

# 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 us, such as providing recreational opportunities, a vital source of potable water, economic opportunities, and habitat for fish and wildlife. This chapter establishes a framework of goals, objectives, and policies that indicate 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.

#### 2019 Update: Critical Issues

- ❖ Retain and enhance open spaces, recreational opportunities, fish and wildlife habitat, and water.
- ❖ The need for additional public recreation areas and open space to accommodate for growth in the County, and acquiring and maintaining 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.

### GROWTH MANAGEMENT REQUIREMENTS

The Growth Management Act (GMA) sets the following goals for open space and environment:

*Retain open space, enhance recreational opportunities, conserve fish and wildlife habitat, increase access to natural resource lands and water, and develop parks and recreation facilities.*

*Protect the environment and enhance the state's high quality of life, including air and water quality, and the availability of water.*

RCW 36.70A.020 (9-10)

The GMA requires a park and recreation element, consistent with the Capital Facilities plan (Chapter 6), that includes:

- ❖ Estimates of park and recreation demand;
- ❖ An evaluation of facilities and service needs; and
- ❖ An evaluation of intergovernmental coordination opportunities to provide regional approaches to meeting park and recreational demand.

RCW 36.70A.070 (8)

## 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.

### County Wide Planning Policies

The County Wide Planning Policies 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 oak 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.

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.

## A. CRITICAL AREAS

Thurston County is home to five critical areas that are protected under the Washington State Growth Management Act. Critical areas may impact 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 that occupy about thirteen percent 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 Nisqually Wildlife Refuge supports over 300 species of wildlife.

As of 2019, Thurston County is developing a Habitat Conservation Plan (HCP) in order to obtain an Incidental Take Permit (ITP) pursuant to 10(a)(2)(B) of the 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; how those impacts will be minimized and mitigated; and how the HCP is to be funded.

Federally listed species proposed for coverage in the HCP:

- ❖ *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 2,877-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 and 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. 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. McAllister and Allison springs flow from these aquifers and serve as major water sources for the north county public water system. 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.

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. 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 on 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).

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

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. 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 10 percent are generally assumed to have degraded water quality. Two watersheds in Thurston County were near or above this level in 2014: Henderson Inlet, with approximately 17.3 percent impervious surface coverage, and Budd Inlet/Deschutes River with 9.4 percent. Overall the percent impervious cover in Thurston County grew from 3.0 percent in 1991 to 5.2 percent in 2014 (TRPC).<sup>1</sup> Climate change 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.

**Pollution Standards:** Total Maximum Daily Load (TMDL) studies are used to evaluate water sources by describing overall pollutant quantities (loads). TMDLs have been completed for four watersheds in Thurston County. The TMDL process requires states to identify sources of pollution in waters

<sup>1</sup> Thurston Regional Planning Council, Land Cover & Impervious Surfaces, 2014

that fail to meet standards for the federal Clean Water Act and to develop Water Quality Improvement Reports to address those pollutants.

- ❖ **Chehalis River Basin:** The Chehalis River and its largest tributaries have a history of not meeting water quality standards for temperature, dissolved oxygen, and fecal coliform, while many waterbodies in the upper watershed also have difficulties meeting pH, total phosphorus, and turbidity criteria. The Upper Chehalis watershed (WRIA 23) has been identified as a major source of fecal coliform bacteria to the Lower Chehalis watershed (WRIA 22) that includes Grays Harbor. The Upper Chehalis River Fecal Coliform Bacteria Total Maximum Daily Load report states that within the Upper Chehalis watershed, fecal coliform concentrations more than the Washington State water quality criteria are common. To improve water quality the Upper Chehalis watershed will work on (1) implementing and improving best management practices for nonpoint sources, (2) replacing failing on-site sewage treatment systems, and (3) developing a monitoring strategy to evaluate the effectiveness of the TMDL implementation measures.
- ❖ **Henderson Inlet Drainage Basin:** The TMDL found that pollutant loads to some streams need significant improvements. *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. This fecal coliform reduction occurred despite an increase in human population in the watershed and an increase in density within the urban growth areas.
- ❖ **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.
- ❖ **Totten, Eld Inlets Tributaries:** Totten and Eld Inlet and several of its 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 they do not meet water quality standards. The parameters of concern include fecal coliform bacteria, dissolved oxygen, pH, and temperature (Ecology TMDL 2006).
- ❖ **Deschutes Basin:** This basin has been separated into two TMDLs; one focused on freshwater and one focused on marine water.
  - **Deschutes River Basin and Tributaries:** Portions of the Deschutes River, Percival Creek, and Budd Inlet tributaries 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. The TMDL implementation plan was submitted to the U.S. Environmental Protection Agency for approval in 2015.



