importance into non-agricultural use.

The Farmland Protection Policy Act (FPPA) was enacted to minimize the extent to which federal actions and programs contribute to the unnecessary and irreversible conversion of farmland to non-agricultural uses. The FPPA classifies farmland as prime farmland, unique farmland, or farmland of statewide or local importance. Prime farmland has the best combination of physical and chemical characteristics for producing food, forage, fiber, and oilseed crops. Unique farmland is land other than prime farmland used to produce specific high-value food and fiber crops. Farmland of statewide or local importance includes soils that do not meet prime farmland criteria, but economically produce high yields of crops when treated and managed. A federal action that may result in conversion of farmland to non-agricultural use requires coordination with the U.S. Department of Agriculture Natural Resource Conservation Services (NRCS).

The NRCS online web soil survey was used to identify soil types on the Airport and adjacent property. Mapping and table details regarding the mapped soils within SLE are contained within the USDA/NRCS Soil Report. Airport soils are listed below in **Table 2-4**.

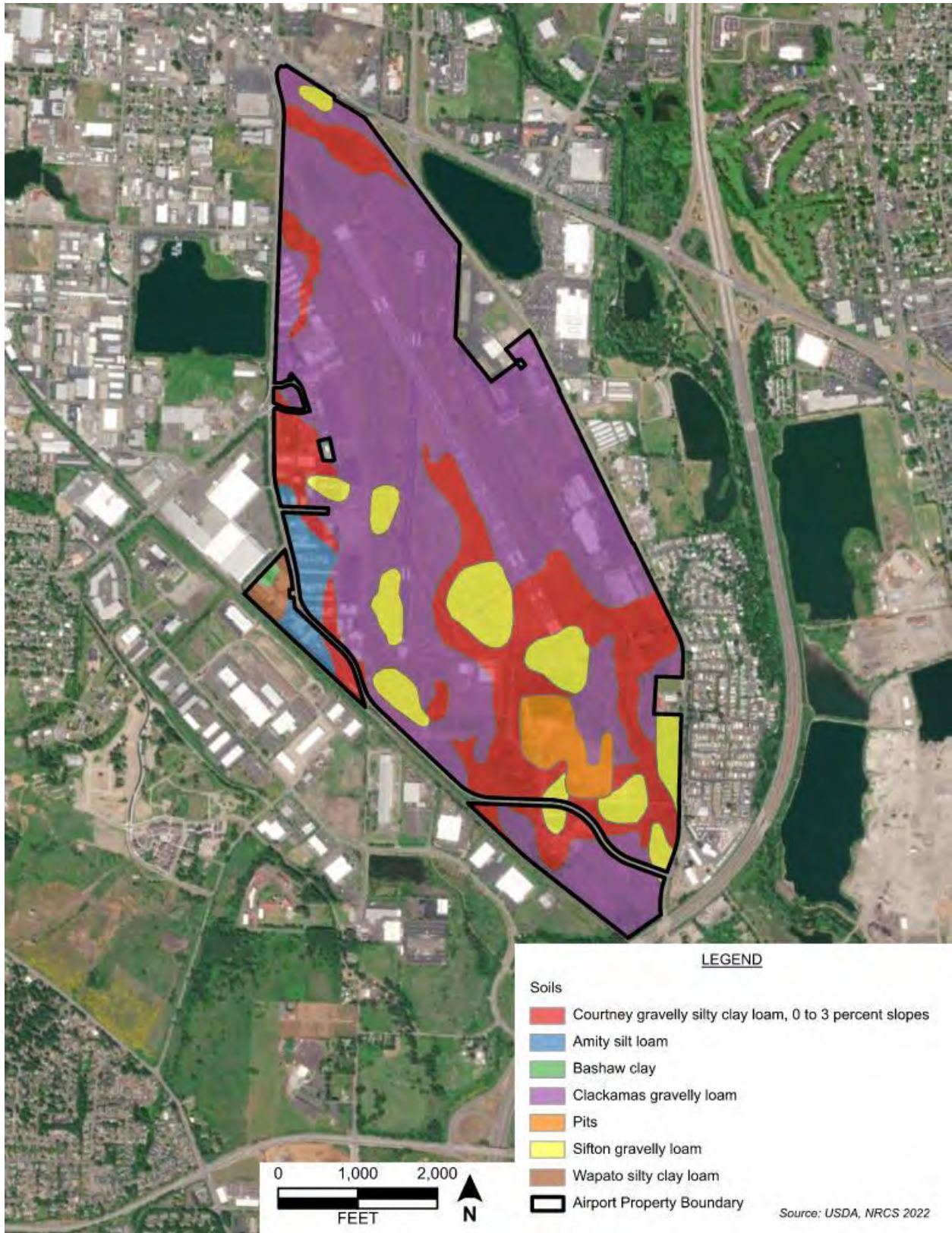
Table 2-4: Airport Soils

Soil Type	Percentage of Area of Interest (AOI)	Farmland Classification
Clackamas gravelly loam	61.0%	Prime farmland if drained
Courtney gravelly silty clay loam, 0 to 3 percent slopes	22.7%	Farmland of statewide importance
Sifton gravelly loam	9.8%	All areas are prime farmland
Pits	3.0%	Not prime farmland
Amity silt loam	2.5%	Prime farmland if drained
Wapato silty clay loam	0.8%	Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
Bashaw clay	0.2%	Farmland of statewide importance

Source: United States Department of Agriculture, National Resources Conservation Service, Web Soil Survey, accessed November 28, 2022.

According to the NRCS, Clackamas gravelly loam is the dominate soil type and accounts for approximately 61 percent of the Airport area. This soil type is considered prime farmland if drained. The soil locations are shown on **Figure 2-2**.

Figure 2-2: Soils Data



Hazardous Materials, Pollution Prevention, and Solid Waste

Hazardous materials are defined by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the Solid Waste Act, as amended by the Resource Conservation and Recovery Act (RCRA) 42 United States Code (USC) 6901-6992. Hazardous materials include substances that, because of their quantity, concentration, or physical, chemical, or infectious characteristics, may present substantial danger to public health or welfare or the environment.

