CHAPTER 9 NATURAL ENVIRONMENT

9.1 Plan Context

The Natural Environment Chapter implements the vision of Sequim as a city enriched with valued natural features that enhance the quality of life for the community. The streams, hillsides, prairies and other natural features have shaped the city's character.

As Sequim continues to grow, the impact of that growth on the natural environment becomes more pronounced. In order to adequately meet the need for protection and preservation, the Natural Environment Chapter sets a framework that recognizes the relationship between Sequim's natural environment, land use planning, and a variety of regulatory and non-regulatory efforts. Impacts of development are minimized primarily through environmental regulations while most enhancements to the natural environment are primarily through non-regulatory and voluntary efforts.

Balancing the conservation and protection of the natural environment with population growth, economic development goals, and increasing recreational access is a key purpose of statewide planning rules and regulations. Direction is provided through statewide planning goals, the Growth Management Act (GMA), and the Shoreline Management Act (SMA). Statewide Planning Goal 10 (RCW 36.70A.020) instructs jurisdictions to: "Protect the environment and enhance the state's high quality of life, including air and water quality, and the availability of water."

This Chapter includes goals and policies to protect the natural environment and to guide future growth in a manner that minimizes impacts. The Natural Environment goals and policies address:

- Environmental Stewardship
- Critical Areas
- Shorelines
- Energy and Sustainability
- Urban Forestry

9.2 Goals and Policies

9.2.1 Environmental Stewardship

Of the many roles the City of Sequim must fulfill, one of its most demanding is that of steward of the city's natural environment. The demand is challenging to the city because it has the requirement to accommodate and plan for urban densities, with the responsibility to ensure that the environment is managed wisely. Through the Comprehensive Plan, numerous goals and policies are articulated to help the city achieve its vision for the future. No one goal or policy is pursued to the exclusion of others. In weighing environmental protection against other needs, including urban growth, housing, economic development, and recreation opportunities, the City balances these goals and achieves protection through a variety of means, including regulation of property, incentives, and public programs.

GOAL NE-1
Protect, sustain and provide for healthy and diverse ecosystems within Sequim.

Policy NE-1.1
Protect critical areas, habitat and the natural environment through land use plans, management plans and programs, comprehensive park plans, development regulations and site-specific project review.

Policy NE-1.2
Maintain regulations such as the Critical Areas Ordinance (CAO), which provide protection for all regulated critical areas – a) wetlands; b) areas with a critical recharging effect on aquifers (aquifer recharge areas); c) frequently flooded areas; d) fish and wildlife habitat conservation areas; and e) geologically hazardous areas.

- The City's CAO development standards shall incorporate and utilize appropriate and applicable Best Available Science (BAS) for purposes of designating and protecting all regulated critical areas and give "special consideration" to conservation and protection measures for anadromous fisheries.
- Provide provisions for reasonable use of property according to legal precedent and laws within the CAO.

Policy NE-1.3
Work in concert with federal and state agencies, tribes and environmental-focused organizations to protect critical areas and environmentally sensitive areas.

Policy NE-1.4
Promote innovative and environmentally sensitive practices in site planning, design, materials selection, construction and maintenance.

Policy NE-1.5
Support environmental stewardship on private and public lands through partnerships and voluntary efforts to protect, restore and enhance the quality and functions of the City's critical areas and associated buffers.

9.2.2 Critical Areas

The Washington State GMA requires every county and city to adopt policies and development regulations that designate and protect critical areas (RCW 36.70A.060(2)), which are defined, mapped (to the greatest extent feasible), and regulated in the City's Critical Areas Ordinance (CAO). Critical areas are defined in RCW 36.70A.030(5) as: Wetlands; Areas with a Critical Recharging effect of Aquifers used for potable water; Frequently Flooded Areas; Geologically hazardous areas; and Fish and Wildlife Habitat Conservation Areas.

Science plays a central role in delineating critical areas, identifying functions and values, and identifying protection strategies. GMA requires counties and cities to include the BAS when reviewing and revising their critical areas policies and regulations (RCW 36.70A.172) to protect the functions and values of critical areas and must give "special consideration" to conservation or protection measures necessary to preserve or enhance anadromous fisheries.

Wetlands
Wetlands are designated critical areas that are integral features of the Sequim landscape and the local hydrologic cycle. In wetlands, the presence of water at or near the surface creates distinct soil types and supports a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

Wetlands reduce floods, contribute to stream flows, improve water quality, provide fish and wildlife habitat, and offer opportunities for research and scientific study and outdoor education. Each wetland provides various beneficial functions, but not all wetlands perform all functions, nor do they perform all functions equally well. Large wetlands, and those hydrologically associated with lakes and streams, have relatively more important functions in the watershed than small, hydrologically isolated wetlands.