- **Budd Inlet:** The marine waters of Budd Inlet currently do not meet water quality standards for dissolved oxygen. The Department of Ecology is currently modeling what happens under different scenarios in order to assess how the dissolved oxygen depletion can be reversed. Information from the modeling work will be used in the TMDL.

**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 (typically serve single-family homes) don’t 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 is working with other partners to understand the water needs of future rural residents, and create a plan for each WRIA to address any impacts in ways that will result in the overall improvement of stream health.

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 that 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 resource, 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. The region's air quality has met national air quality standards for the last decade. Burning information and air quality reports are regularly available through ORCAA.

### 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

Thurston County's most common and costly natural hazard is flooding. Approximately 47.46 square miles of the county (about seven percent of the unincorporated area) lie within 100-year floodplains (areas with a 1 in 100 chance of being flooded each year). Between 1962 and 2016, Thurston County has received 16 federal disaster declarations in some part related to flooding, costing over \$206 million.

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 (2003) was Class 5, one of the highest ratings for a county in the nation. Currently, the County is rated a Class 2 (2016), and is one of only six 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.

## B. OTHER NATURAL HAZARDS

Thurston County has endured many other natural hazards additional 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 the mountain 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.

Earthquakes have also caused significant damage in Thurston County. In 2001, the county was shaken violently by a 6.8 earthquake centered near the mouth of the Nisqually River. While most of the county escaped with only minor damage, development 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 be damaged.

In 2003, Thurston Regional Planning Council worked with 15 communities and special districts in Thurston County convened to develop and adopt one of Washington State's first multijurisdictional hazard mitigation plans. "The Hazards Mitigation Plan for the Thurston Region" (updated in 2017) provides a coordinated approach for addressing the 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, divided by: earthquake, storm, flood, landslide, wildland fire, and volcanism.
- ❖ Describes implementation, evaluation, and maintenance.

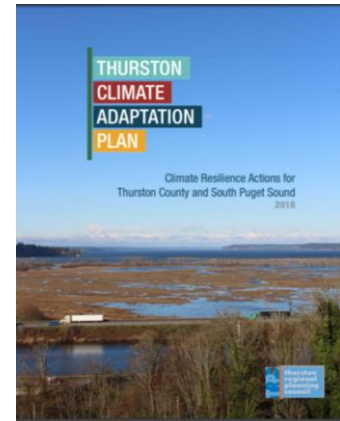
## C. CLIMATE CHANGE

Thurston County faces a changing climate that may worsen many of the natural hazards we face today – storms, floods, droughts, wildfire – and increase regional climate-related stressors such as warmer summers, winters and water, intensified drought and precipitation, and sea-level rise.

Many of these impacts are already beginning to be felt or are likely to manifest within the 20-year planning horizon.

Thurston County partnered with tribes, municipalities, universities, nonprofits, businesses and others to develop the “Thurston Climate Adaptation Plan” (TRPC, 2018). This plan identifies and prioritizes actions to respond to the region’s most severe climate risks, including:

- ❖ General actions,
- ❖ Drought and water quality actions,
- ❖ Flood and erosion actions,
- ❖ Plant and animal actions,
- ❖ Transportation and energy actions, and
- ❖ Wildfire and extreme heat actions.



