

# CHAPTER 9

## ENVIRONMENT, RECREATION, AND OPEN SPACE

### I. INTRODUCTION

The environment and open space are among Thurston County's most important assets. They perform many functions that sustain and enrich the community, such as providing recreational opportunities, a vital source of potable water, economic opportunities, and habitat for fish and wildlife. These attributes are essential to maintaining a high quality of life in Thurston County. This chapter establishes a framework of goals, objectives, and policies that guide how the county will protect its environmental quality, natural beauty, and parks and trails while minimizing the impacts of natural hazards, consistent with state law and the county-wide Planning Policies.

#### 2025 Update: Critical Issues

- ❖ Retain and enhance green and open spaces, recreational opportunities, fish and wildlife habitat, and water.
- ❖ Provide for additional public recreation areas and open space to accommodate for growth in the county, and maintain those facilities.
- ❖ Protect quality of life, including water availability, and water, air and environmental quality.
- ❖ Plan, prepare, and mitigate for the impacts of climate change and natural hazards.
- ❖ Monitor tree canopy coverage and use data to develop forest conservation goals.

### II. PLANNING CONTEXT FOR ENVIRONMENT, OPEN SPACE, AND RECREATION

The Growth Management Act calls for protecting the environment, retaining open space, and enhancing recreational opportunities. GMA also requires the development of regulations, based on best available science, to protect critical environmental resources and avoid natural hazards.

Development regulations for the protection of critical areas, habitat, and species are included in the Critical Areas Ordinance, Title 24 of the Thurston County Code. Updates to the animal and plant species listed under the Federal Endangered Species Act can be found by consulting with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service. Federally listed and federal candidate species listed in the Habitat Conservation Plan are included in Title 24 and Title 17. The Shoreline Master Program (SMP) lists policies and protections related to shoreline and associated environments as required by the Washington State Shoreline Management Act.

### County-Wide Planning Policies

The County-wide Planning Policies, a requirement for counties planning under RCW 36.70A.040, call for all jurisdictions in the county to recognize their dependence on natural systems and maintain a balance between human uses and the natural environment:

- 10.1 Recognize our dependence on natural systems and maintain a balance between human uses and the environment.
- 10.2 Establish a pattern of intensity that is in concert with the ability of land and resources to sustain such use, reduce the effects of the built environment on the natural environment, conserve natural resources, and enable continued resource use.
- 10.3 Protect soil, air, surface water, and groundwater quality.
- 10.4 Take action to conserve resources, increase use of renewable resources, and decrease dependence on non-renewable resources.
- 10.5 Acknowledge that changing weather and climate patterns will impact the human, natural and built environments and plan for impacts such as increased wildfire, flooding, and sea-level rise.
- 10.6 Protect and restore natural ecosystems, such as, forests, prairies, wetlands, surface and groundwater resources, that provide habitat for aquatic and terrestrial plants and animals.
- 10.7 Provide for public access to natural resource lands, while ensuring that uses and economic activity which are allowed within those lands are sustainable.
- 10.8 Provide for parks and open space and maintain significant wildlife habitat and corridors.

## III. ENVIRONMENT

Thurston County has a rich diversity of terrain and natural features. The county contains approximately 128 miles of marine shoreline along four peninsulas jutting into Puget Sound. This shoreline includes high bluffs, beaches, spits, points, barrier berms, and a delta at the mouth of the Nisqually River. The central portion of the county consists mainly of prairies with remnant stands of Oregon white oaks and conifers that are bounded by the Black Hills to the west and the Cascade foothills to the southeast. Other notable natural features in the county include expansive floodplains; the Mima Mounds; important fish and wildlife habitats; and McAllister Springs, a major public drinking water source.

### A. CRITICAL AREAS

Thurston County contains five broad critical area types that are protected under the Washington State Growth Management Act throughout the county. Critical areas may impact the placement or scale of

development on a property. Maps of critical areas are available online through the county's GeoData Center.

Many of the county's natural features perform vital environmental functions that are sensitive to human impacts or pose hazards to life and property. For example, wetlands store and cleanse stormwater, which mitigates flooding and improves water quality. Wetlands also provide important wildlife habitat. These functions are easily destroyed or degraded by development and other activities. The steep slopes and unstable soils of the county are subject to erosion, slippage, or settling in the event of earthquakes, rain saturation, or improper building practices.

## B. HABITAT AND SPECIES

The county has several locally important habitat types, including cottonwood floodplains, grasslands, prairies, Oregon White Oak habitat, and springs and seeps. These diverse habitat types support a wide variety of fish, birds, mammals, amphibians and other wildlife, including state and federally protected species. For example, the Billy Frank Jr. Nisqually National Wildlife Refuge supports over 300 species of wildlife.

As of January 2023, Thurston County has begun the implementation of a Habitat Conservation Plan (HCP), having obtained an Incidental Take Permit (ITP) pursuant to 10(a)(2)(B) of the federal Endangered Species Act. The ITP is proposed to cover most development permits and county capital facility projects over a 30-year period for anticipated impacts to covered species in the HCP.

Habitat Conservation Plans are planning documents required as part of an application for an incidental take permit. They describe the anticipated effects of the proposed taking (i.e. actions which harm listed species); how those impacts will be minimized and mitigated; and how the HCP is to be funded.

Federally listed prairie and wetland-associated species which are covered in the HCP include:

- ❖ *Rana pretiosa* (Oregon spotted frog) – listed as Threatened in 2014
- ❖ *Euphydryas editha taylori* (Taylor's checkerspot butterfly) – listed as Endangered in 2013
- ❖ *Pooecetes gramineus affinis* (Oregon Vesper Sparrow) – under review for listing as of 2019
- ❖ *Thomomys mazama pugetensis* (Olympia pocket gopher), *tumuli* (Tenino pocket gopher), and *yelmensis* (Yelm pocket gopher)- listed in 2014 as Threatened

## C. WATER RESOURCES

The county's water resources include four marine inlets (Budd, Eld, Henderson, and Totten) and the Nisqually Reach. The county also contains 108 lakes totaling approximately 6,343 acres. Alder Lake, a 2,930-acre reservoir on the Nisqually River that covers Pierce, Thurston and Lewis counties, is the largest

of the county's lakes with nearly 1,117 acres in Thurston County. Black Lake, which spans 576 acres, is the county's largest natural lake.

Thurston County includes portions of four major drainage basins, or watersheds (see Map E-1). The state identifies these as Water Resource Inventory Areas, or WRIAs. The largest watershed (WRIA 22 /23) drains the southwest portion of the county through the Black, Skookumchuck, and Chehalis rivers, which eventually flow to the Pacific Ocean. The Deschutes River (WRIA 13) drains the central portion of the county before flowing through Capitol Lake to Puget Sound. The Nisqually River (WRIA 11) drains a narrow area along the county's eastern boundary en route to the Nisqually Reach of Puget Sound. The southeastern most portion of the Kennedy-Goldsborough watershed (WRIA 14) is located in Thurston County. Several small streams, including Woodland, Kennedy, Woodard, Green Cove, Perry and McLane creeks, flow directly to Puget Sound.

**Water Quality.** Groundwater in the county is of generally high quality, with some exceptions. Nearly all of the groundwater in Thurston County starts as rain that falls within the county. For the most part, the county's soil is evenly sloped and clay-rich. This allows rainfall to soak into the local aquifers (i.e., layers of underground materials with empty space where the groundwater collects). However, different parts of the county have very different aquifers. Much of the northern and southeastern portions of Thurston County contain four major aquifers stacked on top of each other with clay-rich confining layers between them. . Much of southwestern Thurston County is underlain by a single shallow aquifer with no confining layers, making it susceptible to contamination. Aquifers in the vicinity of the Black Hills, Bald Hills, the Maytown uplands near Tenino, and Michigan Hill in the southwestern portion of the county are not reliable sources of potable water.

➤ SEE CHAPTER 11 –  
HUMAN HEALTH FOR  
SOURCES OF HUMAN-  
CAUSED  
CONTAMINANTS

Contamination affects all of the county's water supplies differently. Scattered leaks and spills of fuels and solvents have contaminated small areas of some aquifers. In several areas, wells have been contaminated by pesticides or nitrates, forcing their abandonment. A few areas in the county have nitrate levels that are significantly above background levels. Nonpoint sources of pollution, such as stormwater, failing septic systems, and improperly managed animal keeping can pollute runoff and surface waters. Polluted stormwater carries organic pollutants, pathogens, toxic materials, nutrients, sediment, and bacteria to Puget Sound and other surface waters.

Water quality is regularly monitored at the largest lakes and many streams in Thurston County. Water quality monitoring measures the presence and levels of a variety of types of pollutants, including organic pollutants, pathogens, nutrients, suspended solids, inorganic pollutants, thermal pollution and more.

Some water quality monitoring parameters include but are not limited to: temperature, acidity, pH, oxygen, fecal coliform, nitrates, chemicals and other bacteria. Additionally, parameters needed to calculate the Carlson trophic state indices (TSI) are monitored, namely clarity, chlorophyll A, and total phosphorus (TP). Trophic state indices are used to express the degree of productivity, or plant and algae growth, in these lakes. Algal blooms occur in marine waters and in many county lakes, primarily in the warmer months when light, temperature and nutrients in the water provide for optimal growth, although they can occur any time of year. The algal blooms can produce biotoxins and impact public health. Environmental factors leading to toxin production are not well understood, however it is more likely that toxins are in higher concentrations during blooms. Nutrients associated with land use activities such as nitrogen and phosphorous influence water quality and the trophic state of lakes. Additionally, polychlorinated biphenyls (PCBs) and mercury have contaminated fish in the lower Puget Sound (marine area 13). These contaminants have a variety of anthropogenic sources that are described in the Human Health Chapter (Chapter 11).

Land development can increase stormwater runoff from impervious surfaces. The impervious surface coverage in Thurston County is increasing as our region experiences population growth and new development, adding things like roads, driveways, and roofs in place of native vegetation. Watersheds with large areas of impervious surfaces tend to have more runoff, which increases erosion and washes pollutants directly into streams and lakes. Watersheds or basins that have an impervious land cover of more than 25 percent are generally assumed to have degraded water quality. Eight watersheds in Thurston County were at or above this level in 2016. Overall the percent impervious cover in Thurston County grew from 3.0 percent in 1991 to 6.5 percent in 2021 (TRPC, 2021 Basin Conditions Report).<sup>1</sup> Climate change (Chapter 12) and its effects on precipitation raises the risk of increasing waste and stormwater runoff that could overwhelm the systems that handle this outflow. Furthermore, extreme rain events and a resulting increase in stormwater runoff can scour streams, damage bridges, and block culverts with debris.

