CHAPTER 4 Shorelines and Natural Environment

As part of the City of Monroe SEPA programmatic SEIS evaluation of probable impacts relating to the 2024 Comprehensive Plan Update, this chapter describes shorelines and the natural environment within the study area and assesses potential impacts associated with the Proposed Action and No Action Alternative. Topics addressed include earth (soils and geologic hazard areas), water resources (wetlands, streams, rivers, lakes, floodplains, and critical aquifer recharges areas), Monroe's Shoreline Master Program (SMP), plants, and animals.

4.1 Affected Environment

Monroe's natural environment, including features such as wetlands, streams, lakes, and shoreline areas, plays an important role in the development of the City by influencing community character and quality of life. These areas also support plant and animal species and provide refuge for wildlife in the largely developed environment. Ongoing development within and outside of the Urban Growth Area (UGA) boundaries has contributed to habitat degradation. The adverse effects of development include an elevated risk of introducing and allowing invasive species to establish and impact native vegetation. Increases in impervious surfaces have impaired stream habitat and functions. This section presents existing shoreline and natural environment conditions in the study area, which is defined as the incorporated City of Monroe.

4.1.1 Methodology

Information about current conditions was collected using existing, publicly available sources such as geographic information system (GIS) data, aerial imagery, City of Monroe documents and websites, and other existing resources including the U.S. Fish and Wildlife Service's (USFWS) Information for Planning and Consultation, Washington Department of Fish and Wildlife's (WDFW) Priority Habitats and Species (PHS) database, and Washington Natural Heritage Program (WNHP) online maps. No formal delineation of jurisdictional wetlands and waters of the U.S. or State of Washington, or priority habitats, or other critical areas was conducted as part of this SEIS analysis.

4.1.2 Regulatory Setting

The following regulations, plans, and policies apply to shorelines and the natural environment:

FEDERAL REGULATIONS AND LAWS

- **Endangered Species Act (ESA):** Regulates and protects species listed at the federal level. This includes a requirement to provide a Federal Emergency Management Agency (FEMA) Habitat Assessment for any work within a floodplain that has the potential to affect listed species. FEMA requires this to demonstrate conformance with the 2008 Federal Biological Opinion on the National Flood Insurance Program (NFIP) concerning impacts on species listed under the ESA (NMFS 2008).

  Chinook salmon (*Oncorhynchus tshawytscha*) and bull trout (*Salvelinus confluentus*), which are federally listed as "threatened" and a candidate for state listing, respectively, are known to occur in the Skykomish River. Based on a review of the USFWS' Information for Planning and Consultation (IPaC) website, other federally listed species that may occur in the City include North American wolverine (*Gulo gulo luscus*), marbled murrelet (*Brachyramphus marmoratus*), and yellow-billed cuckoo (*Coccyzus americanus*). However, due to the extensive development in the City, it is unlikely that habitat that supports these species is present within City limits.

- **Migratory Bird Treaty Act:** Prohibits the take (includes the killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by USFWS.

- **Bald and Golden Eagle Protection Act:** Prohibits the take of any bald eagle or golden eagle without prior authorization by USFWS.

STATE REGULATIONS AND LAWS

- **Hydraulic Project Approval (HPA):** The state requires an HPA for construction or other work activities in or near state waters that will impact the natural flow or bed of waters of the state. HPAs are intended to ensure that construction is done in a manner that protects fish and their aquatic habitats. Waters of the state include lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and watercourses within the jurisdiction of Washington.
- **Watershed Restoration and Enhancement Plan – WRIA 7:** The Water Resource Inventory Area (WRIA) 7 Watershed Restoration and Enhancement Plan (Ecology 2022) identifies projects and actions necessary to offset potential impacts to instream flows and result in a net ecological benefit to instream resources within the Snohomish watershed.

LOCAL REGULATIONS

- **Project-level SEPA Review:** Chapter 22.78 Monroe Municipal Code (MMC) establishes the process for project-level environmental review, including required compliance with applicable mitigating measures to address identified impacts.
- **City of Monroe Shoreline Master Program (SMP):** The primary purpose of the Washington Shoreline Management Act is to manage and protect the state's shoreline resources by planning for their reasonable and appropriate use. The intent of the Monroe SMP is to carry out the responsibilities assigned to the City by the Shoreline Management Act and to promote the public health, safety, and general welfare of the community by providing regulations for the future development of shoreline resources.
- **City of Monroe Development Standards for Wetlands:** MMC 22.80.090 identifies development standards for construction in wetlands and associated buffers.
- **City of Monroe Fish and Wildlife Habitat Development Standards:** MMC 22.80.110 identifies development standards for construction in Fish and Wildlife Habitat Conservation Areas (FWHCAs) and corridors, and associated buffers.
- **City of Monroe Floodplain Development Standards:** Chapter 14.01 MMC identifies development standards for floodplains with the purpose of promoting public health, safety, and general welfare, and to minimize public and private losses.
- **City of Monroe Geohazardous Areas Standards:** MMC 22.80.130 identifies development standards for areas susceptible to erosion, sliding, earthquake, or other geological events.
- **City of Monroe Landscaping Standards:** Chapter 22.46 MMC identifies landscape standards to preserve the aesthetic

character of the community, improve the aesthetic quality of the built environment, promote retention and protection of existing vegetation, and reduce the impacts of development on storm drainage systems and natural habitats.