To address the causes climate change, Thurston County has been working with local partners to develop strategies and actions that will help our community reduce its carbon emissions and remain resilient to climate impacts. Given that everyone’s emissions contribute to global climate change, Thurston County adopted the following emissions-reduction targets (*Resolution #15644*):

- ❖ Achieve 45 percent reduction of 2015 levels by 2030; and,
- ❖ Achieve 85 percent reduction of 2015 levels by 2050.

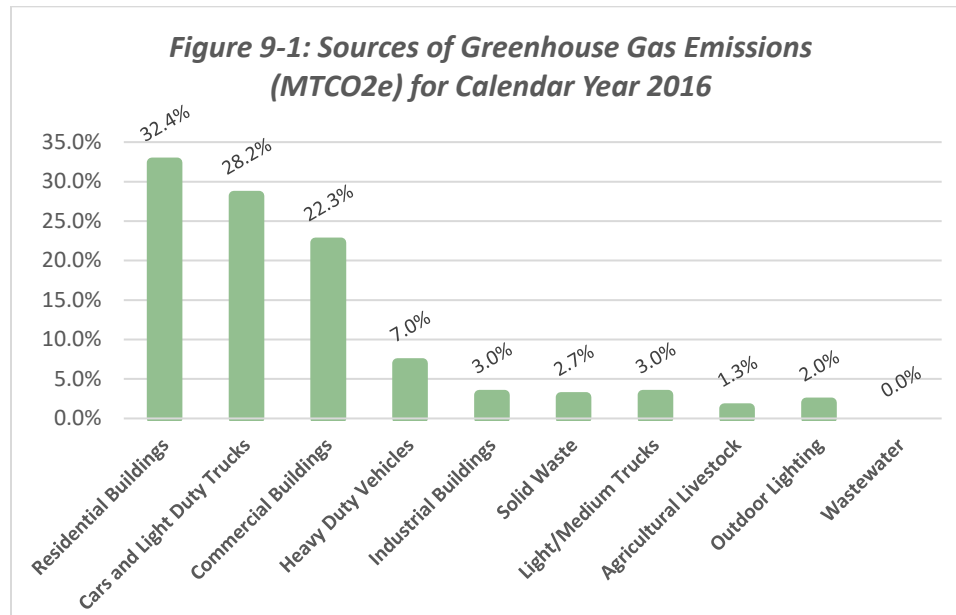
The science-based 2050 emissions target — which also has been adopted by California, King County, Olympia, and many other state and local governments — provides a medium chance of preventing the global average temperature from rising more than 2° Celsius (3.6° Fahrenheit) above pre-industrial levels. The United Nations Framework Convention on Climate Change’s “Paris Agreement,” which was brokered by more than 150 nations in late 2015, includes the 2°C target but also stresses the importance of pursuing a more aggressive 1.5°C (2.7°F) target to mitigate the most dangerous climate change risks.

According to an inventory completed by Thurston Climate Action Team, as of 2016, Thurston County’s annual carbon footprint was 2.97 million tons<sup>2</sup>, the equivalent of 10.9 metric tons of carbon emissions per person. Within Thurston County, the top three sources of greenhouse gas emissions are:

1. Built environment (58%) – the energy used in heating, cooling, and lighting residential and commercial buildings
2. Transportation (38%) – the energy used to power passenger vehicles, freight, and other commercial cars and trucks

<sup>2</sup> Reported as metric tons of carbon dioxide equivalents (MTCO2e)

3. Waste (2.7%) – includes methane emissions from landfills, as well as emissions from wastewater and other solid waste management activities



(Source: Thurston Climate Action Team, 2018)

## V. PARKS, TRAILS, AND OPEN SPACE

Parks, open space, green spaces, and recreation areas provide valuable opportunities to the citizens of Thurston County and help to create livable 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

Open space conservation helps to preserve clean water, clean air, healthy forests and beaches within Thurston County while also conserving land for future use. Open space provides for many

active uses, such as recreation, habitat conservation, flood hazard reduction, agriculture, or forestry. Several tools exist to help conserve open space.