GOAL NE-2
Protect the water quality, flows and ecological integrity of wetlands by appropriately regulating land uses and stormwater, through the development review process.

Policy NE-2.1
The City's Critical Areas Ordinance protects existing wetland functions to maintain water quality, preservation, and wildlife habitat. New developments adjacent to protected wetlands shall be subject to vegetative buffers as identified in the Critical Areas Ordinance and other applicable development standards to ensure protection of the wetland and buffer during all phases of development.

Policy NE-2.2
Create and maintain a wetland map using the most recent information available and by including wetland identification and delineations completed in conjunction with a land use permit.

Policy NE-2.3
Wetland identification, delineation and rating shall be as according to Washington State Department of Ecology's currently adopted manual and rating system, or as amended hereafter. The City's Critical Areas Ordinance identifies these documents as the appropriate documents for wetland identification, delineation, and rating.

Policy NE-2.4
Promote the public awareness of the role of wetlands in climate adaptation through their function in flood reduction, water storage and groundwater recharge.

Critical Aquifer Recharge Areas
The GMA requires the classification of recharge areas for aquifers according to the vulnerability of the aquifer. Vulnerability is the combined effect of hydrogeological susceptibility to contamination and the contamination loading potential. High vulnerability is indicated by land uses that contribute to contamination that may degrade groundwater and hydrogeological conditions that facilitate degradation. Low vulnerability is indicated by land uses that do not contribute contaminants that degrade ground water and those conditions that do not facilitate digression.

GOAL NE-3
Ensure safe and adequate water supplies and protect groundwater quality from potential contaminant sources by identifying, classifying and protecting vulnerable aquifer recharge areas.

Policy NE-3.1
Continue to support identification and mapping of aquifer recharge areas within the city and its urban growth area. Such areas are subject to regulations to protect the integrity of identified aquifer recharge areas.

Policy NE-3.2
Proposed development in areas identified as a Critical Aquifer Recharge Area may be required to prepare a hydrogeological report. The City's Critical Areas Ordinance sets forth the criteria for when such a report is required and the information to be included.

Policy NE-3.3
Include regulations in its Critical Areas Ordinance to enhance recharge of aquifers. These regulations should include: low impact development standards that provide for infiltration of storm water and Best Management Practices (BMPs) required for smaller developments that is exempted from requirements for constructed stormwater facilities.

Policy NE-3.4
Limit the storage, handling, and use of hazardous materials in Critical Aquifer Recharge Areas to minimize the risk of groundwater contamination.

Frequently Flooded Areas
Frequently flooded areas are lands in the floodplain subject to at least a one percent or greater chance of flooding in any given year, or within areas subject to flooding due to high groundwater. These areas include, but are not limited to, streams, rivers, lakes, coastal areas, wetlands, and areas where high groundwater forms ponds on the ground surface. The Federal Emergency Management Agency (FEMA) delineates flood hazards along major river and stream corridors to identify areas at risk from floodwater. This information is used for both floodplain management and insurance rating. FEMA maps have been adopted by the city. The mapping includes those areas inundated by 100-year and 500-year floods. When assessing the potential for a flood hazard on a given site, the City's development review staff utilizes the FEMA maps.

GOAL NE-4
Reduce the risk of damage to life, property, and the natural environment from flooding through appropriate regulatory means.

Policy NE-4.1
Preserve the natural flood storage functions of 100-year floodplains where feasible. encourage and emphasize non-structural methods for flood prevention and damage reduction, as appropriate. No blockage of floodwater is allowed that could impact neighboring properties.

Policy NE-4.2
Encourage maintenance of natural vegetation in floodplains to minimize runoff into streams and reduce the damage caused by increased stream flow, stream velocity, and flooding.

Policy NE-4.3
Continue participating in FEMA's Community Rating System (CRS) program to reduce flood risk and insurance costs for residents.

Geologically Hazardous Areas
Geologically hazardous areas are places highly susceptible to erosion, landslides, earthquakes, or other geologic events. Geologically Hazardous Areas and Areas of Geologic Concern have been identified and mapped. The map is intended to serve as a guide to the general location, based upon identified soil types, the potential likelihood of a geologically hazardous area. Site-specific topographic, survey, and geologic information is required with development proposals to determine the existence and extent of such areas, and if such hazards can be mitigated.

GOAL NE-5
Manage development in geologically hazardous areas to protect public health and safety.