- **City of Monroe Stormwater Management:** MMC 23.40.010 adopted stormwater regulations identified in the 2019 Washington Department of Ecology Stormwater Management Manual for Western Washington (Ecology 2019).
- **City of Monroe Critical Areas Ordinance (CAO)** and associated regulations are being updated in 2024 and will require the use of best available science (BAS).
- **Snohomish County 2020 Hazard Mitigation Plan, Volumes 1 and 2:** Snohomish County and planning partners maintain a Hazard Mitigation Plan (HMP). Last updated in 2020, the HMP identifies resources, information, and strategies for reducing risk from natural hazards. The plan guides and coordinates mitigation activities throughout Snohomish County.

4.1.3 Earth

SOILS

Most of the City is underlain by alluvium soils, primarily Sultan silt loam and Puget silty clay loam (NRCS 2023). Alluvial soils are deposited by surface water during flood events and can remove sediments and nutrients. They also absorb water at a rapid rate and provide most of the recharge to Monroe's aquifer system. Soils along the Skykomish River are commonly Pilchuck loamy sand and Puyallup fine sandy loam, also considered to be alluvial soils, and commonly found on floodplains.

Soils sloping up to the plateau are primarily McKenna gravelly silty loam, which has a parent material of basal till, which are sediment deposits laid down by glacial activity. These soils are poorly drained and commonly found in depressions and drainageways.

Soils in the southwest extent of the City are primarily Tokul gravelly medial loam. This soil type has a parent material of volcanic ash mixed with loess over glacial till. These soils are moderately well drained and frequently found on hillslopes and till plains.

GEOLOGICAL HAZARDOUS AREAS

Geologically hazardous areas include areas susceptible to erosion, sliding, earthquake, or other geological events. Such areas can pose a threat to the health and safety of community members, and development can exacerbate risks when not properly regulated. Geologically hazardous areas regulated by the City include erosion

hazard areas, landslide hazard areas, seismic hazard areas, and other areas subject to geological events including tsunami, mass wasting, debris flows, rock falls, and differential settlement.

Topographic analysis indicates that approximately 222 acres of land in the City are constrained by slopes of 15 to 40 percent gradient, and 56 acres of land are in slopes of 40 percent gradient or greater (City of Monroe 2015a). All areas with slopes steeper than 40 percent are considered landslide hazard areas. Areas with slopes steeper than 15 percent that have groundwater seepage and relatively permeable sediment overlying a relatively impermeable sediment or bedrock, are considered landslide hazard areas.

Geological hazard areas in Monroe are primarily located to the north of US 2 (**Figure 4-1**). Steep slopes occur along Woods Creek Road, south of Old Owen Road, and within the forested areas near the Lakeside Industry's Asphalt Plant, currently zoned for transportation, and adjacent to the Walmart development. South of US 2, steep slopes are primarily along the Woods Creek corridor, along the SR 522 corridor, along the western pond at the Cadman Sky River Pit, and along a forested hill in the Monroe Correctional Center property.