**Impaired Waters:** The Clean Water Act (CWA) requires developing a list of impaired waters (i.e., waters too polluted or otherwise degraded to meet the water quality standards). The CWA requires establishing priority ranking for these impaired waters and developing the corresponding Total Maximum Daily Load (TMDL). A TMDL represents the highest amount of pollutant a surface water body can receive and still meet water quality standards. The TMDL process requires states to develop Water Quality Improvement Reports and Implementation Plans (WQIR/IP). The WQIR/IP set out the pollution reduction actions required to comply with water quality standards. To date, The Environmental Protection Agency (EPA) has approved TMDLs for waterbodies in the following six watersheds in Thurston County.

<sup>1</sup> Thurston Regional Planning Council, Land Cover & Impervious Surfaces, 2024

- ❖ **Upper Chehalis River Watershed:** TMDLs for the Upper Chehalis River and its tributaries (WRIA 23) include fecal coliform bacteria and temperature. The Upper Chehalis River Fecal Coliform Bacteria TMDL report states that within the watershed, fecal coliform concentrations more than the Washington State water quality criteria are common. Strategies to address fecal coliform include:
  - Implementing and improving best management practices for nonpoint sources,
  - Replacing failing on-site sewage treatment systems, and
  - Developing a monitoring strategy to evaluate the effectiveness of the TMDL implementation measures. The Temperature TMDL report states that the majority of stream heat is from sunlight. In-stream flows, stream shape, and human-caused activities such as agriculture and development also contribute to degraded conditions.
  
- ❖ **Henderson Inlet Drainage Basin:** The TMDL found that pollutant loads to some streams need significant improvements. The Implementation Plan reports high fecal coliform bacteria concentrations throughout the watershed. Dissolved oxygen and pH freshwater issues were largely found to be related to natural and human causes. *The 2017 Henderson Inlet Fecal Coliform Total Maximum Daily Load Water Quality Effectiveness Monitoring Report* states that significant declines in pollution and improvements in water quality were seen in spite of an increase in population and an increase in development within watershed. The study concludes that investments made in stormwater infrastructure, shoreline protection, septic system programs and other efforts are making a difference.
  
- ❖ **Nisqually River Watershed:** The TMDL report for the Nisqually River Watershed also found that pollutant loads to some streams need to be significantly improved before the stream can meet water quality standards. This TMDL addresses bacterial and dissolved oxygen levels. The Implementation Plan aims to reduce bacteria reaching the water bodies that exceed state water quality standards.
  
- ❖ **Totten, Eld Inlets Tributaries:** Totten and Eld Inlet and several of their tributaries are on the 303(d) list of water bodies not meeting water quality standards for at least one water quality parameter. Some waterbodies are not currently on the 303(d) list but still do not meet water quality standards. The parameters of concern include fecal coliform bacteria, dissolved oxygen, pH, and temperature (Ecology TMDL 2006). The Water Quality Implementation Plan notes that pollution comes from many small sources scattered throughout the watershed. Cleanup efforts will focus first on controllable, human-related sources.
  
- ❖ **Deschutes Basin:** This basin has been separated into two TMDLs; one focused on freshwater and one focused on marine water.

- ***Deschutes River Basin and Budd Inlet Tributaries:*** Portions of the Deschutes River, Percival Creek, and Budd Inlet tributaries included in this TMDL report do not meet water quality standards and are on the Clean Water Act Section 303(d) list for one or more of the following parameters: fecal coliform bacteria, temperature, dissolved oxygen (DO), pH, or fine sediment. Potential impairment causes include failing or poorly maintained septic systems, malfunctioning sewer infrastructure, urban and agricultural use, animal waste, lack of shade, low summer streamflow, stream changes, and increased sunlight or nutrients.
- ***Budd Inlet:*** The marine waters of Budd Inlet currently do not meet water quality standards for dissolved oxygen, the largest known source being Capitol Lake. Additional sources of carbon and nitrogen come from human-related activity. The inlet also receives discharge from the Deschutes River and several wastewater treatment plants.

**Water Quantity.** Most Thurston County residents rely on groundwater for their drinking water, with over 4,000 water wells drilled from 2000-2010 (Dept. of Ecology). Except for minor surface withdrawals, groundwater provides all the water used by industry and agriculture. In addition, during the dry season groundwater sustains stream flows for dependent fish, aquatic life, and other wildlife.

In some places within the county, the lowering of groundwater levels in the upper aquifer can contribute to dry periods for small ponds and streams. The Deschutes River, Chehalis River, Yelm Creek, and Scatter Creek are all influenced to some degree by groundwater withdrawals.

The state Department of Ecology sets instream flow rules that identify the minimum flow of water needed to support fish and other aquatic life, recreation, and navigation. Once established, instream flow rules serve as a water right that is intended to protect stream flow from being lost to future users. Most of the major rivers and tributaries in Thurston County are covered by some form of instream flow rule, which means some areas are considered “closed” to new rights for water withdrawals, or new rights may only be available for use in certain seasons.

- ❖ ***Chehalis Watershed (WRIAs 22/23)*** : Base flows were established in 1988 for the mainstem Chehalis River, as well as several major tributaries in Thurston County, including Cedar, Porter, and Prairie Creeks. Seasonal closures are established for the Black and Skookumchuck Rivers, Waddell, Salmon, and Scatter Creeks – some of these closures were established as far back as the 1940s. (WAC 173-522)
- ❖ ***Deschutes Watershed (WRIA 13)*** : An instream flow rule was set in 1980 for the mainstem of the Deschutes River, which is seasonally closed to new water rights from April 15 to October 15. In addition, many smaller streams have closures, including McLane, Woodard, Woodland, and Percival Creeks, as well as Long, Patterson, and Hicks Lakes. (WAC 173-513)



- ❖ *Kennedy-Goldsborough (WRIA 14)* : Minimum instream flow rules were set in 1984 for Kennedy and Perry Creek, which have seasonal closures. Schneider Creek and Summit Lake also are seasonally closed to new water rights. (WAC 173-514)
- ❖ *Nisqually Watershed (WRIA 11)* : A minimum instream flow was set for several locations along the mainstem of the Nisqually River in 1981. McAllister Creek, Lake Saint Clair, Eaton and Yelm Creeks are closed year-round to new water appropriations. Several tributaries of the Nisqually have seasonal closures, including Red Salmon, Toboton, and Lackamas Creeks. (WAC 173-511)

Although exempt groundwater withdrawals (which typically serve single-family homes) do not require a water right permit, they are always subject to state water law. In some instances, exempt groundwater withdrawals are regulated when they interfere with prior or senior water rights, including instream flow rules. Thurston County analysis of Ecology records show there are more than 34,000 exempt wells in Thurston County. Although water use by each of these homes is small, collectively they may reduce water quantity in rivers and streams. Under the 2018 Streamflow Restoration Act the county and other regional partners developed plans to understand the water needs of future rural residents and fish and wildlife. Each WRIA's plan addresses expected impacts from new permit-exempt wells by identifying projects that will keep water in-stream and aim to preserve stream health from rural growth impacts occurring between 2019-2040. The county, along with other implementing governments and entities named in the plans, are jointly responsible for offsetting the consumptive use impacts of forecasted permit-exempt wells in WRIs 11, 13, 14, and 22/23 during the planning horizon. Over 14,000 new permit-exempt wells are forecast for installation in these watersheds accordingly: WRIA 11, 2,987; WRIA 13, 2,616; WRIA 14, 4,294; and WRIA 22/23, 4,555.

Projected population growth in both urban and rural areas may require additional groundwater withdrawals to serve new residents. Care must be taken to ensure that these withdrawals do not jeopardize the survival of fish or other aquatic life.

#### D. AIR QUALITY

The county's air quality is generally good due to climate, physiography, and the limited number of particulate-producing industries. In the 1980's, the urbanized area of the county was designated as a non-attainment area for PM<sub>10</sub>, meaning it was considered to have air quality worse than the National Ambient Air Quality standards as defined in the Clean Air Act. In response, the Olympic Region Clean Air Agency (ORCAA) launched an aggressive campaign to curb emissions through the use of more efficient woodstoves and restrictions on outdoor burning. Air quality in the county has improved measurably over the last 3 decades. Air quality is affected by the hot and dry summer conditions, often times accompanied by wildfires, that are predicted to worsen with climate change.



There are two air quality monitoring stations in Thurston County that monitor fine particulates and ozone. According to Thurston Regional Planning Council, the region's air quality has continued to meet national air quality standards for the last 15 years, with both Ozone and PM<sub>2.5</sub> pollution levels being below the national standard. Burning information and air quality reports are regularly available through ORCAA.

## E. HEALTHY FORESTS AND TREE CANOPY

Forests in Thurston County hold significant value for the community. They provide benefits to community health, recreation opportunities, are an economic driver, and benefit the environment. They also provide open spaces, habitat connectivity, and support biodiversity. To make sure these benefits are equitably shared across all of the places in our community, goals and policies need to be updated regularly to meet our changing needs.

Tree canopy is the layer of leaves, branches, and stems that provide coverage of the ground when viewed from above. Measuring tree canopy has become an important metric in making decisions about tree protections that impact our community's wellbeing. In 2023, Thurston County in partnership with the City of Olympia and Department of Natural Resources hired a consultant to conduct a review of Thurston County's tree canopy. Land cover categories were identified and located on maps. The categories used in this study included tree canopy, (vegetation over 20 feet) grass/shrub (vegetation under 20 feet), bare earth (no vegetation), water, buildings, roads, and other paved surfaces.

Below are a table and map that summarize the findings of the land cover data. These findings have been used to inform policies and goals for tree conservation at the end of this chapter.