Policy NE-5.1
The Critical Areas Ordinance provides standards that assist in protecting human life, property and essential services from potential geologic hazards. Site-specific studies submitted with development proposals in areas mapped as geologically hazardous areas are required to evaluate the risk, potential impacts, and identify necessary mitigations of the proposed development.

Policy NE-5.2
Classify and map known geologically hazardous areas and areas of geologic concern. Incorporate information from site-specific geotechnical reports and erosion problems into the City's Geographic Information System to ensure the map remains relevant.

Policy NE-5.3
Protect geologically hazardous areas, especially forested steep slopes, recognizing that these areas provide multiple critical area functions, such as preserving vegetated areas for wildlife habitat, linking habitats to valley riparian areas, stabilizing slopes, and allowing for groundwater infiltration providing a water source to wetlands and streams.

Policy NE-5.4
Minimize and control soil erosion during and after development using best available technology, best management practices, and other development restrictions. Allow the City to place additional conditions when determined necessary in identified geologically hazardous areas.

Fish and Wildlife Habitat Conservation Areas
Fish and wildlife habitat conservation means land management for maintaining population of species in suitable habitats within their natural geographic distribution so that the habitat

available is sufficient to support viable populations over the long term and isolated subpopulations are not created. This does not mean always maintaining all individuals of all species, but it does mean not degrading or reducing populations or habitats so that they are no longer viable over the long term. Counties and cities should engage in cooperative planning and coordination to assure long-term population viability.

Fish and wildlife habitat conservation areas contribute to the state's biodiversity and occur on both publicly and privately-owned lands. Designating these areas is an important part of land use planning for appropriate densities, urban growth boundaries, open space corridors, and incentive-based land conservation and stewardship programs. (WAC 365-190-130(1).

Streams Classification

All identified streams in the city are classified according to the Washington State stream classification systems. The City's CAO utilizes the State Interim Water Typing in WAC 222-16-031 to define stream types. This stream classification system provides "special consideration" of anadromous fisheries.

Fish and Wildlife Habitat Conservation Area Designation

Washington State Department of Fish and Wildlife (WDFW) has developed a catalog of habitats and species considered to be priorities for conservation and management. WAC 365-190-130(4) strongly suggests that local jurisdictions base their fish and wildlife habitat conservation areas designation on the WDFW priority habitat and species listings.

According to the WDFW Priority Habitats and Species List priority species include Federal and State Endangered, Threatened, Sensitive, and Candidate species; animal aggregations (e.g. heron colonies, bat roost sites) considered vulnerable; and species of recreational, commercial, or tribal importance that are vulnerable. These priority species require protective measures for their survival due to their population status, sensitivity to habitat alteration, and/or recreational, commercial, or tribal importance. Priority habitats are habitat types or elements which offer unique or significant value to a diverse assemblage of species. A priority habitat may consist of a unique vegetation type (e.g. shrub-steppe) or dominant plant species (e.g. juniper savannah), a described successional stage (e.g. old-growth forest), or a specific habitat feature (e.g. cliffs.)

The WDFW Priority Habitat and Species program includes Roosevelt elk, like those in the Sequim herd, as priority species within certain habitats. Priority habitats for elk include calving areas, migration corridors and winter and summer range.

Bell Creek

Bell Creek is a relatively small independent drainage to salt water on the east side of the Dungeness plain, entering Washington Harbor on the marine shoreline just outside (north) of the mouth of Sequim Bay. It is 3.8 miles long and drains a watershed of over 3100 acres (8.9 mi2). Bell Creek flows from the uplands of Happy Valley and the north flank of Burnt Hill through the eastern portion of the City of Sequim and into a lagoon at Washington Harbor. During at least one time in its geologic history, it is believed to have been the active channel of the Dungeness River. In more recent times, it probably operated as an ephemeral stream fed by precipitation runoff. Bell Creek has historically served as a conveyance channel for irrigation water. Much of the creek has been heavily altered by rural and urban development.

The lower 2.0 miles of Bell Creek are channelized, and the lower 0.25 miles is diked. The creek is thought to be primarily spring fed, with stable flows and a limited floodplain.

Johnson Creek

Johnson Creek is the primary creek within the Sequim Bay Subbasin within the City of Sequim and is the third largest stream in the Sequim Bay watershed. Johnson Creek flows in a northeast direction from the foothills of the Olympic Mountains into the west side of Sequim Bay at Pitship Point (near the John Wayne Marina). The total drainage basin area for Johnson Creek is approximately 6.3 square miles, 14 percent of which is located within the city limits.

GOAL NE-6
Protect biological diversity by appropriately regulating fish and wildlife habitat conservation areas.