The two statutes of concern to the FAA are the RCRA, as amended by the Federal Facilities Compliance Act, and the CERCLA, as amended by the Superfund Amendments Reauthorization Act (SARA) and by the Community Environmental Response Facilitation Act. RCRA governs the generation, treatment, storage, and disposal of hazardous wastes. CERCLA provides for consultation with natural resources trustees and cleanup of release of a hazardous substance, excluding petroleum, into the environment.

Sites of interest are defined as state cleanup sites, federal superfund cleanup sites, hazardous waste generators, solid waste facilities, underground storage tanks, dairies, and enforcement actions. The NEPAassist database lists Hazardous Waste Sites located on airport property. These sites are listed in **Table 2-5**. The EPA UST Finder identified one LUST on airport property; however, the LUST's status has been listed as Closed.

Table 2-5: Hazardous Waste Sites

Site Name	Hazardous Waste Generator
Oregon Department of Aviation	Very small quantity generator
Federal Express Corp SLEA	Very small quantity generator

Source: NEPAassist Tool, November 2022

The FAA Modernization and Reform Act of 2012 (FRMA) and FAA Reauthorization Act of 2018 require review of solid waste recycling at airports undergoing the master planning process. The Airport's existing recycling, reuse, and waste reduction efforts were reviewed and are documented in the Airport Recycling, Reuse, and Waste Reduction Plan (Recycling Plan) included as **Appendix B** to the Master Plan. The Recycling Plan (**Appendix B**) was developed in accordance with the 2014 FAA memorandum *Guidance on Airport Recycling, Reuse and Waste Reduction Plans and Reauthorization Program Guidance Letter (R-PGL) 19-02*.

Historical, Architectural, Archaeological, and Cultural Resources

Historical, architectural, archaeological, and cultural resources encompass a range of sites, properties, and physical resources associated with human activities, society, and cultural institutions. Federal law requires project sponsors who require federal funds or approvals to consider how their proposed projects would affect historic properties. In accordance with NEPA and Section 106 of the National Historic Preservation Act (NHPA), the FAA is the federal lead agency for identifying the potential impacts of a proposed project on these resources and consulting with the federally recognized tribes, the State Historic Preservation Office (SHPO), and other agencies as necessary.

Section 106 of the NHPA recommends measures to coordinate federal historic preservation activities and to comment on federal actions affecting historic properties included in, or eligible for inclusion in, the National Register of Historic Places (NRHP). The Archaeological and Historic Preservation Act “provides the survey, recovery, and preservation of significant scientific, prehistorical, historical, archeological, or paleontological data when such data may be destroyed or irreparably lost due to a federal, federally licensed, or federally funded project.”