Table 9.1 – Land Cover in Thurston County

Land Cover Classification	Percent Tree Canopy
Tree Canopy	XX%
Grass/Shrub	XX%
Bare Earth	X%
Water	XX%
Building	XX%
Roads and Other Paved Surfaces	X%

(Source: Thurston County Tree Canopy Study, 2024)

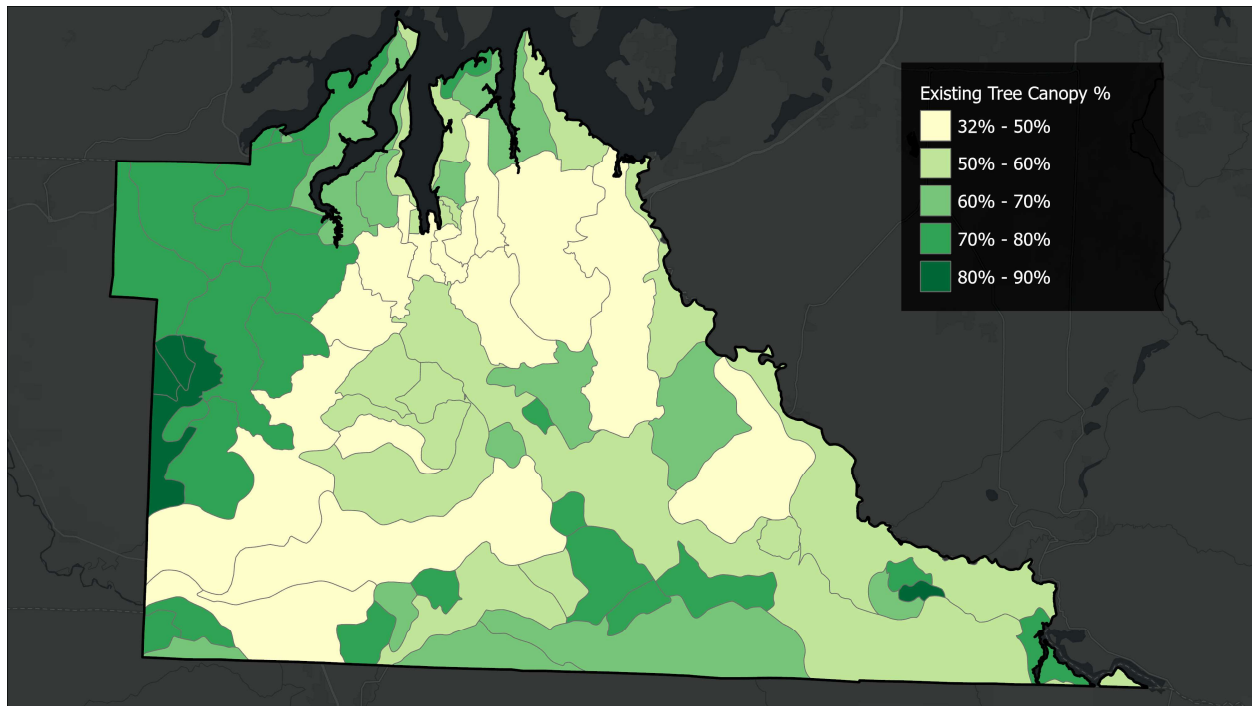


Figure 9.1 Shows the average tree canopy cover by census block. (Source: Thurston County Tree Canopy Report, 2024)

Tree canopy and equity – health census data.

While land cover for forestry is still relatively high, the loss of forest lands and tree canopy will continue due to development pressures. To conserve high quality forest resources and facilitate enhancement, monitoring canopy and forest health into the future is crucial. Using LiDAR imagery provides the most cost-effective, large-scale overview of forests throughout the county. It is important to note that this data is not intended for use at a parcel or tree level.

Conservation programs are currently in place to ensure forests and tree canopy are available for our communities into the future (See Section V. Subsection A of this Chapter). Reviewing these programs to ensure they are effective and setting new targets as needed is valuable to ensure forests continue to flourish in perpetuity.

## IV. NATURAL HAZARDS

Thurston County periodically faces the forces of natural hazards, such as earthquakes, landslides, severe storms, floods, wildland fires, and other less common hazards. In addition to hazard mitigation, adaptation is necessary for the county to reduce risks to increased natural hazards due to climate change.

#### A. FLOOD HAZARDS

One of Thurston County's most common and costly natural hazards is flooding. Approximately 51.25 square miles of the unincorporated county (about eight percent of the area) lie within 100-year floodplains (areas with a 1 in 100 chance of being flooded each year). Between 1962 and 2022, Thurston County has received 18 federal disaster declarations in some part related to flooding..

In 1999, Thurston County adopted the Thurston County Flood Hazard Management Plan to establish countywide management strategies to minimize or eliminate the risks to life and property from flooding. In 2000, the county enrolled in the Community Rating System (CRS) through the National Flood Insurance Program. The CRS provides a framework for flood hazard mitigation and other activities to reduce the county's risk of flood damage. The county's initial rating--in 2003--was Class 5, one of the highest ratings for a county in the nation. Currently, the county is rated a Class 2 , and is one of only seven jurisdictions in the nation to achieve this rating. This rating enables residents and property owners within the unincorporated county to receive a forty percent reduction in flood insurance rates. As Thurston County faces a changing climate, hazard plans such as the Thurston County Flood Hazard Mitigation Plan (2025) are a step forward in preparing the community for the potential of increased flood events.

#### B. OTHER NATURAL HAZARDS

Thurston County has endured many other natural hazards in addition to flooding, including earthquakes, landslides, severe storms, wildland fires, volcanic events, and others. In past centuries, lahar flows composed of mud, rock and trees have spewed from Mount Rainier and buried the lower elevation areas along the entire length of the Nisqually River. If future flows breach Alder Dam on the Nisqually River, the impact could be devastating.

Additionally, saturated soils, especially in areas with groundwater perched above a shallow till, can contribute to slope failure. Projected population increases will likely lead to infiltration of additional rainwater into soils and could worsen groundwater flooding or potential landslides. Areas with significant potential for landslides include marine bluffs, steep slopes and bluffs along streams, and steep slopes in Black Hills and Bald Hills. In 2025, the Washington State Department of Natural Resources developed more accurate landslide data to better inform future development and policy decisions for areas impacted by landslides and unstable soils.

Earthquakes have also caused significant damage in Thurston County. In 2001, the county was shaken violently by a magnitude 6.8 earthquake centered near the mouth of the Nisqually River. While most of the county escaped with only minor damage, development and structures located on poorly consolidated

fill and soils subject to liquefaction were severely damaged. Soil liquefaction occurs when saturated or partially saturated soil substantially loses strength and stiffness in response to heavy stress, like shaking from an earthquake. When soil liquefaction occurs, the ground behaves like a liquid, which can cause buildings to collapse or be otherwise damaged.

In recent years, wildfires have become a more prevalent issue in western Washington, and the risk and extent continue to grow because of climate-related impacts. Earlier snowmelt, rising temperatures, drier summers, and more fuels from dead trees and plants result in more frequent wildfires and also sets the stage for more human-ignited wildfires.<sup>2</sup> Wildfires are one of Thurston County’s most frequently occurring hazards, with an average of 63 wildland fires occurring annually. They pose risks to property, safety, and can cause power outages and disrupt other essential services. They also contribute to smoke and can be harmful to peoples’ health. The U.S. Fire Administration has developed and identified the Wildland Urban Interface (WUI), which is the zone of transition between unoccupied land and human development. This area is where structures and human development meet and can be used as a tool to design and develop land use codes that further protect life and property. Much of Thurston County’s rural residential areas are areas of intermix (areas where development mixes with wildlands) and interface (found in the outskirts of urban areas, where development meets an area covered with more than 50% wildlands).

In 2003, Thurston Regional Planning Council worked with 15 communities and special districts in Thurston County to develop and adopt one of Washington State’s first multijurisdictional hazard mitigation plans. “The Hazards Mitigation Plan for the Thurston Region”<sup>3</sup> (updated in 2024) provides a coordinated approach to address natural hazards occurring in the county:

- ❖ Lists mitigation goals and objectives, and countywide recommendations to reduce or prevent impacts from hazards.
- ❖ Provides a statistical profile on Thurston County.
- ❖ Comprehensively assesses hazards that threaten Thurston County and its communities, with nine hazards profiled in detail: dam failure, earthquake, flood, landslide, sea level rise, severe weather, tsunami, volcanic lahar, and wildfire.
- ❖ Describes implementation, evaluation, and maintenance.

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<sup>2</sup> Department of Ecology. “Tracking Wildfire Smoke”. Retrieved Jan. 9 2024 from: <https://ecology.wa.gov/air-climate/responding-to-climate-change/wildfire-risks>

<sup>3</sup> Thurston Regional Planning Council. “The Hazards Mitigation Plan for the Thurston Region.”

## V. PARKS, TRAILS, AND OPEN SPACE

Parks, trails, open space, green spaces, and recreation areas provide valuable opportunities to the people of Thurston County and help to create vibrant communities. These spaces allow opportunities for people to:

- ❖ Connect with nature in close-to-home areas
- ❖ Engage in heart-healthy exercises like walking, hiking, swimming, biking and kayaking
- ❖ Share community spaces
- ❖ Learn about sustainability

These areas also help to conserve significant environmental and historical resources. Many of these parks and recreation opportunities have regional benefits and attract visitors from outside of the county. Open spaces also have purposes that serve beyond recreation, including habitat conservation, stormwater management, and flood hazard reduction.

### A. TOOLS FOR CONSERVATION AND OPEN SPACE

Land and water conservation helps to preserve clean water, in-stream flows, clean air, healthy forests and beaches within Thurston County. Open space provides for many active uses, such as recreation, habitat conservation, flood hazard reduction, aquifer recharge, agriculture, or forestry. Several tools exist to help conserve open space.

Land or water enrolled or acquired through these methods helps to ensure protection from development associated with future growth.

- ❖ **Open Space Tax Program:** In 1970, the Washington State Legislature passed the Open Space Taxation Act, recognizing the need to protect farmland and forestland from high property taxes in an effort to stem conversion of these lands to urban and suburban land uses. As of March 2018, approximately 35 percent (or 171,932 acres) of county lands were enrolled in an Open Space program. These programs provide eligible properties to have their land taxed at its current use, instead of its “highest and best use.” These programs can offer significant property tax savings, which helps reduce pressures to convert land, and helps relieve speculative land values which drive up property tax assessments. There are four main open space categories: Open Space - Farm and Agricultural Land; Designated Forest Land Tax Classification; Open Space – Open Space Farm and Agricultural Conservation Land; and Open Space - Timberland. Additional

➤ SEE CHAPTER 3 –  
*NATURAL RESOURCES*  
FOR CONSERVATION  
TOOLS AS THEY  
RELATE TO

Open Space-Open Space priority resource categories cover fish and wildlife habitat, geological and shoreline features, recreational and scenic areas, urban growth areas, and historical sites.