Policy NE-6.1
The City's Critical Areas Ordinance requires vegetative buffers along surface waters to protect anadromous fish and wildlife habitat. New development is subject to buffers or resource management areas, as identified in the Critical Areas Ordinance and other applicable development standards.

Policy NE-6.2
Protect the natural habitat functions of listed or candidate Endangered Species. The City's Critical Areas Ordinance establishes appropriate protection measures and procedures for habitat conservation.

Policy NE-6.3
Encourage public-private partnerships and voluntary efforts to protect, restore, and enhance fish and wildlife habitat.

Policy NE-6.4
Encourage informational and educational programs and activities dealing with the protection of wildlife. An example of such a program is the Habitat at Home program established by the State's Department of Fish and Wildlife.

Policy NE-6.5
Avoid/minimize fine sediment inputs to creeks by eliminating or controlling sediment sources by requiring best management practices and the preparation of an erosion and sediment control plan for sites where vegetation clearing, earth movement, or other soil disturbing activities are proposed to occur.

Policy NE-6.6
Prioritize recommendations for Bell Creek and Johnson Creek identified in the Elwha-Dungeness Watershed Plan to improve water quality, instream flows, and habitat.

9.2.3 Shorelines

The Shoreline Management Act (SMA) (RCW 90.58) establishes the concepts of preferred uses and priority uses in shoreline areas. RCW 90.58.020 indicates that preferred uses are

those "which are consistent with control of pollution and prevention of damage to the natural environment or are unique to or dependent upon use of the state's shorelines." This section further states that priority uses include single-family residences, ports, shoreline recreational uses, water-dependent industrial and commercial developments and other developments that provide opportunities for the public to access the shoreline environment. To the maximum extent possible, the shorelines should be reserved for "water-oriented" uses, including "water-dependent", "water-related" and "water-enjoyment" uses, as defined in the SMA.

The overarching policy is that "the public's opportunity to enjoy the physical and aesthetic qualities of natural shorelines of the state are preserved to the greatest extent feasible, consistent with the overall best interest of the state and the people generally." Coordinated planning is necessary to protect the public interests associated with the shorelines of the state, while, at the same time, recognizing and protecting private property rights.

The City's shoreline jurisdiction includes all shorelines, which are in the eastern portion of city limits. As required by the SMA, the City has established shoreline environment designations, which serve as an "overlay" to the City's Comprehensive Plan land use designations. These designations are applied to specific shoreline areas to guide the use and development of these areas. There are five environments applied to the City's shorelines – Urban, Research District, Shoreline Residential, Natural and Aquatic; these environments have been mapped in the City's Shoreline Master Program (SMP), available on the City of Sequim's website. Goals and policies specific to the City's Shorelines are also included in the SMP and are incorporated into this element by reference.

9.2.4 Energy and Sustainability

Energy and sustainability efforts promote resource conservation, reduced emissions, and environmental resilience. These policies support renewable energy, energy-efficient design, and sustainable development to ensure a healthy, livable community.

GOAL NE-7
Promote sustainability by supporting the use of solar energy, energy conservation, green construction practices, alternatives to single-occupancy vehicle travel, and air quality to enhance environmental and community health.

Policy NE-7.1
Encourage new subdivisions to accommodate use of passive and active solar energy systems with special attention given to street, lot, and building orientation. Accommodate active solar installations on roofs and ground-mounted on site when there is no direct impact to surrounding properties.

Policy NE-7.2
Include the impact on solar access for all properties when considering revisions to building height and bulk regulations within development regulations.

Policy NE-7.3
Encourage energy conservation measures in private development projects to achieve energy-efficient development through a combination of site planning, landscaping, building design, and construction practices.

Policy NE-7.4
Support "green construction" by promoting building practices that incorporate energy efficiency, sustainable and locally sourced materials, low-impact site design, and construction waste reduction.

Policy NE-7.5
Continue to administer the City's storm and surface water regulations to reduce water quantity and quality impacts from runoff.

Policy NE-7.6
Encourage conservation by using alternative energy sources and energy management technologies.

Policy NE-7.7
Protect natural resources that sequester and store carbon such as wetlands, estuaries, stream buffers, and urban tree canopy.

Policy NE-7.8
Reduce vehicle miles traveled and driving alone through land use and transportation strategies that provide opportunities and access to walking, biking, and transit. Support state efforts to electrify the transportation system.

Policy NE-7.9
Improve air quality through continued coordinated land use and transportation planning and management.

Policy NE-7.10
Consider policies and programs for purchasing clean and efficient fuels for city vehicles and equipment.