A search of the National Park Service’s NRHP provided a list of 118 historic properties in Marion County, 66 of which are located within the City of Salem. There are no NRHP properties located on Airport property. The nearest listed NRHP site is the Oregon State Forester’s Office Building located approximately 0.85 mile north of the Airport.

Land Use

Compatible land use protects the health, safety, and welfare of those living and working near SLE while protecting airspace for safe and efficient aircraft operations. Airports that receive federal funds must prevent the development of incompatible uses on land and ensure that proposed airport actions, including the adoption of zoning laws, have or will be taken, to the extent reasonable, to restrict the use of land adjacent to or in the immediate vicinity of the airport to activities and purposes compatible with normal airport operations, including landing and takeoff of aircraft. Compatible land uses were considered as part of a 2021 study that is included as **Appendix E**.

Natural Resources and Energy Supply

Energy or natural resources impacts result from the implementation of projects that have a measurable effect or result in significant changes in the use or demand placed on local supplies. Energy requirements associated with an airport usually fall into two categories: demands for stationary facilities and demands for the movement of air and ground vehicles.

FAA guidance states that airport improvement projects do not increase the consumption of energy or natural resources to the point of significant impacts, unless it is found that implementation of a project would cause demand to exceed supply. Airport improvement projects may cause increased energy consumption during construction, but increases are expected to be temporary and not significant.

Noise and Noise-Compatible Land Use

According to the FAA Order 1050.1F, Desk Reference, Chapter 11, Noise and Noise-Compatible Land Use, “noise” is defined as unwanted sound that may interrupt activities such as sleep, conversation, or student learning. Aviation noise typically comes from the operation of aircraft during departures, arrivals, overflights, taxiing, and engine run-ups.

The Control and Abatement of Aircraft Noise and Sonic Boom Act of 1986 authorizes the FAA to prescribe standards for the measurement of aircraft noise and establish regulations to abate noise. The Noise Control Act of 1972, which amends the Control and Abatement of Aircraft Noise and Sonic Boom Act of 1986, adds consideration of the protection of public health and welfare and adds the EPA to the rulemaking process for aircraft noise and sonic boom standards.

Per FAA Order 1050.1F, projects at airports that experience more than 90,000 piston-powered aircraft operations or 700 jet-powered annual aircraft operations, or that are conducting the citing of a new airport, a runway relocation, runway strengthening, or a major runway expansion require a noise analysis that includes noise contour maps. SLE meets these criteria. Further noise analysis is included in **Appendix F**.

Socioeconomic, Environmental Justice, and Children’s Environmental Health and Safety Risks

The Council on Environmental Quality regulations in 40 CFR, Section 1508, require environmental documents prepared for federally funded projects to address potential social impacts. The evaluation of a proposed project on the human environment must address the following:

- ▶ Disproportionate impacts to low-income and minority populations,
- ▶ Potential relocation of homes or businesses,
- ▶ Division or disruption of an established community,
- ▶ Disruptions to orderly planned development,
- ▶ Notable project-related changes in employment, and
- ▶ Impacts on health and safety risks to children.

Socioeconomic Impacts

Improvements at SLE are not expected to create a significant change in population, public service, or economic activity, but they are expected to have positive impacts through creation of employment opportunity, business growth, and economic activity. According to a search of the United States Census Bureau Small Area Income and Poverty Estimates database, the poverty level in Marion County is 12.1 percent. Resource agencies should be coordinated with prior to improvement implementation.

FAA Order 1050.1F states:

If acquisition of real property or displacement of persons is involved, 49 CFR Part 24 (implementing the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970), as amended, must be met for federal projects and projects involving federal funding. Otherwise, the FAA, to the fullest extent possible, observes all state and local laws, regulations, and ordinances concerning zoning, transportation, economic development, housing, etc. when planning, assessing, or implementing the proposed action or alternative(s).

Environmental Justice

FAA Order 1050.1F states:

...the FAA must provide for meaningful public involvement by minority and low-income populations. In accordance with DOT Order 5610.2(a), this public involvement must provide an opportunity for minority and low-income populations to provide input on the analysis, including demographic analysis, which identifies and addresses potential impacts on these populations that may be disproportionately high and adverse.