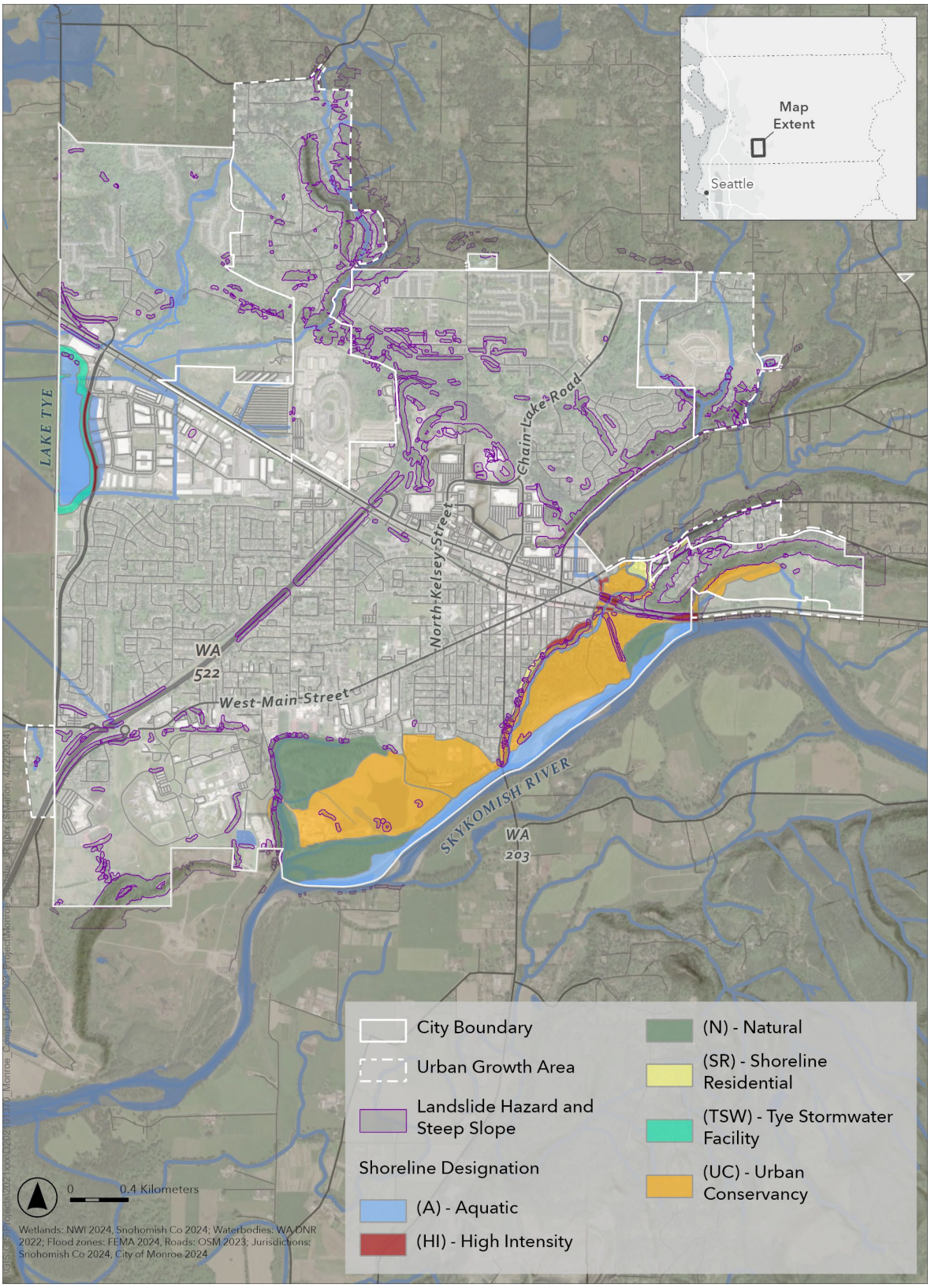
4.1.4 Water Resources

Monroe is located within Water Resource Inventory Area (WRIA) 7, the Snohomish River basin. Water resources within the City include wetlands, rivers and streams, lakes, floodplains, and shorelines and are located across the three watersheds within the City: the French Creek Watershed, the Woods Creek Watershed, and the Skykomish River Watershed.

WETLANDS

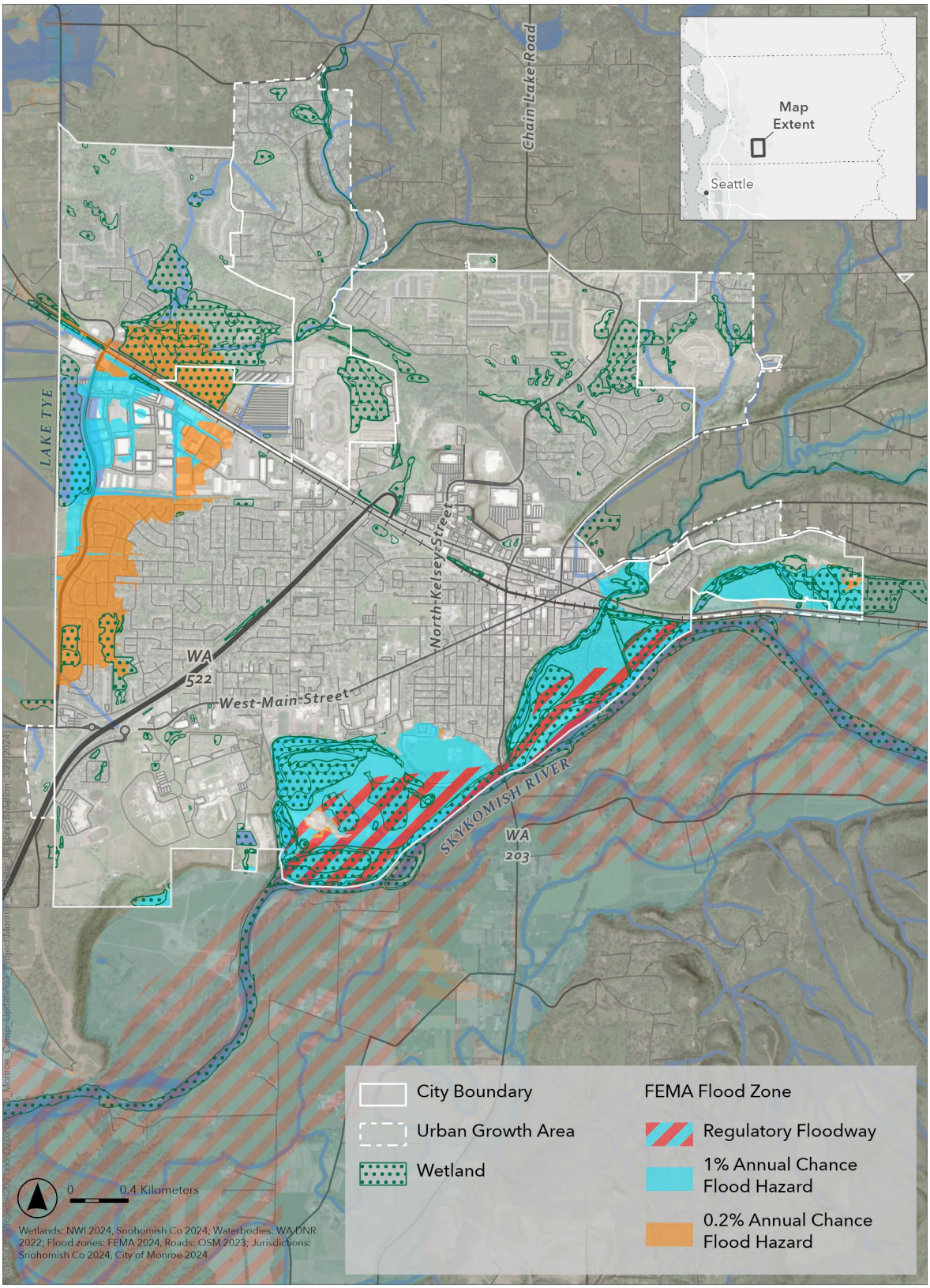
Wetlands are areas where the presence of water determines or influences most, if not all, of an area's biological, physical, and chemical characteristics (Sheldon et al. 2005). Many wetlands are transitional zones between upland and aquatic ecosystems, although others are scattered across the landscape in upland depressions that collect water or in zones where groundwater comes to the surface. Wetlands filter our water, protect our coastal communities from floods, and provide habitat for fish and other wildlife.