9.2.5 Urban Forestry

Urban forests are dynamic ecosystems that provide critical benefits to people and wildlife. Urban forests help to filter air and water, control storm water, reduce the impact of high winds, conserve energy, and provide animal habitat and shade. They add beauty, form, and structure to urban design. By reducing noise and providing places to recreate, urban forests strengthen social cohesion, spur community revitalization, and add economic value to communities.

The City of Sequim is a "Tree City" as designated by Tree City USA, a nationwide program of the Arbor Day Foundation. The City's Parks, Arbor, and Recreation Board (PARB), include among its duties, advising the City regarding the Tree City program, and the planting, maintenance, and enhancement of trees, shrubs, and bushes located on public property

including parks and rights-of-way, and to secure the benefits conferred by a prudently managed urban forest.

GOAL NE-8
Recognize that trees provide many important benefits to our natural and built community and the City recognizes and enhances these benefits by encouraging the preservation and management of trees on public and private lands, protecting from unnecessary removal or damage, and promoting the planting of new trees.

Policy NE-8.1
Continue to support and assist the City's Parks, Arbor and Recreation Board in its efforts for the promotion, preservation, and enhancement of Sequim's public tree resources.

Policy NE-8.2
Maintain the city's status as a Tree City USA as designated by the Arbor Day Foundation through the following measures:

- Maintain certification through various programs and activities long term.
- Strive to achieve annual growth awards from the Arbor Day foundation as a part of long-term implementation of the Tree City designation.
- Consider programs and policies which will further recognize the city's efforts in relation to community forestry.

Policy NE-8.3
Existing trees within a proposed development project is an important factor in its site planning, including determination of building, parking, open space and other feature locations. Tree preservation provisions that encourage the early consideration of tree protection during design and planning of development proposals are developed for inclusion in the City's Development Regulations.

Policy NE-8.4
Trees naturally adapted to local conditions should be encouraged and incorporated in all new public project landscaping. City public projects and capital improvement projects should be designed to conserve trees to the maximum extent possible.

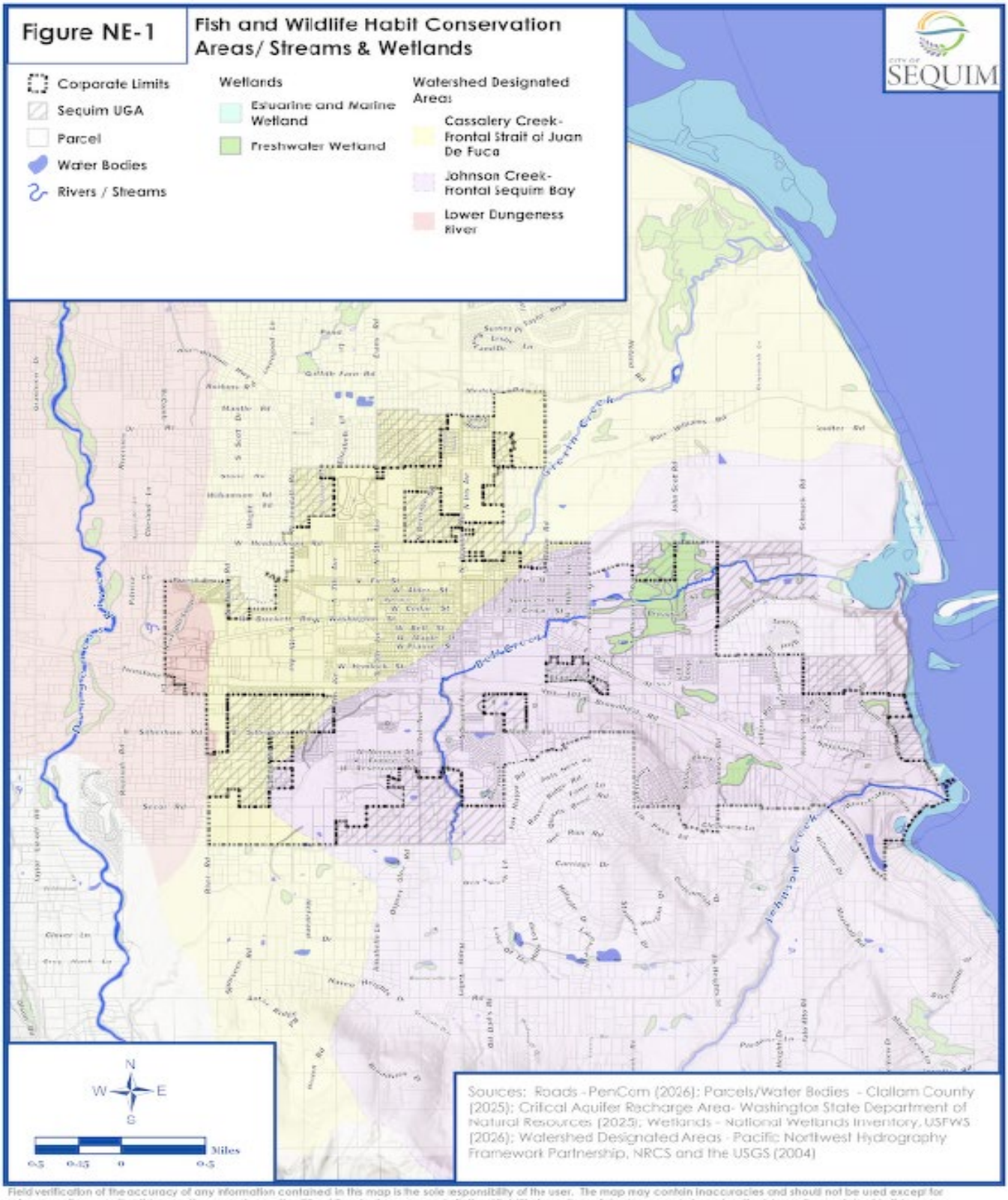
Policy NE-8.5
When funding is available, complete an assessment of the urban tree canopy to evaluate the extent, health, and diversity of trees across the city.