- ❖ **Voluntary Stewardship Program (VSP):** The Voluntary Stewardship Program was created under the Growth Management Act ([Chapter 36.70A RCW](#)) in 2011 to give counties the option to use locally driven watershed-based plans and incentive-based tools to protect critical areas. Prior to 2011, the main tool for counties to ensure protection of critical areas on agricultural land was regulation. Regulation of agricultural landowners can threaten farm viability and lead to legal battles. The VSP provides an alternative approach to protect critical areas while maintaining agricultural viability. Thurston County's Voluntary Stewardship Program work plan was formally approved by the Washington State Conservation Commission in April of 2017 and is regularly monitored and adaptively managed to respond to changing conditions.
- ❖ **Transfer of Development Rights (TDR):** Thurston County's Transfer of Development Rights Program (TDR) program was established in 1995 to preserve farmland while allowing owners to realize the economic value of the property's development potential. It provides an opportunity for landowners to sell their development rights without having to sell their entire property for development.
- ❖ **Purchase of Development Rights (PDR):** Thurston County established a Purchase of Development Rights Program (PDR) in 2011 but does not currently have active funding sources. This program authorizes Thurston County and other qualified conservation programs to purchase development rights with the intent to preserve farmland. Landowners are compensated with the agreement to conserve their land. Generally, property owners retain ownership and continue to reside on their lands under the PDR program.
- ❖ **Fee Simple Purchase:** This tool is the acquisition of land by an entity such as a land trust or conservation agency. Land trusts own the land in a fee simple purchase and have the greatest control over how the land is managed. Some tools to create affordable access to farmland include allowing long-term leases or sale of land in exchange for an agreement to use sustainable agricultural practices.
- ❖ **Conservation Easements:** A conservation easement is a voluntary legal agreement between a landowner and a land trust. It may permanently limit the use of the land in order to protect conservation values. Conservation easement agreements specifically define restrictions or limitation on what will be allowed or disallowed on the property. They allow the owner to continue to own, occupy and use the land, including to sell or pass it on to their heirs. The owner profits by selling the easement to a land trust, or may receive a tax break by donating it. Because of its lower market value, land with an easement can be a more affordable means for achieving conservation. Working lands easements under the county HCP conservation land system also provide these benefits.

Different funding opportunities exist to aid some of the conservation tools mentioned above. Several of these tools often compete for the same funding sources, excluding the Open Space Tax Program. Funding and availability of funding varies with the type of conservation method being used. Different funding opportunities exist at the federal, state, and local level from private and public sources to aid some of the conservation tools mentioned above, including: Thurston County Conservation Futures

- ❖ Washington Wildlife and Recreation Program
- ❖ USDA Natural Resource Conservation Services – Agricultural Conservation Easement
- ❖ USDA Regional Conservation Partnership Program
- ❖ Real Estate Excise Transfer Tax
- ❖ Individual Impact Investors

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## B. COUNTY PARKS, TRAILS AND OPEN SPACES

The Growth Management Act requires that the county include a parks and recreation element in its Comprehensive Plan. An inventory with existing park acreages and the means for financing improvements and acquisitions is shown in the county’s Capital Improvement Program (Appendix G). The Capital Improvement Program is updated on an annual basis with the county’s budget.

The *Parks, Open Space, and Trails Plan (POST) (2020)*, adopted separately from the Comprehensive Plan, provides a coordinated approach for the county’s park and trail development, natural resource preservation, and provision of recreation services. The *POST Plan* identifies needs and priorities of county residents for additional parks, recreation facilities, trails, greenways, and natural resource preservation. Some of the critical issues and objectives projected over the next 20 years for parks, trails, recreation and open space include:

- ❖ Acquire, develop and maintain parkland to account and accommodate for projected growth of the county;
- ❖ Identify sustainable funding to support maintenance of existing and new parks;
- ❖ Improved coordination with health and wellness;
- ❖ Improved connectivity of major trail corridors, and improved connectivity of smaller corridors to access major trails;
- ❖ The need for additional non-motorized trails and open space;
- ❖ Environmental preservation in parks and trails, and good stewardship in operations.



### Parks and Trails Vision

Thurston County’s attractive, well managed parks, trails, and nature preserves provide for recreational opportunities, enhance the quality of life, and nurture the health and wellbeing of our people, our community, our environment and our economy. In partnership with our community, we ensure that our parks, trails, preserves and programs are accessible and responsive to changing needs within our communities. We provide respite from urbanization; preserve the environment; foster understanding of our natural, cultural and historic assets; and provide opportunities for recreation that meet the needs of the community. The focus on preserving open space region-wide continues, with a strong emphasis on connecting people to the land, water, and each other.

Community members have identified many key considerations for Thurston County’s parks and recreation programs. These include access, health and well-being, community and family, and preservation. Responses from the community on what they value in parks, trails and recreations programs are outlined in the county’s *Parks, Open Space and Trails Plan* (2020).

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## C. INTERGOVERNMENTAL COORDINATION

Thurston County provides regional parks, natural resources, preserves, and recreational programming to meet the needs of county residents. The county recognizes the importance of coordinating its efforts with other municipalities, private industry and non-profits with similar missions in order to meet the service needs of the county. Parks development involves intergovernmental coordination to provide for parks and recreational facilities. This includes considerations like acquisition of new property, creating and maintaining regional park facilities, and park and facility financing. The joint plans for the cities’ urban growth areas include park elements for providing parks in urban growth areas and at the neighborhood scale.

State and federal agencies manage nearly 50,000 acres in the county comprised of state parks and natural area preserves (such as the Woodard Bay Natural Resource Conservation Area on Henderson Inlet), many recreational sites within the state’s Capitol Forest, the state and federal Billy Frank Jr. Nisqually National Wildlife Refuge, the Black River Wildlife Refuge, and other wildlife habitat mitigation and management sites. The state also owns or operates several boat ramps in the county. In addition, private and non-profit groups have purchased land and easements to preserve important natural areas in the county.

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## D. THURSTON COUNTY PARKLAND CLASSIFICATION

Thurston County’s park system oversees 2,578 acres of parklands, comprising 24 properties. These parks include a range of park types and are classified by the recreational opportunities they provide:

- ❖ **Regional Parks** (such as Burfoot Park) provide a combination of leisure recreation and active enterprise opportunities to residents and visitors. These parks also serve large geographic areas, tourists and visitors.
- ❖ **Trails**, such as the Chehalis Western Trail, Yelm-Rainier-Tenino trail, and Gate-Belmore Trail link urban and rural areas within the county, providing the community with active transportation options. The county has 56 miles of such trails.
- ❖ **Special Use Parks**, such as the five-acre off-leash dog park off Hogum Bay Road. meet the demands for a particular activity or special event.
- ❖ **Historic Sites**, such as Mima Pioneer Cemetery. are areas of historic significance that are owned by Thurston County.
- ❖ **Open Space and Undeveloped Parks**, including trails, greenways, community gardens, or farmed areas that act as visual relief from urban environments and buffers between land uses.
- ❖ **Preserves and Natural Areas**, such as Glacial Heritage Preserve and [insert final name of Violet Prairie Demo Site], focus on restoring wilderness, special natural habitat, and open space.

Thurston County's regional parks are complemented by community, neighborhood, and special-use parks owned and operated by the cities of Lacey, Olympia, Tumwater and other jurisdictions within the county. Thurston County collaborates with other local jurisdictions to offer a wide variety of park and recreation opportunities. Non-county park classifications within the county include:

- ❖ **Community parks** draw people from the immediate community (generally within a 10-15 mile radius).
- ❖ **Neighborhood parks** provide recreation space for an immediate neighborhood or cluster of neighborhoods (generally within a one mile radius).
- ❖ **Mini-parks** (or pocket parks) are typically play lots or playgrounds providing space for parental-supervised recreation for toddlers and young children.
- ❖ **Special Use Parks**, like dog parks, bike parks, swimming pools or disc golf courses that meet demands for particular activities.
- ❖ **Greenspaces**, like Capitol State Forest or the Billy Frank Jr. Nisqually National Wildlife Refuge, which are state or federal managed parks, preserves and recreational sites. The Open and Green Space Corridors Map (Map E-4) shows green and open space areas within Thurston County.

## E. OPEN AND GREEN SPACE CORRIDORS

The Thurston County Comprehensive Plan includes an Open and Green Space Corridors map (Map E-4). Areas shown in the map are included for their importance to wildlife movement and habitat connectivity. The Open and Green Space Corridors map identifies areas where public lands, forests, parks, bases, and certain environmental areas exist in the county to create an informational visual of existing corridors as well as areas that are currently disconnected. Open and green spaces that connect these areas can exist on private or public lands and may not be free of all barriers (such as fences, roads, and railroads) to wildlife movement.

Increasing the connectivity and quality of open and green spaces is important to help facilitate wildlife movement and connect wildlife populations between habitats. There are several other benefits of green and open spaces such as recreation, and health-related community benefits; mitigation of pollutants entering the water, air, and soil; carbon sequestration; and economic benefits like tourism and recreation. Near urban growth areas, green and open spaces can play an important role in urban heat mitigation.

This map is informational only and can be used or paired with other information, such as the Washington Wildlife Habitat Connectivity Working Group’s data and tools, to inform or identify areas for future conservation opportunities or that are important in maintaining and enhancing wildlife and habitat connectivity. This map is not intended to result in any additional requirements upon landowners to conserve specific areas on their private lands, nor shall it restrict the use or management of such lands for agricultural or forestry purposes. Collaboration with organizations such as tribal governments, jurisdictional or agency partners, and environmental and wildlife community groups can increase opportunities to further connect open and green spaces within Thurston County to improve recreational and habitat connectivity.