Although wetlands are present throughout the incorporated area (**Figure 4-2**), the central commercial and residential areas of the City south of US 2 are not known to have large wetland systems (City of Monroe 2015b). Important forested wetlands occur along the Skykomish River and within the southern boundary of the City



SOURCE: Prepared by Environmental Science Associates based on data provided by the City of Monroe

FIGURE 4-1 **Shoreline Designations and Geological Hazard Areas**



SOURCE: Prepared by Environmental Science Associates based on data provided by the City of Monroe

FIGURE 4-2 **Wetlands and Flood Hazard Areas**

adjacent to Al Borlin Park, Woods Creek, and along the Skykomish River Park. There are also several large ponds within the Cadman Sky River Pit, likely created by gravel extraction. A large wetland associated with Cripple Creek exists west of the Evergreen State Fairgrounds. Undeveloped upland forest within the northern extent of the City connects the Cripple Creek wetland to another wetland mapped east of the Evergreen Speedway and associated with Arena Creek. Notable emergent and forested wetlands exist near Park Meadows Park, near the western boundary of the City (USFWS 2023).

STREAMS, RIVERS, AND LAKES

Three watersheds comprise the City of Monroe:

- **French Creek Watershed** – The majority of the City lies within the French Creek Watershed. French Creek originates in the Cascade foothills to the northeast and is a major tributary to the Snohomish River. French Creek does not flow within the City limits; however, Cripple Creek and several other tributaries to French Creek (e.g., Homestead Creek, Creation Creek, Arena Creek, Backhoe Creek) flow into the City from the north and northeast.
- **Woods Creek Watershed** – Woods Creek originates in the Cascade foothills near Lake Roesiger to the northeast and is the largest lowland tributary of the Skykomish River (Snohomish County 2013). Woods Creek enters the City limits south of Old Owen Road and joins the Skykomish River at Al Borlin Park in the eastern extent of the City. Two additional tributaries to Woods Creek, Cutthroat Creek, and Brown Road Creek, are also within the City's UGA.
- **Skykomish River Watershed** – The Skykomish River Watershed is located along the Skykomish River in the southern extent of the City. Although only a small portion of the City limits are within this watershed, it is the largest of the three watersheds and also contains the Town of Sultan and the City of Gold Bar to the east of Monroe. No other streams occur within the portion of the Skykomish River Watershed within City limits.

Lake Tye is a 42-acre man-made stormwater facility that also provides recreation such as swimming and boating. Two additional lakes are located at the Cadman Sky River Pit, and are also man-made, created during the operation of the quarry.

FLOODPLAINS

Flood hazard areas are defined as land in the floodplain subject to a 1 percent or greater chance of flooding in any given year (commonly known as the 100-year flood). Flood hazard areas are an important element of the natural environment because of the

risk they pose to humans, and the natural and built environments. Additionally, historic losses of salmon habitat have occurred as a result of development encroaching into floodplains. In addition to minimizing adverse effects to human health, safety, and infrastructure, floodplains are ideal locations for salmon habitat restoration. Flood hazard areas are identified by FEMA on their Flood Insurance Rate Maps.

In Monroe, the following areas are identified as flood hazard areas (**Figure 4-2**):

- Areas immediately adjacent to the Skykomish River
- Woods Creek
- Lake Tye

In general, floodplains in the City are undeveloped and include open spaces and agricultural fields. Buck Island Park, the Cadman Sky River Pit, and Skykomish River Centennial Park are all located within the Skykomish River floodplain (City of Monroe 2015c).

The City has recently updated Chapter 14.01 MMC, as required by FEMA's Community Rating System (CRS) to receive a 25 percent discount on flood insurance premiums. The CRS is a voluntary incentive program that recognizes and encourages community floodplain management practices that exceed the minimum requirements of the NFIP.

CRITICAL AQUIFER RECHARGE AREAS

Critical Aquifer Recharge Areas (CARAs) are geographic areas that have a "critical recharging effect on aquifers used for potable water" (RCW 36.70A.030[11]). They are areas that have been identified as sole sources aquifers, areas that have a high susceptibility to groundwater contamination, or areas that have been approved by the state as wellhead protection areas for municipal or district drinking systems. No known CARAs exist within the City. Therefore, they are not further addressed in this analysis.

SHORELINE MANAGEMENT ACT

In accordance with Washington's Shoreline Management Act (SMA), regulated shorelines of the state in the City include:

- Portions of the Skykomish River and Woods Creek within the City's municipal boundary.
- The upland area landward 200 feet of the ordinary high-water mark (OHWM) of the Skykomish River and Woods Creek.

- Tye Stormwater Facility and shorelands 200 feet from its OHWM.
- All associate wetlands.

The Skykomish River is further designated as a "shoreline of statewide significance" (**Figure 4-1**). This designation is applied to recognize this shoreline as a major resource from which all people in the state derive benefit.

The City most recently updated its SMP in June 2019 in accordance with the Shoreline Management Act (Chapter 90.58 RCW), Growth Management Act (GMA), and Ecology's requirements. The City's shoreline management regulations can be found in Chapter 22.82 MMC, *Shoreline Management*. Ecology conditionally approved the 2019 SMP Update in October 2020. However, following their initial determination, Ecology required that additional changes to the SMP be included to ensure consistency with the SMA and SMP Guidelines. In December 2023, the Planning Commission presented the proposed additional amendments, which included shoreline jurisdiction clarifications, critical areas regulations references, updates to water typing, adding a "Fish Habitat" definition, and correcting a mapping error. The City completed their SMP approval process, and Ecology issued its final letter of approval of Monroe's SMP amendments on March 1, 2024.