Policy NE-8.6
Conserve Garry Oaks, cactus, and other plants designated and identified as being significant and indigenous to Sequim's distinctive climate.

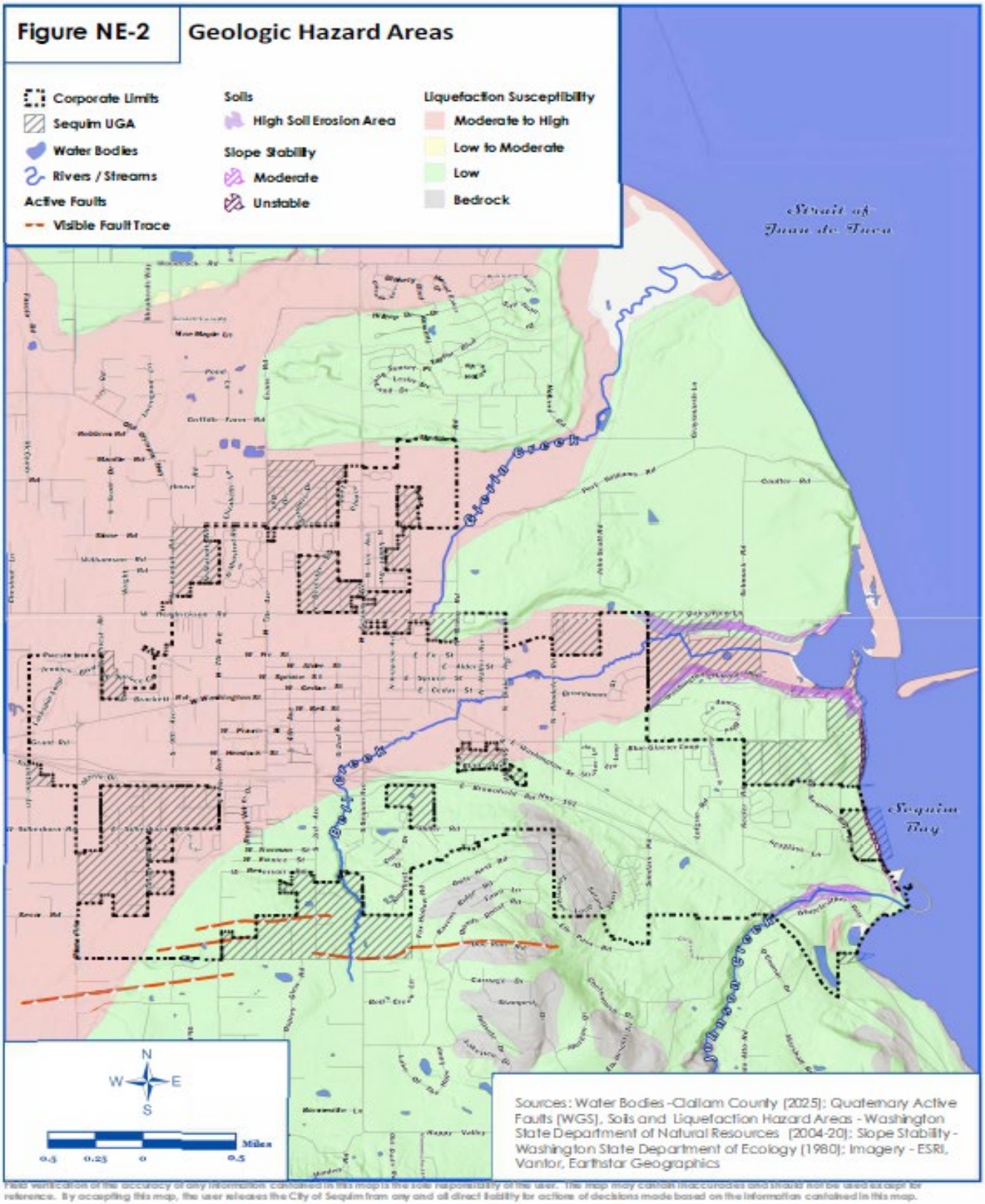
Policy NE-8.7
Enhance the City's urban tree canopy to support community resilience, mitigate urban heat and stormwater runoff. This can be accomplished through a program of tree planting in public areas, including street trees, public parks, public open spaces, and public facilities. Consider programs that create incentives for residents and businesses to plant trees on their private property, in addition to any required applicable landscaping standards.