If an impact would affect low-income or minority populations at a disproportionately higher rate, an environmental justice impact is likely. In such cases, the environmental documents are expected to include the following:

- ▶ Demographic information about the affected populations,
- ▶ Information about the population(s) that have an established use for the significantly affected resource, or to whom that resource is important (i.e., subsistence fishing),
- ▶ Results of analysis to determine if a low-income or minority population using that resource sustains more of the impact than any other population segments,
- ▶ Identification of disproportionately affected low-income and minority populations,
- ▶ Discussion of alternatives that would reduce the effect on those populations, and
- ▶ Description of possible mitigation to reduce the effect on the disproportionately affected low-income and minority populations.

The NEPA process requires environmental justice review and impact analysis for airport improvements. According to a search of the United States Census Bureau Population Estimates Program, the percentage of minority populations is 12 percent in Marion County.

Children’s Environmental Health and Safety Risks

FAA Order 1050.1F states:

Pursuant to Executive Order 13045, Protection of Children from Environmental Health Risks and Safety Risks, Federal agencies are directed, as appropriate and consistent with the agency’s mission, to make it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children. The FAA is encouraged to identify and assess environmental health risks and safety risks that the agency has reason to believe could disproportionately affect children. Environmental health risks and safety risks include risks to health or safety that are attributable to products or substances that a child is likely to come in contact with or ingest, such as air, food, drinking water, recreational waters, soil, or products they might use or be exposed to.

The closest school to the airport is the Outlook Christian School located approximately 1,000 feet southwest of the airport. According to a search of the United States Census Bureau Population Estimates Program database, the percentage of children under 18 is 24 percent in Marion County.

Light Emissions and Visual Impacts

FAA Order 1050.1F defines light emissions as light that emanates from a light source into the surrounding environment (e.g., airfield and apron flood lighting, NAVAIDs, terminal lighting, parking lighting, roadway lighting, safety lighting). Visual resources may include structures or objects that obscure or block other landscape features (e.g., buildings, sites, traditional cultural properties, or other manmade landscape features).

Lighting for aviation security, obstruction identification, and navigation can be considered light emissions. The introduction of a new, or relocation of an existing, airport lighting facility is to be analyzed for effect on residential or other light sensitive land uses. The nearest residential area is located approximately 0.25 mile to the east of the Runway 31 end with an unobstructed line of sight. Light emissions and visual impacts should be reviewed under a NEPA analysis on a project-to-project basis.

Water Resources

Water Quality

The City of Salem has prepared a Stormwater Management Program (SWMP) to protect water quality and prevent and reduce stormwater pollution to the maximum extent practicable. The SWMP complies with the National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) issued by the Oregon Department of Environmental Quality (DEQ). The Airport is permitted under a 1200-Z industrial stormwater permit issued by the Oregon DEQ.

Fueling, aircraft maintenance, and de-icing have a high potential to impact stormwater and runoff water quality. There are seven drainage basins on Airport property that flow into grass-lined drainage ditches. The Airport is located in the northeast portion of the Pringle Creek Drainage Basin. The outlet for the Pringle Creek Drainage Basin is the Willamette Slough, through two Mill Creek diversion channels, the Shelton Ditch and Mill Race. Runoff from the Airport drains into streams that ultimately discharge into the Willamette River. The eastern portion of the Pringle Creek Drainage Basin is relatively flat, making flooding a common occurrence, particularly west of the Airport and east of the railroad. During high flows in the Mill Creek Drainage basin, floodwaters can overflow into the Pringle Creek Drainage Basin.

The EPA's *How's My Waterway?* database identified the impaired waterways within the Pringle Creek Drainage Basin shown in **Table 2-6**.

Five drainage outfalls are sampled four times per year, testing for copper, lead, zinc, mercury, pH, suspended solids, oil and grease, and E. Coli. Best Management Practices (BMPs) have been developed by the Airport to prevent toxic and hazardous substances from entering receiving waters. BMPs include guidelines regarding pesticide use, aircraft and equipment maintenance, fuel truck unloading, vehicle and equipment fueling, materials storage, security, erosion control measures, waste disposal, and good housekeeping practices.

Development projects that increase the amount or rate of stormwater runoff through the addition of impervious asphalt surface within these drainages will need to be further evaluated. Projects that may locally affect precipitation infiltration and groundwater recharge through either subsurface excavation or the addition of impervious surfaces may need to be further evaluated for potential impact to local groundwater.