The City's SMP contains a system to classify shoreline areas into specific shoreline environment designations (SEDs), as required by the SMA. The City's classification system is based on the existing use pattern, the biological and physical character of the shoreline, and the goals and aspirations of the community as expressed through the Comprehensive Plan. The City has adopted six environment designations for its shoreline areas, as summarized in **Table 4-1**. It is important to note that under the City's current (2015) Comprehensive Plan, the Cadman Sky River Pit had a shoreline environment designation (SED) of Urban Conservancy Mining. However, the 2019 SMP has revised the SED of the site to Urban Conservancy.

TABLE 4-1 **Summary of Shoreline Environment Designations in Monroe**

SED	Summary	Example Shoreline
Natural	Applied to ecologically intact shorelands providing important and irreplaceable functions (e.g., undisturbed wetlands, estuaries,) where new development or uses could likely result in significant adverse impacts.	• Along Al Borlin Park, between the main channel of the Skykomish River and the side channel as it meanders over time. • Wetlands and forested upland habitat to the north, west, and south of the Cadman Sky River Pit.
Aquatic	Applied to aquatic areas and established to protect, manage, and (where feasible) restore these aquatic areas.	• Skykomish River. • Woods Creek. • Lake Tye.
High-Intensity	Applied to shorelands that are currently used for or planned for industrial, commercial or other high-intensity, nonresidential uses; established to provide for these higher scale and intensity uses where they are suitable.	• Commercial development on the south side of Old Owen Road, west of Woods Creek. • Rights-of-way of active transportation corridors and the active BNSF railroad lines. • Ongoing industrial use area east of 177th Street SE (Cadman Sky River Pit).
Urban Conservancy	Applied to shorelands appropriate and planned for development that are compatible with maintaining or restoring the ecological functions of the area.	• Most land along Woods Creek. • Skykomish River Centennial Park. • Open space at Cadman Sky River Pit.
Shoreline Residential	Applied to shoreline areas that are predominantly detached or attached residential development or are planned and platted for residential development.	• Three residential parcels along the top of the bluff west of Woods Creek. • Two residential parcels between Old Owen Road and Calhoun Road. • Three existing residential parcels east of Woods Creek and south of Old Owen Road.
Tye Stormwater Facility	Established to encourage and enhance recreational uses, public access, and appropriate development while accomplishing the waterbody's primary function: storing and treating stormwater runoff from nearby lands.	• Shoreline areas adjacent to Lake Tye.

SOURCE: City of Monroe 2019

4.1.5 Plants and Animals

PLANTS

The City of Monroe is in the Puget Trough ecoregion, which extends from the western extents of the county, east, to approximately 1,000 feet in elevation in the Cascade foothills. Historically, coniferous forests dominated the vegetation in this ecoregion, along with a mix of riparian habitats, oak woodlands, and prairies. The vegetation in most of the ecoregion has now been altered by managed forests, agricultural lands, and the development of cities, suburbs, and industrial lands (LandScope America 2023). Native forests are primarily Douglas-fir, western redcedar, and western hemlock. Riparian habitats are dominated by red alder and bigleaf maple. In more recently developed areas, the plant palette typically includes younger and more diverse urban (non-native) tree species and common native volunteer species, including red alder and black cottonwood.

Current WNHP maps do not identify the presence of any rare plants within the boundaries of Monroe (WNHP 2024).

ANIMALS

Throughout Monroe, the developed habitat sustains a diverse range of animal species, both native and non-native, that have successfully adapted to urban environments and human disturbances. Among the common species are raccoons, coyotes, eastern gray squirrels (non-native), European starlings (non-native), and various bat species. Noteworthy is the presence of a communal roost and nesting site for Vaux's swifts, a priority species designated by WDFW, within a chimney at Monroe Elementary School, just south of W Main Street (WDFW 2023).

Monroe lies within the Pacific Flyway, which covers the majority of Western Washington, and can attract substantial numbers of wintering raptors that utilize its agricultural lands as hunting grounds. Additionally, WDFW has identified Lake Tye as a regular wintering site for waterfowl such as northern shovelers, wood ducks, common mergansers, and green-winged teals. A substantial wetland complex north of US 2, and associated with Cripple Creek, also provides important habitat for waterfowl and other migratory bird species. The Skykomish River, along with its adjacent riparian areas, wetlands, and waterbodies, serve as breeding grounds for bald eagles and potentially offer habitat for the federally proposed threatened species, western pond turtles. The remaining forested

areas in Monroe, including Al Borlin Park, generally support species like black-tailed deer, black bear, and red fox.

FISH SPECIES

Monroe's waterways support populations of several fish species, including species listed as threatened or endangered by the state or federal government. Streams with documented presence of anadromous fish species occur within the City and are designated FWHCAs, with the largest being the Skykomish River. **Table 4-2** lists the documented fish species within the portion of the Skykomish River within the City limits (NWIFC 2023).

TABLE 4-2 **Priority Fish Species within the Skykomish River in Monroe**

Species Common Name (*Scientific Name*)	Fish Use
Chinook Salmon[T] (*Oncorhynchus tshawytscha*)	Occurrence and Migration
Pink Salmon (*Oncorhynchus gorbuscha*)	Occurrence and Migration
Steelhead[T] (*Oncorhynchus mykiss*)	Occurrence, Migration, and Breeding Area
Chum Salmon (*Oncorhynchus keta*)	Occurrence, Breeding Area
Coho Salmon (*Oncorhynchus kisutch*)	Occurrence, Rearing, and Migration
Bull Trout[TC] (*Salvelinus confluentus*)	Occurrence, Breeding Area
Pink Salmon (*Oncorhynchus gorbuscha*)	Occurrence, Breeding Area
Cutthroat Trout (*Oncorhynchus clarkii*)	Occurrence and Migration

SOURCE: NWIFC 2023
NOTES: T = Federally listed as Threatened; C = Candidate for State Listing

Woods Creek provides migratory areas and spawning grounds for coho, Chinook, chum, and pink salmon, and steelhead, coastal cutthroat, bull, and Dolly Varden trout species. No anadromous species are documented as occurring within any of the streams in the French Creek Watershed.