Policy NE-8.8
In coordination with regional fire districts and Washington Department of Natural Resources, encourage the implementation of Firewise concepts in forest and urban interface/intermix areas as appropriate.

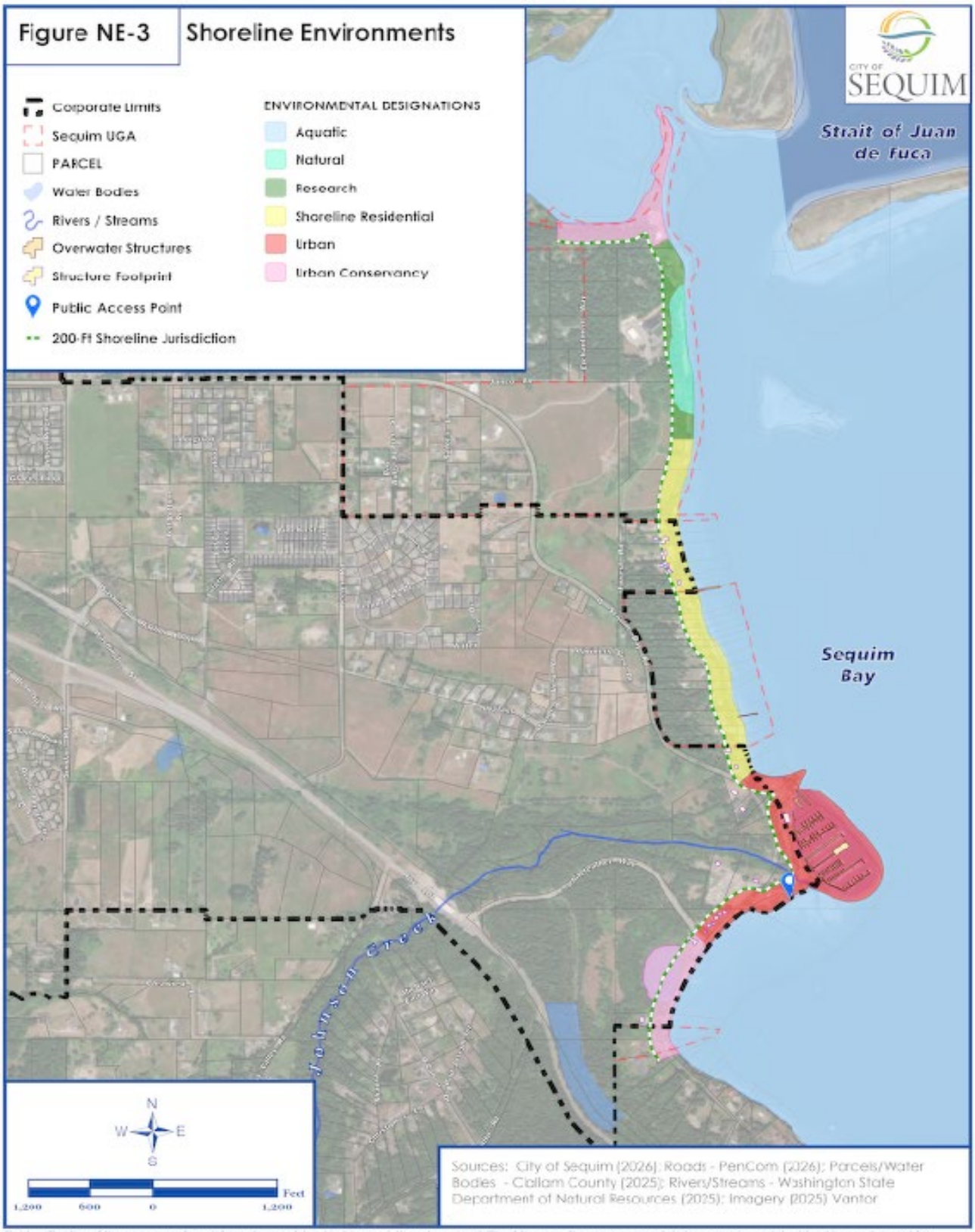
Policy NE-8.9
Provide educational material and resources for new and existing property owners to use in lowering their risk for wildland fires, including fire-resistant construction techniques, construction and maintenance of defensible spaces, fire-resistant landscapes, fuel reduction, and land use practices.