Table 2-6: 2022 Impaired Water Bodies

Water Body	Water Body Condition	Identified Issues
Crosian Creek-Willamette River	Impaired	<ul style="list-style-type: none"> - Acidity - Bacteria and other Microbes - Degraded Aquatic Life - Low Oxygen - Metals - Pesticides - Temperature
Glenn Creek-Willamette River	Impaired	<ul style="list-style-type: none"> - Bacteria and other Microbes - Degraded Aquatic Life - Low Oxygen - Temperature
Lower Mill Creek	Impaired	<ul style="list-style-type: none"> - Acidity - Bacteria and other Microbes - Low Oxygen - Temperature
Mill Creek	Impaired	<ul style="list-style-type: none"> - Bacteria and other microbes - Low oxygen - Pesticides - Temperature
Pringle Creek	Impaired	<ul style="list-style-type: none"> - Bacteria and other microbes - Low oxygen - Temperature
Shelton Ditch	Impaired	<ul style="list-style-type: none"> - Bacteria and other microbes - Temperature
Willamette River	Impaired	<ul style="list-style-type: none"> - Degraded Aquatic Life - Dioxins - Low Oxygen - Mercury - PCBs - Pesticides - Temperature
Willamette Slough	Impaired	<ul style="list-style-type: none"> - Low Oxygen - Temperature

Source: USEPA, 2022

Wetlands

The Clean Water Act (CWA) defines wetlands as “areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.” Federal regulations require that proposed actions avoid, to the greatest extent possible, long-term and short-term impacts to wetlands, including the destruction and altering of the functions and values of wetlands.

National Wetland Inventory (NWI) mapping indicates the location of potential wetlands and water resources. Several areas on the Airport are mapped as NWI wetlands (**Figure 2-1**). Prior to development at a specific site, a water resources delineation should be conducted in areas that have not been surveyed within the last five years.

A wetland delineation was prepared for a southwestern portion of the Airport by Turnstone Environmental Consultants on July 5, 2021. This wetland delineation did not identify any wetlands or other waters in the 8.08-acre study area. The report was approved by the Oregon Department of State Lands on October 14, 2021.

Floodplains

A floodplain is generally a flat, low-lying area adjacent to a stream or river that is subject to inundation during high flows. The relative elevation of a floodplain determines its frequency of flooding.

Executive Order 11988 requires federal agencies “to avoid, to the extent possible, the long and short-term adverse impacts associated with the occupancy and modification of 100-year floodplains (i.e., areas subject to inundation by a 1 percent annual chance of flood) and to avoid direct or indirect support of floodplain development whenever there is a practical alternative.”

The Federal Emergency Management Agency’s (FEMA) Flood Map Service shows that the Airport is within three flood hazard areas: Zone AE, Special Flood Hazard Area; Zone AO, Special Flood Hazard Area; and Zone X, 0.2% Annual Chance of Flood Hazard.

FEMA administers the National Flood Insurance Program (NFIP) for the purpose of reducing the impact of flooding on private and public structures. Marion County should follow and comply with 44 CFR Part 60, “Criteria for Land Management and Use,” when considering construction or development within flood hazard zones.

Surface Waters

Surface water is water that occurs above ground, such as a wetland, river, stream, or lake. Aside from identified wetlands (see **Figure 2-1** and the **Wetlands** section above), no surface water resources occur on airport property. Mill Creek is located approximately 0.15 mile from Airport property. The nearest major surface water is the Willamette River, which is located approximately 2.5 miles northwest of SLE.

Wild and Scenic Rivers

Wild and scenic rivers are protected by the 1986 Wild and Scenic Rivers Act. Wild and scenic rivers are managed by the Bureau of Land Management, the National Park Service, the USFWS, and the U.S. Forest Service. Designated rivers are assigned one or more of the following classifications: wild, scenic, or recreational. These classifications are based on Outstandingly Remarkable Values of the river's surroundings. Wild rivers are the most remote and undeveloped of the classifications. Recreational rivers have many access points (including roads, railroads, bridges, and homes) within the designated corridor. Scenic rivers fall somewhere between the designation of wild and recreational rivers. A river's classification is not related to the Outstandingly Remarkable Values that made it worthy of designation.