4.2 Potential Impacts

This section describes the potential impacts of the City of Monroe's future growth and development on shorelines and the natural environment, including earth, water resources, plants, and animals.

4.2.1 Impact Assessment Methodology and Thresholds of Significance

Impacts on shorelines and natural resources were assessed qualitatively, based on the descriptions of the Proposed Action and No Action Alternative and on the affected environment. The type, magnitude, and likelihood of impacts were evaluated in relation to the presence of shorelines and natural environments, including critical areas and wildlife habitat.

Thresholds of significance include:

- **Earth:** The alternative would result in a greatly elevated chance of a geologic hazard that would affect infrastructure and life safety such that substantial changes in the way these hazards are currently mitigated would be required.
- **Water Resources:** The alternative would (1) result in substantial loss of habitat or (2) prevent efforts to enhance water quality through policies, programs, or funding.
- **Floodplains:** The alternative would result in a greatly elevated chance of risk to humans and the natural and built environment that a substantial change in the way flood hazards are currently mitigated would be required.
- **Shorelines:** The alternative would not meet the goals and policies of the City's SMP.
- **Plants and Animals:** The alternative would result in: (1) loss of habitat; (2) fragmentation of wildlife habitat; (3) a high likelihood of jeopardizing a plant or animal population that is not currently vulnerable or; (4) a large-scale take (mortality, injury, or deleterious behavioral changes on more than a few individual organisms) of fish or wildlife species listed under the federal ESA or species classified as Threatened or Endangered by WDFW.

Desired equity outcomes based on the equity and health metrics are woven into the impact analysis, including (1) ensuring that mitigation measures are in place to encourage retention of the existing natural environment (such as tree canopy and earth resources) as new development occurs and (2) prioritizing conservation of public and open spaces that mitigate the impacts of climate change.

4.2.2 Impacts Common to Both Alternative

Under both SEIS alternatives, Monroe would experience additional development within the City and its UGA. Both alternatives involve some degree of population growth and associated new and infill development and redevelopment throughout Monroe. The natural environment in the City has been adversely affected by urbanization in the past, and areas planned for growth in both alternatives are already highly developed. Many of these areas are currently developed with high-intensity residential or commercial land uses. The increased impacts of additional development on natural resources, including earth, water resources, plants and animals, and shorelines, are expected to be similar for the No Action Alternative and the Proposed Action; and therefore, are discussed together below.

EARTH

Increased growth, wherever it occurs, has the potential to cause or suffer the effects of geologic hazards. Geologically hazardous areas are those susceptible to erosion, sliding, earthquake, and/or other geologic events. Impacts would vary depending on the severity of the geologic hazard and the proximity of the hazard. The areas planned for growth in both alternatives are already highly developed. Many of these areas are currently in high-intensity residential or commercial land uses. Under both alternatives, an overall increase in population and job growth in the City will increase the time people spend in geologically hazardous areas and therefore may increase the risk. However, development or redevelopment of existing structures could result in a net benefit by bringing the older developments up to code.

New development, redevelopment, and jobs associated with the alternatives would not result in a greatly elevated chance of adverse effects from geologic hazards that would require substantial changes in the way these hazards are currently mitigated; therefore, impacts on earth resources, with compliance with the City's CAO and development regulations, would be **less-than-significant**. Under both alternatives, all development proposals in areas susceptible to erosion, sliding, earthquake, or other geological events are subject to City regulations in MMC 22.80.130, *Geologically Hazardous Areas*, and evaluated at the project-level according to the City's current CAO.

WATER RESOURCES

Growth and development under both alternatives would result in an increase in impervious surface, which can impact water resources through an increase in flooding and/or a decrease in water quality. Construction activities associated with increased development may also have a temporary effect on these resources through increased sediment transport to downstream water resources, increased soil erosion, and an increased potential for hazardous material spills.

Wetlands

Wetlands will be protected by local, state, and federal regulations and stormwater standards under both alternatives. However, population increase is expected to add pressure to wetland areas. Water quality functions will be stressed, with more input of pollutants from vehicles, fertilizers, and pet waste. Hydrologic functions will be impacted as additional impervious surface increases stormwater runoff into wetlands. Habitat function will be impacted as development encroaches. In general, impacts are likely limited to buffer areas, but direct impacts may be occasionally involved.

Under both alternatives, the potential for development to impact wetlands would be greater north of US 2, where most of the wetlands in the City are located. Additionally, the No Action Alternative may result in the development of detached homes near mapped wetland areas that are currently undeveloped, primarily near Roosevelt Road. However, under both alternatives, all development proposals that may impact wetlands and/or their buffers are subject to regulations under MMC 22.80.090, *Wetland Development Standards*, and would be evaluated at the project-level. Growth in Monroe is expected to result in permitted wetland and buffer impacts with mitigation. Therefore, new development, redevelopment, and jobs associated with both alternatives, in compliance with the CAO, would be **less-than-significant** and not result in a substantial loss of wetland habitat or prevent efforts to enhance water quality.