#### GROWTH MANAGEMENT REQUIREMENTS

The Growth Management Act requires jurisdictions to identify open space corridors within and between urban growth areas. This includes lands useful for:

- ❖ Recreation;
- ❖ Wildlife habitat;
- ❖ Trails; and
- ❖ Connection of critical areas.

#### F. LEVEL OF SERVICE

Thurston County currently oversees 2,578 acres of parklands, comprised of 24 properties. An inventory of existing park acreages and the means for financing improvements and acquisitions is shown in the county’s Capital Improvement Program, Appendix G.

Of the 2,578 acres of parkland, 972 acres (12 sites, which includes 3 developed trails) are developed parkland. Thurston County Park’s Level of Service (LOS) is 3.0 acres per 1,000 residents, based on the per

capita Level of Service as described in the 2020 Parks Impact Fee Study. Based on the 2045 population data, this 3.0 acre/1,000 residents LOS creates a need for 1,151 acres of operational park land. Since Thurston County currently has 972 acres of developed and operational parkland and trails, the net increase of developed land needed for park and trail purposes to meet the LOS standard is 179 acres (Table 9-1).

Based on public input, the county has identified the highest priorities as development and acquisition of multiple use trails, water access sites, picnic sites and natural resource preserves.

Table 9-1. LOS Standards for Parks

Facility	Level of Service (LOS) Units	Level of Service (LOS) Standard
<b>Parks &amp; Trails</b>	<p><b>LOS 1: Develop</b> all or part of previously acquired property, or complete development projects that are underway, focusing on those that fill deficiencies in priorities defined by the public, i.e., trails, water access, athletic facilities. Main emphasis is on development of existing undeveloped park properties.</p> <p><b>LOS 2: Acquire</b> additional park lands to ensure that a 3.0 acre/1,000 population of developed park and recreation facilities LOS can be maintained.</p>	<p><b>LOS 1: Development (by 2045):</b> An additional 179 acres will be developed to provide additional trails, water access, and athletic facilities.</p> <p>The county continues to look for additional revenue sources to develop existing park sites.</p> <p><b>LOS 2: Acquisition:</b> Acquire opportunity properties to ensure an adequate land base in the future for maintaining the 3.0 acres/1,000 population LOS. Currently, the inventory of undeveloped land is adequate to meet this LOS through 2045.</p>

## VI. GOALS, OBJECTIVES AND POLICIES

### GEOLOGIC HAZARD AREAS

**GOAL 1:** MINIMIZE THE LOSS OF LIFE AND PROPERTY FROM LANDSLIDE, EARTHQUAKE, VOLCANIC, OR OTHER GEOLOGICAL EVENTS, AND MINIMIZE OR ELIMINATE LAND USE IMPACTS ON GEOLOGICALLY HAZARDOUS AREAS.

**OBJECTIVE A:** To designate and manage geologic hazard areas to avoid loss of life and damage to structures by guiding development away from geologic hazard areas and by regulating uses and activities that occur within or near such areas in a manner that minimizes the potential for damage or loss of life. The County will continue to update its assessments of geologic threats using the latest technologies and science to minimize citizens’ exposure to geologic risks.

**POLICIES:**

1. The county should designate and provide for the protection and management of geologic hazard areas based on best available science and cumulative impact assessments of existing and planned land and resource uses within and near geologic hazard areas.
2. The county should restrict development and resource use within or near areas susceptible to significant damage from erosion, landslides, earthquakes or lahar flows, as necessary to protect life, property, and wildlife habitats (e.g., streams and marine waters downslope).
3. The county should cooperate with other jurisdictions and agencies to implement the “Hazards Mitigation Plan for the Thurston Region,” TRPC 2023, or as hereafter amended.
4. The county should protect the public from natural hazards, minimize the need for emergency rescues and replacement of public facilities damaged by natural forces, and avoid public subsidy of private development located in areas vulnerable to damage from natural events by minimizing the amount of development at risk.
5. The county should collaborate with other jurisdictions and agencies to gain a better understanding of hazards in the county and devise appropriate mitigative measures to minimize the loss of life and property.
6. The County should continue to update and adapt Critical Areas Ordinances to reflect changes in geologic hazard profiles based on actual risk identified through scientific studies and emerging technologies.

**GROUNDWATER AND AQUIFER RECHARGE AREAS**

**GOAL 2: PROTECT GROUNDWATER QUALITY AND QUANTITY.**

**OBJECTIVE A:** To provide for the identification and protection of sensitive aquifer recharge areas, protect groundwater quality, and prudently conserve groundwater resources.

**POLICIES:**

1. The county should designate and provide for the protection and management of groundwater and aquifer recharge areas based on best available science and cumulative impact assessments of existing and planned future land and resource uses within and near aquifer recharge areas.
2. The county should protect groundwater quality and prevent aquifer contamination, degradation, and depletion through the comprehensive management of groundwater in conformance with the Clean Water Act, the Northern Thurston County Ground Water Management Plan, the South Thurston County Aquifer Protection Strategy, and all other applicable federal, state and local water quality regulations.
3. The county should determine, based on watershed plans, if there are areas where low summer stream flows or elevated instream water temperature may, now or in the future, imperil anadromous or native resident fish. If such areas are identified, the county should devise and implement development restrictions and management practices as necessary to sustain fish life.
4. The county should prioritize water quantity projects in areas where the supply of groundwater is limited. Special consideration should be given to areas where additional groundwater withdrawals would diminish summer stream flows and elevate instream water temperatures and thereby jeopardize the survival of anadromous or native resident fish.
5. The county should regulate land uses within designated wellhead protection areas to prevent degradation of groundwater quality.
6. The county should support efforts by water utilities to acquire or provide long-term management of wellhead protection areas.
7. The county should encourage that coordinated, reliable water systems be used to provide water in the urban growth areas, and urge jurisdictions to develop compatible, coordinated water system design standards for their growth areas.
8. The county should discourage, and when possible prevent through regulation or public education, the construction and use of individual private wells in urban growth areas where community or public water sources are reasonably and economically available.
9. The county should encourage the use of community or public water in unsewered areas where residential density is in excess of one unit per acre. Community or public water systems should also be provided in residential developments with densities in excess of one unit per two acres and excessive soil permeability.
10. The county should ensure that community and public water systems and supplies are managed to meet state and local health standards.

11. The county should regularly monitor and protect the water quality of watersheds feeding into water bodies used for drinking water (e.g., Summit Lake). If pollution is identified, the county should devise and implement programs to improve water quality.
12. The county should encourage the safe recycling and reuse of water and treated wastewater for irrigating plants, supplementing streamflow, and other purposes in order to recharge aquifers, conserve groundwater supplies, and reduce contamination of receiving waters.
13. The county should encourage the use of no- and low-water use appliances and fixtures, particularly in conjunction with septic systems, to reduce the potential for groundwater contamination.
14. The county should educate and promote the use of integrated pest management and the reduction of pesticide and fertilizer use by residents, businesses, and governmental agencies in designated wellhead protection areas and in areas identified as a source of contamination to important wildlife habitats and shellfish beds.
15. The county should develop a strategy for conserving water in periods of drought that includes conservation initiatives for water users, public education and notification.
16. To the extent that resources permit, the county should implement the relevant portions of adopted Watershed Plans prepared in accordance with RCW 90.82.
17. The county should explore ways to forecast and assess the impact of permit exempt wells through the 20-year planning period and beyond.

## SURFACE WATER

### GOAL 3: PROTECT AND IMPROVE THE WATER QUALITY AND BIOLOGICAL HEALTH OF LAKES, WETLANDS, RIVERS, STREAMS, AND PUGET SOUND.

**OBJECTIVE A :** To manage surface water in a manner that will protect or improve the quality of water sustaining human use, wildlife, and aquatic life.

#### POLICIES:

1. The county should provide for the protection and management of surface water, consistent with the Clean Water Act, based on best available science and cumulative impact assessments of existing and planned future land and resource uses within the watersheds.



2. The county should retain substantially in their natural condition: ponds, wetlands, rivers, lakes and streams, and their associated buffers and riparian areas when feasible on county-owned lands.
2. The county should protect streams through regulation and public education from the adverse impacts of activities occurring within their watersheds to avoid degradation of their water quality and biological health. These impacts include, but are not limited to, elevation of stream water temperature and low flows in summer and stream channel damage and sedimentation from excessive flows during winter.
3. The county should designate and protect riparian habitat areas to help maintain water quality consistent with best available science. (Also see related policies under Goal 5, Important Fish, Wildlife, and Plant Habitat).
4. The county should prevent development and activities in streams, riparian areas, and wetlands and any associated buffers that would damage water quality or habitat functions, except to the minimum extent necessary when there is no reasonable alternative for accommodating an essential use (e.g., an essential road or utility crossing).
5. The county should require, to the extent legally permissible, restoration of degraded buffers and wetlands associated with lakes, streams, rivers, and Puget Sound as a part of new land uses and development activity.
6. The county should cooperate with adjoining jurisdictions, watershed management entities, and other salmon and aquatic species restoration entities to develop complementary programs and regulations pertaining to water availability, upland wildlife habitat, and other critical areas that span jurisdictional boundaries.
7. The county should evaluate the performance of county regulations in maintaining surface water and monitor the performance of restoration and enhancement projects to provide a basis for periodic refinement of county regulations and management practices.
8. The county should promote the use of integrated pest management, reduction of pesticide and fertilizer use, and best management practices for animal waste by residents, businesses, and governmental agencies in areas identified as a source of contamination of surface water, particularly if it affects the harvest of shellfish.
9. The county should provide technical assistance and education, to the extent resources allow, to operators of small businesses and industrial uses, and residents located near surface water bodies regarding proper storage, handling and disposal of hazardous materials.
10. The county should work with property owners and interested parties to educate on and promote voluntary practices landowners can take on to help protect water quality.

**OBJECTIVE B : *Lake Management*** - To provide for a comprehensive, long-term approach to lake management that accommodates all appropriate uses and benefits, consistent with the maintenance or enhancement of water quality.

**POLICIES:**

1. The county should work with property owners and interested parties to develop an integrated aquatic management plan for lakes, consistent with best available science and the Clean Water Act, which addresses pollution sources, such as stormwater runoff and on-site disposal system effluent, and the cumulative impacts of existing and planned future land and resource uses within the watersheds.
2. The county should strive to reduce the spread of Eurasian milfoil and other exotic aquatic weeds through monitoring, public information and other means.