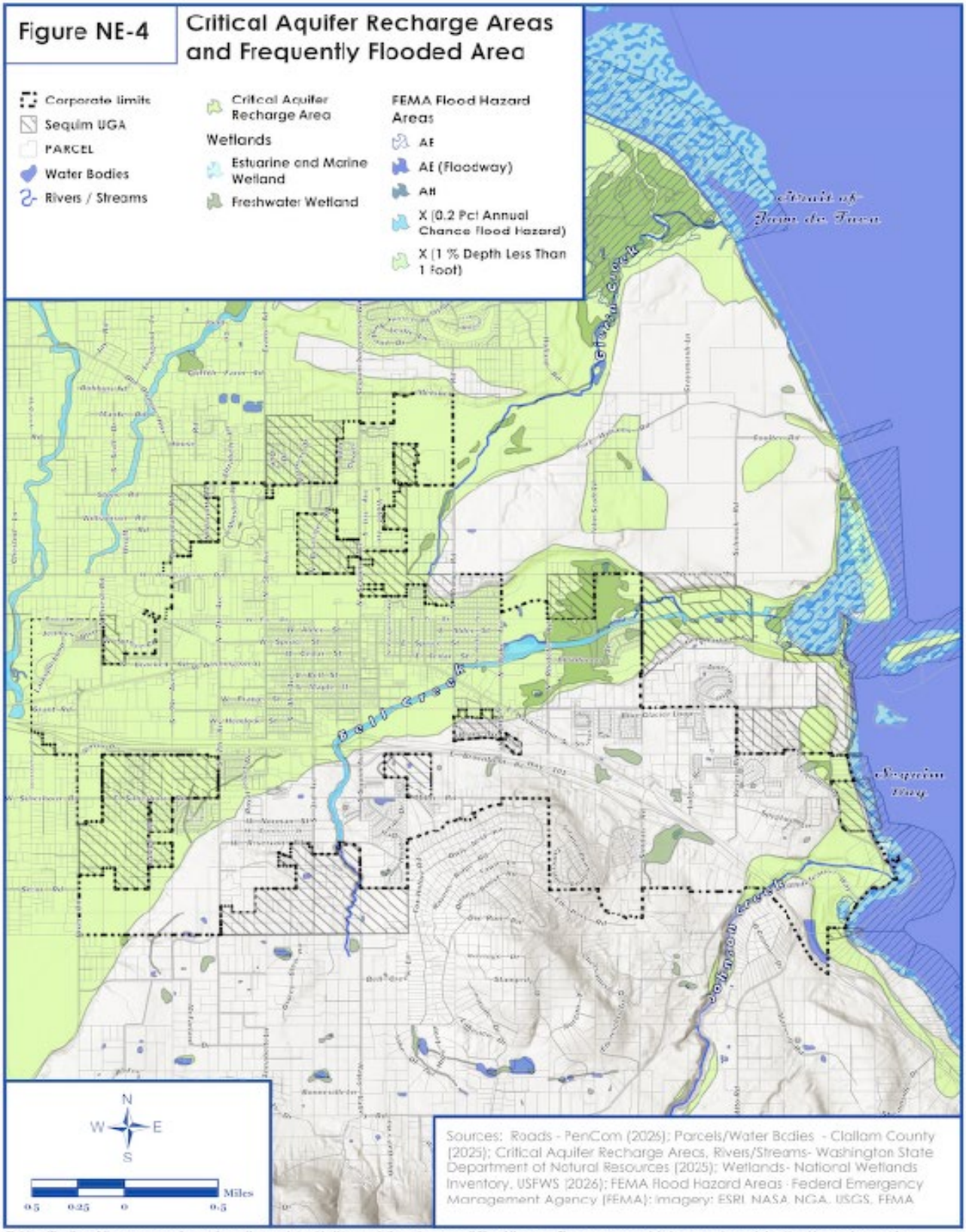
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