Streams, Rivers, and Lakes

Under both alternatives, streams, rivers, and lakes will be protected by local, state, and federal regulations and stormwater standards. However, population increase is expected to add pressure to waters throughout the City. Both alternatives would increase human activity with some land conversion in an already-urbanized watershed. Urbanized watersheds are prone to more frequent and bigger floods as stormwater traveling over impervious surfaces is

delivered rapidly to receiving waters. This results in increased "flashiness" of stream systems and a reduction in summer base flows. Rapid runoff may also increase flooding in Lake Tye. Rapid runoff can also erode and incise stream channels, which disconnects them from their floodplains. With an increase in impervious area, concentrations of pollutants in streams and lakes can degrade water quality. Common urban pollutants include pesticides, bacteria, nutrients such as phosphorus and nitrogen, heavy metals, and other contaminants that can impact fish and aquatic habitat.

Under both alternatives, the potential for development to impact streams would be greater north of US 2, where most of the streams in the City are located outside established parks or City- and state-owned lands. Under both alternatives, all development proposals that may impact streams, rivers, or lakes will be subject to regulations under MMC 22.80.100, *Stream Development Standards*, and/or MMC 22.80.110, *Fish and Wildlife Habitat Conservation Areas Standards*, and evaluated at the project level. Growth in Monroe is expected to result in permitted stream and buffer impacts with mitigation. Therefore, new development, redevelopment, and jobs associated with both alternatives, in compliance with the CAO, would be **less-than-significant** and not result in a substantial loss of stream, river, or lake habitat or prevent efforts to enhance water quality.

Floodplains

Possible impacts from the development of floodplains would be the greatest along the Skykomish River, Woods Creek, and adjacent to Lake Tye. Neither of the alternatives proposes intensive development along the Skykomish River or Woods Creek. Both alternatives proposed some level of development, and an increase in employment, in the areas within the floodplain zoned as Industrial adjacent to Lake Tye. However, this area is already largely developed and impacts are expected to be minimal. Under both alternatives, any additional proposed development within the floodplains would be subject to regulations under Chapter 14.01 MMC, *Flood Hazard Area Regulations*, which identifies development standards for floodplains to promote public health, safety, and general welfare, and to minimize public and private losses. Therefore, new development, redevelopment, and jobs associated with the alternatives, in compliance with the CAO, would not result in a greatly elevated chance of risk to humans and the natural and built environment where a substantial change in the way flood hazards are currently mitigated would be required. The impacts on floodplains would be **less-than-significant**.

Shorelines

Substantial changes in allowed uses per the City's existing SMP are not proposed under either alternative. Additionally, no substantial development is proposed within City shorelines under either alternative. Both alternatives would continue to provide public access to Monroe's shorelines from Al Borlin Park, Skykomish River Centennial Park, the Washington Department of Natural Resources (DNR) boat launch, Lewis Street Park, Lake Tye Park, and the Cadman Sky River Pit. Comprehensive Plan policies are proposed to improve access to shorelines and open spaces, building upon Monroe's relationship with natural features and the Skykomish River. Any increase in access to the City's shorelines would likely increase impacts on these areas; however, any access improvements would be required to be consistent with shoreline regulations. Additionally, neither alternative proposes substantial development within the shoreline jurisdiction. Therefore, new development, redevelopment, and jobs associated with the alternatives, in compliance with the City's SMP, would meet the goals and the policies of the City's SMP and therefore, impacts would be **less-than-significant**.

PLANTS AND ANIMALS

Plants

Potential impacts under both alternatives include the loss and reduced function of plant communities as a result of population growth and conversion of vegetated lands to non-vegetated lands and impervious surface. Loss of vegetated land would reduce habitat for wildlife, which is already limited. Plant species diversity would decline as areas dominated by native species are converted to residential areas composed of lawns and non-native landscaping. Infestations by invasive and/or non-native species, (e.g., Scotch broom, Himalayan blackberry, bull thistle) can also occur when natural habitats are disturbed or converted to developed lands. Loss of tree canopy would also decrease forest patch size and result in a loss of stored carbon. However, under both alternatives, most of the proposed development would occur primarily within the already built environment, and the likelihood of either alternative jeopardizing a plant population or species is minimal. Therefore, the impacts on plants under both alternatives from new development, redevelopment, or job growth would be **less-than-significant**.

Animals

Under both alternatives, wildlife habitat could be lost, simplified, or degraded as a result of population growth and development. A reduction in habitat could result in decreased species abundance, and wildlife habitats would become more fragmented, making it more difficult for species to travel between or access areas needed for breeding, rearing, feeding, and refuge. The reduced habitat values for some wildlife species would result in an increase in populations of those species adapted to more urban habitats (e.g., raccoon, coyote, Norway rat). Under both alternatives, most of the proposed development, especially dense development, would occur in already highly developed areas. Population growth in these developed areas would still result in an increase in light and noise, which are both disturbances to animals, and negative human and wildlife interactions, such as vehicle collisions. However, the likelihood of either alternative jeopardizing an animal species or resulting in a large-scale take of an ESA-listed species is minimal. Therefore, the impacts on animals under both alternatives from new development, redevelopment, or job growth would be **less-than-significant**.

Fish Species

Increased development throughout the City will result in more impervious surface. Impervious surface means more stormwater runoff, generally resulting in flashier streams that cause erosion and damage fish habitat. An increase in population throughout the City would also likely create more traffic and pollution, which can also degrade fish habitat and affect their life cycles.

Development under either alternative will be subject to various state, federal, and local laws designed to minimize impacts on plants and animals, including on sensitive terrestrial and aquatic fish and wildlife species and habitats. The likelihood of either alternative jeopardizing a fish species, primarily an ESA-listed fish species, is minimal. Therefore, the impacts on fish species under either alternative from new development, redevelopment, or job growth would be **less-than-significant**.

4.2.3 Impacts of the No Action Alternative

This section describes the impacts of the No Action Alternative.