**OBJECTIVE C: *Marine Waters and Shoreline Management*** - To preserve and protect marine shorelines and near shore areas as valuable natural resources and habitats, consistent with state and federal law.

**POLICIES:**

1. The county should regulate uses and activities along the marine shoreline and within the waters of Puget Sound, consistent with the State Shoreline Management Act and the Clean Water Act, based on best available science and cumulative impact assessments of existing and planned future land and resource uses in upland watersheds.
2. The county should identify and protect, consistent with best available science, important, sensitive marine habitats, such as juvenile salmon migration corridors, kelp and eelgrass beds, shellfish beds, and herring and smelt spawning areas.
3. The county should protect special shoreline features of historic, archaeological, cultural, scientific and educational value or significance through coordination and consultation with the appropriate local, state and federal authorities, affected Indian tribes, and property owners.
4. The county should provide information to property owners regarding various protection options for their marine shoreline consistent with the State Shoreline Management Act. Encourage the use of “bioengineered” shoreline stabilization as an alternative to bulkheading or other forms of shoreline armoring where necessary to protect existing structures from erosion.

**FREQUENTLY FLOODED AREAS**

**GOAL 4: PROTECT LIFE AND STRUCTURES FROM FLOOD HAZARDS AND RETAIN THE FLOOD STORAGE, TRANSMISSION CAPACITY, AND HABITAT VALUE OF FLOODPLAINS.**

**OBJECTIVE A:** To provide the highest degree of flood protection at the least cost.

**POLICIES:**

1. The county should provide the highest degree of flood protection at the least cost through identification and accommodation of natural flooding and channel migration processes that pose hazards to life or property. Protection and management should be based on best available science and cumulative impact assessments of existing and planned future land and resource uses within the floodplains, channel migration zones, and watersheds.
2. The county should prohibit development and placement of fill in floodways and floodplains, except to the minimum extent necessary to accommodate public infrastructure and utilities that cannot be accommodated elsewhere; to stabilize channels against erosion in order to protect existing agricultural lands, public roads and bridges, public infrastructure, utilities and significant private structures; and to achieve habitat enhancement. Any development in the floodways should be designed to avoid habitat degradation. Stream bank stabilization, if necessary, should be of a type that maintains or enhances habitat functions. Rip-rap and other hard armoring should only be used if there is no effective alternative, based on sound engineering principles, to protect existing structures or public facilities.
3. The county should provide for land uses such as forestry, open space, public recreation, existing agriculture and water-dependent uses in areas subject to river flooding to minimize risks to life and structures and help retain or enhance habitat functions. Other uses and development in the floodplain should be restricted to minimize public safety risks (e.g., through compensating design features) and loss of habitat function.
4. The county should minimize existing and continued degradation of long-term stream channel migration processes that allow formation of essential habitat features by evaluating existing land use patterns, prohibiting construction of new structures in channel migration zones through programmatic and regulatory approaches, and by minimizing streambank stabilization.
5. The county should actively participate in the multi-jurisdictional flood hazard reduction efforts within the Chehalis River Basin.
6. The county should strive to identify and prioritize resources that protect socially vulnerable and underserved communities that often suffer the greatest losses during natural disasters such as flood hazards.

7. The county should maintain the county's enrollment in the Community Rating System through the National Flood Insurance Program.

## FOREST RESOURCES

### GOAL 5: ENHANCE AND PROTECT FOREST RESOURCES.

**OBJECTIVE A:** Identify priority forests for preservation to support and improve ecological functions, attenuate stormwater flows, sequester carbon, and offset or mitigate potential impacts from development.

1. The county shall develop a tree canopy monitoring program and utilize the results to improve efficacy of regulations to maintain a balance between forest preservation and economic development.
2. The county should develop tree canopy targets for different categories of land use based on soil type and site index.
3. The county shall develop a community outreach program to promote the benefits of forests and trees as they relate to a healthy environment, climate change, stormwater, and community livability.
4. The county should create an adaptive management plan for county owned property that is forested.
5. The county should identify and incentivize the protection of structurally complex, mature tree stands which have at least 25% of trees over 100 years in age.
6. The county should protect structurally complex, mature tree stands which have at least 25% of trees over 100 years in age that are publicly owned.
7. The county should identify and develop strategies to incentivize protection of areas most at risk of conversion.

### GOAL 6: MANAGE FORESTS AS ASSETS.

**OBJECTIVE A:** Formally adopt a system for calculating ecosystem service value for forest lands considering them essential assets that are planned for, managed, and invested in to meet the needs of current and future generations.

#### POLICIES:

1. County Departments and the Board of County Commissioners should cooperatively plan for, invest in, track progress, and adaptively manage forests as an asset.

2. The county should continuously improve mapping, inventory, and baseline information of natural assets and their condition.
3. The county should promote the most efficient and effective use of public financial resources for county projects and programs related to forest resources.

## IMPORTANT FISH, WILDLIFE, AND PLANT HABITAT

### GOAL 7: PROTECT, CONSERVE, AND ENHANCE THE ECOLOGICAL FUNCTIONS OF IMPORTANT FISH, WILDLIFE, AND PLANT HABITATS.

**OBJECTIVE A:** Identify important fish, wildlife, and plant habitats and develop strategies for protecting or restoring important habitats, particularly if they are at risk of significant degradation.

#### POLICIES:

1. The county should protect fish and wildlife habitats that are important to the long-term viability of locally important species in Thurston County, which are unique or rare, or which contain state priority species or species listed under the federal Endangered Species Act.
2. The county should identify and protect (e.g., through easements, fee acquisition, or regulations) land providing essential connections between riparian habitat areas, open spaces, and significant wildlife habitats sustaining state priority, federally listed, or locally important wildlife species.
3. The county should encourage protection of areas containing special plants and special plant communities listed by the state Department of Natural Resources Natural Heritage Program.
4. The county should establish and protect riparian habitat areas to maintain or enhance the functions sustaining aquatic life and terrestrial wildlife, consistent with best available science.
5. The county should establish priorities for performing stream/subwatershed assessments to tailor and refine riparian habitat widths, consistent with best available science, to provide appropriate water quality and habitat protection while minimizing the burden on affected property owners. Priority should be given to those areas at greatest risk of degradation, for example, due to potential impacts from existing and planned development, the sensitivity of dependent species, or the sensitivity of the watershed's hydrology to development.
6. The county should evaluate streams/riparian areas supporting anadromous fish, sensitive native resident fish, or state priority wildlife species to determine their long-term viability to sustain such fish and wildlife at buildout of the drainage basin under current regulations, consistent with best available science. The county should build upon the information and analysis produced

through the Watershed Resource Inventory Area projects as necessary to assess current and projected stream and riparian conditions. In performing the assessments, factors such as stream gradient, channel dimensions, valley configurations, historical conditions, current stream conditions, the width, continuity and quality of riparian areas, the presence of any associated wetlands, aquatic and terrestrial habitat utilization and sensitivity, the intensity of adjacent uses, current zoning, the cumulative impacts of existing and planned future land and resource use, subwatershed hydrology (e.g., based on soil characteristics, tree cover, land use types and characteristics, impervious surface coverage, and the performance of existing stormwater facilities), and water quality should be considered.

If any streams/riparian areas that currently support anadromous fish, sensitive native resident fish, or state priority wildlife species would not be expected to sustain such fish and wildlife at buildout of the subwatershed under current zoning and development regulations, the county should identify and pursue viable remedial actions to preserve or enhance the habitat functions (e.g., maintaining water quality). Remedial actions may include, for example, limits on effective impervious surface coverage and retention of substantial tree cover in the subwatershed, higher stormwater standards, reduced housing density, limits on stream crossings by roads or utility lines to maintain the continuity of riparian areas, expanded riparian areas, and restoration.

7. The county should identify priorities for fish and wildlife habitat protection/acquisition and other remedial actions necessary to maintain or restore the riparian or important upland habitat. Consider giving highest priority for habitat protection/acquisition to the following:
  - a. streams/riparian areas with sensitive fish or wildlife species in watersheds with existing or planned levels of development that threaten fish and wildlife survival;
  - b. streams/riparian areas that support significant numbers of anadromous or sensitive native resident fish in drainages with moderate levels of development which, based on best available science, have potential to be maintained or restored if prompt action is taken;
  - c. streams/riparian areas largely in a natural condition that support the county's largest or most sensitive populations of Chinook, coho or chum salmon, steelhead, cutthroat trout or other native fish, particularly if they are listed as endangered or threatened species; and
  - d. streams/riparian areas that support sensitive populations of priority wildlife species or significantly affect shellfish beds subject to harvest restrictions or closures.
8. The county should provide for removal of existing "man-made" barriers to anadromous fish migration in streams (e.g., impassible culverts) and prohibit installation of new barriers.

9. The county should preserve adequate water quantity and quality for fish migration, spawning, incubation and rearing, including peak and summer flow levels, dissolved oxygen and chemical content, sediment load, and temperature.
10. The county should maintain and improve surface water quality, consistent with the Clean Water Act, such that pollution does not imperil public health or the survival of fish, shellfish, or other aquatic life or prevent the harvest of shellfish. Surface waters within the drainage basins of Geologically Sensitive Areas, and areas of significant recreational or commercial shellfish harvesting should be maintained or restored to the highest quality possible.
11. The county should prohibit uses and activities that degrade lakes, streams and shellfish beds or result in the loss of the natural functions of waterbodies, wetlands, and groundwater aquifers.
12. The county should require that sewage treatment plant owners explore opportunities for the beneficial use of treated wastewater before any new point discharges are authorized.
13. The county should prohibit any new wastewater discharges, including those from sewage treatment plants, into waters where shellfish are harvested, if the discharges would significantly harm the shellfish or their harvest potential.
14. To the extent that resources permit, the county should implement the relevant portions of the adopted Thurston County Flood Hazard Mitigation Plan and Hazards Mitigation Plan for the Thurston Region.
15. The county should prevent development and activities in streams, riparian areas, wetlands, other protected wildlife habitats and any associated buffers that would damage their functions, except to the minimum extent necessary when there is no reasonable alternative for accommodating an essential use (e.g., an essential road or utility crossing).
16. The county should encourage stream and wetland restoration activities consistent with best available science through partnerships between the county, conservation district, other agencies, and landowners. Provide incentives for landowners to retain, enhance, or restore important wildlife habitat such as reduced permit fees, expedited permit review, and reduction in property taxes.