The nearest designated Wild & Scenic River segment under the National System is a section of the Molalla River west of McMinnville, which is over 25 miles northwest of the Airport. There are no rivers on the Nationwide Rivers Inventory or under State jurisdiction near or within Airport property.

SUMMARY

SLE serves a wide variety of general and commercial aviation users. SLE and the FAA continue to invest in aviation facilities to support the current and future use of SLE. Future Airport improvements and developments may require certain studies and permits to comply with environmental regulations.

- ▶ **Air Quality.** The Airport is in a maintenance area for 8-hour ozone and carbon monoxide and in an attainment area for all other air pollutants regulated by the EPA. Projects that would increase air traffic operations or change aircraft fleet mix may require air quality modeling or detailed analyses to evaluate potential long-term air quality impacts. However, most projects that involve short-term air quality impacts associated with construction activities (e.g., dust, construction equipment, etc.) would not likely be limited by the nonattainment or maintenance designations.
- ▶ **Coastal Resources.** Compliance with State and local land use and planning regulations will accomplish compliance with Oregon's Coastal Management Program.
- ▶ **Department of Transportation Act, Section 4(f).** Airport development is not expected to impact any Section 4(f) resources.
- ▶ **Farmlands and Soils.** Several soil types underlying the Airport are classified as prime farmland or farmland of statewide importance. However, a Farmland Conversion Impact Rating Form (NRCS Form AD-1006) is unlikely to be required for any proposed development because there are no active agricultural uses on the Airport.
- ▶ **Threatened and Endangered Species.** An ESA-listed species was found during a site survey of an area located south of Runway Ends 34 and 31. Site-specific surveys may be necessary for proposed Airport improvements in areas not previously surveyed. Another issue to be considered during the master planning process is the potential for stormwater-related impacts to Chinook salmon and Critical Habitat in Mill Creek and the Willamette River caused by increases in impervious surfaces. Therefore, any proposed Airport improvements involving federal authorization or funding will require assessment of stormwater runoff effects to these aquatic species.
- ▶ **Historical and Cultural Resources.** No NRHP properties were identified within the Airport boundary. Airport projects on undisturbed areas of the Airport, or affecting off-Airport lands, may be required to conduct a site-specific cultural resources study to identify whether cultural resources are present and would be affected.

- ▶ **Natural Resources and Energy Supply.** Under FAA guidance criteria, it is highly unlikely that Airport development projects would increase energy consumption to the point of significant impact (i.e., cause energy demand to exceed supply).
- ▶ **Socioeconomic, Environmental Justice, and Children’s Environmental Health and Safety Risks.** No residences or schools are located on Airport property. Any Airport development projects that will affect only existing Airport property are unlikely to have any significant impact in this category; however, all Airport development projects are required to evaluate the potential socioeconomic, environmental justice, and children’s environmental health and safety risks of the surrounding community.
- ▶ **Water Quality.** No surface waters were identified within the Airport. The Airport is located in the northeast portion of the Pringle Creek Drainage Basin, which includes several impaired waterways. Runoff from the Airport drains into streams that ultimately discharge into the Willamette River. To comply with Section 401 of the Clean Water Act and with the Endangered Species Act, any proposed developments that increase impervious surface or alter drainage patterns are likely to require a stormwater management plan and compliance with local and federal water quality treatment standards.
- ▶ **Wetlands.** Available resource documents indicate the potential for wetlands at the south end of the Airport. A site-specific wetland delineation was prepared for an 8-acre area in the southwestern portion of the Airport and did not identify any wetlands or other waters. Prior to development at a specific site, a water resources delineation should be conducted in areas that have not been surveyed within the last five years.
- ▶ **Floodplains.** The Airport is located within three flood hazard areas: Zone AE, Special Flood Hazard Area; Zone AO, Special Flood Hazard Area; and Zone X, 0.2% Annual Chance of Flood Hazard.
- ▶ **Wild and Scenic Rivers.** There are no designated Wild and Scenic Rivers in the Airport vicinity.

NEXT STEPS

The **Forecast Chapter** evaluates:

- ▶ Current activity levels
- ▶ The factors that affect activity level – national trends and regional socio-economic factors
 - Population
 - Employment
 - Income Levels
 - Economic development
- ▶ The aircraft fleet mix – potential changes to the designated critical aircraft category

The **Facilities Requirements Chapter** discusses the critical aircraft designation, which affects runway and taxiway design criteria dimensions.