The No Action Alternative would continue the current plan for growth in the City and UGA, including (1) the adopted zoning and planning designations in the 2015–2035 Comprehensive Plan and

Future Land Use Map and (2) the use of existing tools already in use by the City to meet housing-related state mandates. Impacts on shorelines and the natural environment would be similar to impacts under Impacts Common to Both Alternatives, although development intensity would be less in certain areas, reducing the potential for and intensity of impacts. Natural resources and critical areas will be protected by local, state, and federal regulations.

Growth areas are already highly developed, and the City's critical areas regulations would reduce impacts from geologic hazards and to public health and safety, resulting in **less-than-significant** impacts on earth resources.

Growth is expected to result in permitted wetland, stream, and buffer impacts with mitigation resulting from development. With CAO compliance, **less-than-significant** impacts to wetlands and streams would occur.

Development and new jobs are proposed in already largely-developed industrial zones in the floodplain adjacent to Lake Tye. Future development in the floodplain would comply with Chapter 14.01 MMC, *Flood Hazard Area Regulations*, and would not result in a greatly elevated chance of risk to humans and the natural and built environment where a substantial change in the way flood hazards are currently mitigated would be required. The impact on floodplains would be **less-than-significant**.

Substantial changes in allowed uses per the City's existing SMP are not proposed, nor is substantial development proposed in City shoreline jurisdiction. With SMP compliance, **less-than-significant** impacts to shorelines would occur.

Impacts could include loss or reduced function of plant communities, loss of vegetated land and wildlife habitat, declines in plant species diversity, infestations by invasive or non-native species, or loss of tree canopy and forest patch size. Most future development would occur in the already built environment. The likelihood of jeopardizing a plant population or species is minimal. Impacts on plants would be **less-than-significant**.

4.2.4 Impacts of the Proposed Action

The Proposed Action would allow more housing and jobs and a greater diversity of housing types compared to the No Action Alternative. Impacts would be similar to those described above under Impacts Common to Both Alternatives and under Impacts of the No Action Alternative, although, development intensity would be greater in some areas under the Proposed Action, increasing the

potential for and intensity of impacts. Shorelines and the natural environment would be protected by local, state, and federal regulations. Therefore, impacts on shorelines and the natural environment under the Proposed Action would be **less-than-significant**.

4.2.5 Summary of Impacts

Under both alternatives, increased growth has the potential to cause or suffer the effects of geologic hazards including erosion, sliding, earthquake, or other geologic events. The areas planned for growth in both alternatives are already highly developed, and the City's critical areas regulations provide the mechanism that limits impacts from geologic hazards and to public health and safety. Both alternatives would result in less-than-significant impacts on earth resources.

The increase in development under each of the two alternatives would lead to an increase in impervious surface (including pollution-generating impervious surface), surface water runoff, and pollutants (including the use of fertilizers and pesticides). In general, an alternative that concentrates new development in already high-density areas or re-developable lands is expected to result in fewer impacts on water resources. Although the Proposed Action concentrates dense growth on already-developed land (e.g., Downtown and General Commercial Areas), the overall development of both alternatives is generally the same; therefore, impacts on water resources are expected to be the same. Under both alternatives, water resources will be protected by local, state, and federal regulations, and local and state stormwater standards. Both alternatives would result in less-than-significant impacts on water resources.

Growth and development can affect animals in a myriad of ways. Impacts can be direct, such as through direct removal of habitats or species, resulting in reduced wildlife species abundance, diversity, composition, and movement patterns; or indirect such as through increased stormwater runoff from pollution-generating impervious surface, increased sediment transport and decreased water quality, and increased noise and light. In general, alternatives that allow for the greatest amount of new development across a broader area have the largest potential to affect wildlife habitat. However, under both alternatives, most of the development is planned to occur in the built environment. Additionally, much of the higher habitat forested areas within the City are associated with wetlands and streams and, therefore, already protected by local, state, and federal regulations. Furthermore, development under

either alternative will be subject to various state, federal, and local laws designed to minimize impacts on plants and animals, including on sensitive terrestrial and aquatic fish and wildlife species and habitats. Both alternatives would result in less-than-significant impacts on plants and animals.

4.3 Avoidance, Minimization, and Mitigation Measures

The following mitigation measures could be implemented under either the alternative to reduce impacts on shorelines and the natural environment, in addition to compliance with regulations, including the Endangered Species Act, state regulations, and local regulations (CAO, SMP, and MMC). The CAO, which will be updated in 2025, requires the use of BAS.

- The Comprehensive Plan Update goals, objectives, policies, and action items are designed to mitigate earth-related impacts, impacts on wetlands and streams, flooding impacts, and impacts on the floodplain and shoreline. The City could continue to invest in the City stormwater system by installing, maintaining, and repairing its pipes, catch basins, ditch lines, and stormwater ponds. In addition, continuing programs that educate residents, students, and businesses on ways they can prevent pollutants from reaching Monroe's waterbodies could reduce stormwater impacts.
- The City could continue to engage community volunteer and stewardship groups in activities and events that support stormwater management and water quality, and continue to participate in the Snohomish Basin Salmon Recovery Forum.
- The Monroe Parks Department could continue its relationship with the Stilly-Snohomish Fisheries Enhancement Task Force, which is a member of the Woods Creek Coalition. The Task Force has completed several vegetation enhancement projects in the past along the banks of Woods Creek, along park trails, and isolated pockets in the forest.

4.4 Significant, Unavoidable Adverse Impacts

Unavoidable impacts include increased human activity associated with more dense development, which could result in long-term disturbance to shorelines and the natural environment. While these impacts cannot be wholly avoided, they can be minimized and mitigated. Therefore, no significant unavoidable adverse impacts on shorelines or the natural environment are expected with compliance with regulations and implementation of mitigation measures.