## NATURAL HAZARDS

**GOAL 7: PROTECT INFRASTRUCTURE, PROPERTY, AND THE ENVIRONMENT FROM NATURAL HAZARDS AND THEIR POTENTIAL IMPACTS.**



**OBJECTIVE A:** Thurston County should identify areas of increased hazard impacts, develop mitigation strategies, and implement such strategies to reduce repetitive losses.

**POLICIES:**

1. The county should create hazard recovery plans and prioritize the restoration of vital public safety facilities and other essential community assets (e.g., hospitals and major bridges).
2. The county should pursue funding to implement highest priority actions identified in the adopted Hazards Mitigation Plan for the Thurston Region.
3. The county should develop and implement a comprehensive drought-response strategy that sets action levels for different drought stages.
4. The county should evaluate and secure sustained funding to restore and protect riparian vegetation along freshwater and marine shorelines.
5. The county should increase funding, education, and incentives for private landowners to manage lands in ways that enhance ecological and economic resilience (e.g., protecting and restoring forests, prairies, and shoreline/riparian areas).
6. The county should incorporate projected sea-level rise and flooding information into the designation of regulatory hazard areas.
7. The county should enforce required provisions for fire safety under the Wildland Urban Interface Code, as adopted into the State Building Code.

**GREENSPACES**

**GOAL 8: IDENTIFY AND PROTECT IMPORTANT GREENSPACES USEFUL FOR RECREATION, TRAILS, WATER RESOURCE PROTECTION OR WHICH CONTAIN IMPORTANT WILDLIFE HABITATS.**

**OBJECTIVE A:** *Important Greenspaces Designation* – To provide for identification of important greenspaces within and adjacent to Thurston County, consistent with state law.

**POLICIES:**

1. The county should update the public lands and open space maps (Maps E-2,E-3, and E-4) with periodic Comprehensive Plan updates to accurately reflect current conditions and knowledge regarding sites, open space corridors (including corridors within and between urban growth areas), and ecological units which are useful for recreation, trails, or water resource protection,

contain important wildlife habitats and species, or provide connections to critical areas that would be useful for wildlife travel or dispersal.

2. The county should coordinate greenspaces planning with important greenspaces stakeholders (e.g., tribes, federal agencies, state departments, county departments, adjacent jurisdictions, private conservation organizations, local land trusts, resource land owners, county residents and other interested parties.)
3. The county should support greenspaces planning efforts by important greenspaces stakeholders within or adjacent to Thurston County.
4. The county should provide for extensions of urban trails that have been identified by an adjacent jurisdiction, consistent with the public lands and open space maps (Maps E-2 and E-3) . However, important wildlife habitats, including riparian areas, should have priority over trails. Therefore, trails should be located, designed, and constructed to avoid significantly degrading important wildlife habitats or disrupting their use by state priority or federally protected wildlife species.
5. The county should support creation and enhancement of green and open space corridors that allow fish and wildlife to safely access and move through and between habitat areas. Examples of opportunities include collaborating with state and local agencies on projects that support enhancement of green and open space corridors within the county.

**OBJECTIVE B: *Protection Options*** – Use a variety of protection options in order to protect the greatest number of priority greenspaces.

**POLICIES:**

1. The county should establish a system for identifying and prioritizing greenspaces for acquisition or other forms of protection in order to maximize public benefits. The following types of lands should be considered for acquisition:
  - a. lands important to public health and safety, such as critical aquifer recharge areas for public drinking water supplies, wellhead protection areas, flood prone areas, geologically hazardous areas, and sensitive and priority watersheds defined in adopted basin plans;
  - b. lands containing environmental features with significant educational, scientific, wildlife habitat (especially areas important to the preservation of anadromous fish), natural or historic values;
  - c. lands that provide access to fresh and marine waters;
  - d. lands with recreational values, such as sites with potential to accommodate picnicking, boating, fishing, swimming, camping, trail use, nature observation, play areas and sports

- fields, or open space corridors within and between urban growth areas, consistent with the public lands and open space maps (Maps E-2 and E-3) ; and
- e. lands that provide scenic amenity or community identity.
  - f. Lands that connect existing greenspace areas and corridors that can provide greenspace benefits.
2. Improve the health and general welfare of the public by promoting the planning, management, restoration and preservation of green and open space lands and habitat corridors that can serve as potential wildlife corridors.
  3. The county should identify and evaluate the protection options for each important greenspace. Preservation options should include, but not be limited to: critical area designation (where appropriate), clustered development, enrollment in the Open Space Tax Program, conservation easements, purchase or transfer of development rights, and public acquisition.
  4. The county should provide for identification and preservation of important greenspaces in coordination with the acquisition and development of future county parks, trails, preserves, and water resource protection areas.
  5. The county should encourage private property owners to protect important greenspaces through the clustering of development on the least sensitive portion of the property.
  6. Promote integration of development projects into their surrounding environments, promoting a “greenbelt natural corridor” for movement and use by species. These areas should use native plants that support native wildlife.
  7. The county should encourage private property owners with priority resources, according to the Public Benefit Rating System, to enroll their properties in the Open Space Tax Program.
  8. The county should support efforts by land trusts and conservation organizations to acquire either fee simple property for preserves or conservation easements on private lands serving important habitat or water quality functions, protecting critical areas, or identified on the open space map (Map E-3).
  9. The county should support efforts to protect lands identified in the Washington Department of Natural Resources Natural Heritage Data Base, through either private initiatives or public acquisition.
  10. The county should support efforts by other governmental agencies to acquire and develop parks, trails or preserves within or adjacent to Thurston County, consistent with adopted park plans, the

public lands and open space maps (Maps E-2, E-3, and E-4), and the preservation of important wildlife habitat.

11. The county should examine, and act on as appropriate, opportunities to develop operating agreements and/or leases for land in proximity to urbanizing areas that are appropriate for preservation as open space, nature study areas or conservation areas.
12. The county should develop liaisons with the Nature Conservancy, land trusts and other organizations and agencies interested in acquisition of lands for conservation and preservation.
13. The county should require, to the extent legally permissible, that areas for active recreation or open space be dedicated as part of the development approval process for residential developments containing ten or more acres that are zoned for more than one residential dwelling unit per acre, based on the demand expected to be generated by the developments for such areas.
14. The county should consider amending the open space program enrollment criteria, beyond the existing exceptions, to enable enrollment of parcels of less than five acres that contain important wildlife habitat, consistent with Chapter 84.34 RCW.
15. The county should encourage the use of special incentives to preserve and protect high quality or sensitive environmental resources that regulations do not adequately protect or to minimize the burden of affected private property owners. The means to be used (in order of priority) include: open space taxation, the assistance of federal or state resource agencies, the initiatives of private conservation organizations and local land trusts, or public acquisition.
16. The county should consider open and green space corridors when evaluating land use changes or acquisition of conservation lands. This policy should not be construed to prioritize open and green space corridors above other considerations, which may be dependent on each type of request or acquisition.

## COUNTY PARKS, RECREATION, AND OPEN SPACE

Action needs for parks are provided in the Capital Improvement Program and the Parks, Open Space and Trails Plan (2020).

GOAL 1: SECURE ADEQUATE FUNDING FOR THE OPERATION, MAINTENANCE, AND IMPROVEMENT OF THE COUNTY'S RECREATIONAL PROGRAMS, PARKS, TRAILS, AND NATURE PRESERVES THROUGH THE IMPLEMENTATION OF SUSTAINABLE FUNDING STRATEGIES.

GOAL 2: OPERATE AND MAINTAIN THE PARKS, TRAILS, NATURE PRESERVES, AND RECREATION

PROGRAMS IN A SAFE, CLEAN, AND ENVIRONMENTALLY RESPONSIBLE MANNER.

GOAL 3: EXPAND EDUCATIONAL AND INTERPRETATIONAL OPPORTUNITIES OF THE NATURAL, CULTURAL,

HISTORICAL, AND ARTISTIC HERITAGE WITHIN THE COUNTY'S PARKS, TRAILS, AND NATURE

PRESERVES.

GOAL 4: PROVIDE CONNECTIVITY, WHERE FEASIBLE, BETWEEN OPEN SPACES, PARKS, PRESERVES,

TRAILS AND WILDLIFE CORRIDORS.

GOAL 5: PROMOTE COMMUNITY BY EXPANDING THE COUNTY'S REGIONAL TRAIL SYSTEM TO CONNECT THE COUNTY'S URBAN AND RURAL COMMUNITIES.

GOAL 6: PROMOTE COMMUNITY BY PROVIDING OPPORTUNITIES FOR INDEPENDENT

PLAY AS WELL AS ORGANIZED RECREATION, SPECIAL EVENTS, AND GROUP/FAMILY ACTIVITIES.

GOAL 7: COORDINATE COUNTY PARKS AND RECREATION PROGRAMS WITH THE COUNTY HEALTH

DEPARTMENT'S HEALTH AND WELLNESS PROGRAMS TO FOSTER THE WELL-BEING OF OUR COMMUNITY.

GOAL 8: IMPROVE PUBLIC ACCESS TO THE COUNTY'S FRESHWATER AND MARINE SHORELINES THROUGH

ACQUISITION, EASEMENTS, AND LEASE ARRANGEMENTS.

GOAL 9: ACQUIRE AND DEVELOP PARK LANDS TO MAINTAIN A LEVEL OF SERVICE THAT KEEPS PACE

WITH POPULATION GROWTH AND DEMOGRAPHIC CHANGE IN THE COUNTY.

GOAL 10: BE RESPONSIBLE STEWARDS OF THE COUNTY'S NATURAL, HISTORIC, CULTURAL AND ARTISTIC

RESOURCES FOR CURRENT AND FUTURE GENERATIONS BY ACQUIRING AND PROTECTING AREAS OF SIGNIFICANCE.

GOAL 11: WORK WITH OTHER PARK, RECREATION AND OPEN SPACE PROVIDERS (INCLUDING PUBLIC, NON-PROFITS AND PRIVATE ENTITIES) TO ENSURE A COORDINATED AND COST-EFFECTIVE APPROACH TO MEETING THE REGION'S RECREATION AND NATURAL RESOURCE PRESERVATION NEEDS.

GOAL 12: PROTECT THE RECREATIONAL AND ENVIRONMENTAL VALUE OF EXISTING PARKS, TRAILS AND PRESERVES.

GOAL 13: CREATE A SAFE, PRODUCTIVE, AND REWARDING WORKPLACE WHICH EMPHASIZES TEAMWORK, COMMUNICATION, AND INTERDEPARTMENTAL COORDINATION.

**POLICIES:**

**Acquisition Policies:**

1. Ensure that the ability to operate and maintain both existing and new assets is factored into decisions on acquisition of parkland, trails and greenways, cultural resources, nature preserves and other properties.
2. Acquire land and corridors proactively to deliver needed services. This includes acquiring the following:
  - a. Environmentally sensitive lands and resources that preserve wildlife habitat;
  - b. Sites of historical and cultural significance;
  - c. Marine shoreline and river access sites; and
  - d. Park land in configurations that maximize accessibility and minimize conflicts with surrounding land uses.
3. Maintain ability to react to property acquisition opportunities that emerge.
4. Use trails and greenways where practicable to link county, city, and regional parks and preserves.

**Planning, Development, and Improvement Policies:**

1. Assess county needs and demands through annual review of the POST plan. Update the plan every five years. During the five-year update of the plan, evaluate undeveloped properties to assess merits for meeting county needs and/or their sale/exchange value.
2. Use green design and low-impact methods in developing parks and facilities, including county adopted Integrated Pest Management principles.
3. Solicit community input in the development of parks, trails, facilities, programs and services.
4. Ensure park design and development guidelines conform to local ordinance and accepted state and federal standards.
5. Provide educational/interpretive signs to foster public stewardship of the environmental, historical and cultural features of parks, preserves and trails. Use universal design standards for signs and facilities.
6. Include environmental, historic and cultural education as integral components of park experience.
7. Work with other parks/recreation and open space providers (public, private and non-profit organizations) to ensure a coordinated and cost-effective approach to meeting the region's park, recreation and preservation needs.
8. In collaboration with other jurisdictions, explore potential recreational uses of undeveloped public lands.
9. Actively pursue opportunities that allow for the preservation of natural systems, critical landscapes, heritage trees, and other environmental assets.
10. Work with other jurisdictions to establish and protect open space and habitat corridors with linkages to regionally significant open spaces and areas of diverse habitat.
11. Pursue opportunities to improve parks and trails administration and planning.

**Operation and Maintenance Policies:**

1. Develop a comprehensive program that identifies maintenance needs for all parklands, trails, nature preserves, facilities and equipment.
2. Maintain property and assets in a manner that:
  - a. Maintains safety and reduces public liability.



- b. Supports ecological functions and minimizes disturbances to natural vegetation and wildlife habitats.
3. Manage and conserve natural preserves based on sound scientific principles. Manage vegetation through use of Integrated Pest Management programs.
4. Use on-site caretakers in park and recreation facilities as a security and maintenance resource whenever feasible. Encourage residents, community organizations and other volunteers to share responsibility for parks by giving them a role in park stewardship.
5. Define park use rules and regulations through the county's park ordinances, and post them in conspicuous locations at each park or recreational site. Park use rules and regulations should maximize access and ensure safety and the protection and preservation of public assets.
6. Follow training and safety awareness standards as prescribed by the American Public Works Association Manual adopted by Thurston County Public Works.
7. Expand cooperation with other parks/recreation agencies to operate and maintain facilities, including alignment of equipment purchases when practicable.

**Financial Resources and Regional Partnership Policies:**

1. Ensure stable funding for parks and recreation services, operation and maintenance. Diversify the county's revenue base by pursuing additional funding sources including enterprise initiatives, support from tribes and foundations, grants and partnerships. Work with regional partners to assess feasibility of creating a Metropolitan Park District.
2. Work with local, state and federal jurisdictions to evaluate impacts of proposed legislation on parks and recreation, and/or to draft new legislation that supports the Thurston County Parks and Trails' mission.
3. Work with other parks and recreation providers within Thurston County to identify opportunities for mutual gain. When feasible, use interagency agreements for financing acquisition, facility development, and operation and maintenance to reduce costs and retain financial flexibility.
4. Work with other public and private park and recreation providers to avoid duplication of services, improve facilities, and reduce costs through coordinated planning and development.

## AIR QUALITY

**GOAL 8:** PROTECT AND IMPROVE THE COUNTY’S AIR QUALITY AND MINIMIZE OR ELIMINATE ODOR AND NOISE FROM NEW LAND USES THAT WOULD REDUCE THE LIVABILITY OF RESIDENTIAL AREAS OR SIGNIFICANTLY DEGRADE IMPORTANT WILDLIFE HABITAT.

**OBJECTIVE A:** To protect the livability of established neighborhoods and to protect sensitive wildlife habitats.

### POLICIES:

1. The county should support federal, state, and regional clean air policies and air quality standards and regulations.
2. The county should assess the impacts of new land uses and activities on air quality, including pollution, particulate matter, odor and noise. The county should direct those uses that are likely to generate health or nuisance problems away from residential neighborhoods, schools, hospitals, and facilities housing residents who are particularly susceptible to air quality problems (e.g., long-term health care centers), and wildlife refuges.
3. The county should maintain the peace and quiet of residential neighborhoods by:
  - a. limiting noisy, polluting, or heavy traffic generating land uses and activities in close proximity to such areas;
  - b. through the use of screens, open space, or other buffers; and
  - c. through enforcement of noise and air emission standards.
4. The county should minimize the noise impacts from noise-producing sources, such as airports and military firing ranges, by designating noise-impacted lands for use as forestry, agriculture, public reserves, industrial and, as a last priority, low density residential uses. The deed, title, or covenants for lots in new residential subdivisions should be required to contain statements notifying prospective purchasers that the property will be affected by noise.
5. The county should continue to coordinate with local and regional government agencies to reduce air pollution by adopting land use and transportation plans that help reduce the amount of vehicle emissions.
6. The county should provide education and information to the public to promote reduction of air pollutants and particulate matter.

## MANAGEMENT APPROACHES

**GOAL 9:** ENCOURAGE COMPREHENSIVE, SCALE-APPROPRIATE APPROACHES TO ENVIRONMENTAL RESOURCE MANAGEMENT AND COORDINATION OF MANAGEMENT ACTIONS.

**OBJECTIVE A:** *Management Approaches*- To encourage and facilitate coordination of resource management to enable efficient use of public funds, maximize environmental and public benefits through coordinated and complementary actions, and to facilitate work at the appropriate scale (e.g., subwatershed).

### POLICIES:

1. The county should establish management approaches that reflect our dependence on natural systems and maintain a balance between human uses and the natural environment.
2. The county should establish a pattern and intensity of land and resource use that are consistent with the limitations imposed by natural constraints (e.g., flooding, steep slopes prone to landslides, and saturated soil conditions), sustain environmental functions (e.g., aquifer recharge, water storage and cleansing performed by wetlands), and minimize public safety risks.
3. The county should assess the cumulative impacts of past, current, and planned future land and resource uses on the county's natural environment and implement management and protection programs that address these impacts.
4. The county should incorporate the following in management approaches and outreach and education programs: the use of incentives and voluntary programs; regulation; restoration; construction; maintenance; county or land trust acquisition; and adaptive management, including establishing performance goals and monitoring programs, to enable evaluation of the effectiveness of implemented regulations and programs.
5. The county should provide for management at the appropriate scale (e.g., subwatershed), take into account the many factors and interests involved, and draw upon best available science.
6. The county should select a management approach that best addresses the degree of risks or hazards to the public, the uniqueness and sensitivity of the resource, and the long-term public benefit and the cost and financing feasibility.
7. The county should designate and manage Critical Areas in a manner that will sustain dependent human and wildlife use and avoid loss of life and damage to structures.

8. The county should identify and designate in the Critical Areas regulations geographic areas with unusual physical features or high sensitivity to human impacts that require management approaches specially designed for each area.
9. The county should explore and implement a Natural Capital Facilities approach to resource management by building on the existing 2012 Earth Economics Ecosystem Services evaluation by identifying methodological improvements necessary to represent the capital and services provided by the county's natural systems.

**OBJECTIVE B:** *Water Resource Management Approaches* – To coordinate water resources planning, funding and implementation within Thurston County to ensure high quality surface and groundwater, preserve the functions of water resources, ensure compatibility between land and water uses and minimize the costs of parallel programs.

**POLICIES:**

1. The county should manage county-wide water resources through a coordinated water resources program that integrates county groundwater, stormwater, lakes, stream and wetland programs related to water quantity and quality.
2. The county should consider the hydrologic continuity between ground and surface water when managing water resources.
3. The county should address water resource concerns by the appropriate scale, such as a catchment, subwatershed or sub-basin for surface waters and by aquifers for groundwater.
4. The county should support watershed planning processes conducted under RCW 90.82 and RCW 90.94 as a framework for comprehensive water resource management.
5. The county should involve affected stakeholders in groundwater, watershed and stormwater basin planning.
6. The county should support and implement the county-adopted water resource plans addressing watersheds, stormwater, sewerage, groundwater, water supply and solid waste, including the Northern Thurston County Ground Water Management Plan and the South Thurston County Aquifer Protection Strategy.
7. The county should protect public water supplies from contamination to avoid the cost of developing new water sources.
8. The county should manage water resources for multiple beneficial uses. Use for one purpose should preserve opportunities for other uses, while maintaining overall water quality. When

conflicts arise, the natural system should be given priority, particularly if the use would be detrimental to anadromous fish or public safety.

9. The county should monitor both surface water and groundwater to evaluate program effectiveness, establish long-term trends for both water quality and water quantity, and provide for the early detection of pollution, to minimize the damage and the cost of resource restoration, and to provide a basis for adaptive management.
10. The county should coordinate with other jurisdictions to develop project types and technical approaches to effectively manage water across jurisdictions. Effective management and corresponding projects should prioritize water availability at the subbasin level to the maximum extent practicable.
11. The county should explore approaches to managing water resources on a longer planning horizon (50-90 years) to ensure water availability for long-term population growth and the sustainability of instream flows.