Some programs, such as the open space tax program, may be tailored to protect a specific resource, such as agriculture or forestry. However, these properties often also have several of the other benefits, as mentioned above, and are often open to the public for recreational use. Land enrolled or acquired through these methods helps to ensure land is protected from development associated with future growth.

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

- ❖ **Open Space Tax Program:** In 1970, the Washington State Legislature passed the Open Space Tax 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 land 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 Tax Classification; Open Space - Open Space; Designated Forest Land; and Open Space - Timberland.
- ❖ **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. Landowners are responsible for implementing the projects identified in their voluntary, site-specific stewardship plan, called an Individual Stewardship Plans (ISP). Landowners work closely with technical assistance providers to create the ISP and to identify funding sources to implement those plans.
- ❖ **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 land owners 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. This program authorizes Thurston County and other qualified conservation programs to purchase development rights with the intent to preserve farmland. Land owners 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 a land trust or conservation agency. The land may be leased or sold to farmers who agree to use the land for agricultural purposes. 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 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 attached to the property. They allow the owner to continue to own, and perhaps to 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 more affordable for conservation.

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. Some of the different funding options include:

- ❖ 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
- ❖ Portion of recording fee for farmland preservation

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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 *Parks, Open Space, and Trails Plan*

identifies need and priorities of county residents' for additional parks, recreation facilities, trails, greenways, and natural resource preservation. Some of the critical issues 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 Recreation Vision**

Thurston County's attractive, well managed parks, trails, nature preserves, and recreation programs 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 citizens, 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.

Citizens have identified many values for Thurston County's parks and recreation programs. These include: access, health and well-being, community and family, and preservation. Responses from citizens 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 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, 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 Nisqually 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.

#### D. THURSTON COUNTY PARKLAND CLASSIFICATION

Thurston County’s park system oversees 2,578 acres of parklands, comprised of 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-Tenino trail, and Gate-Belmore Trail link urban and rural areas within the County, providing the ability to travel by non-motorized means. The County has 56 miles of trail.
- ❖ **Special Use Parks** meet the demands for a particular activity or special event. Examples include the five-acre off-leash dog park.
- ❖ **School Parks** (such as Griffin Athletic Fields) combine the resources of two public agencies to provide recreational, social, cultural and educational opportunities.
- ❖ **Historic Sites** are areas of historic significance or older cemeteries that are owned by Thurston County, such as Mima Pioneer Cemetery.
- ❖ **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, 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.

#### E. 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, and per capacity Level of Service as described in the 2020 Parks Impact Fee Study, as amended. Based on the 2040 population data, this 3.0 acre/1,000 residents LOS creates a need for 1,181 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 210 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 2040):</b> An additional 210 acres will be developed to provide additional 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 insure 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 2040.</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:** 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.

**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 "Natural Hazards Mitigation Plan for the Thurston Region," TRPC 2017, 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.

### GROUNDWATER AND AQUIFER RECHARGE AREAS

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

**OBJECTIVE:** 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 the fish.
  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. Urge jurisdictions to develop compatible, coordinated water system design standards for their growth areas.
  8. The county should discourage 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 public education and notification.

To the extent that resources permit, the county should implement the relevant portions of adopted Watershed Plans prepared in accordance with RCW 90.82.

## SURFACE WATER

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

**OBJECTIVE 1:** 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.
3. The county should protect streams 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 limit to, elevation of stream water temperature and low flows in summer and stream channel damage and sedimentation from excessive flows during winter.
4. The county should protect and maintain the valuable natural functions of wetlands by maintaining an undisturbed or restored native vegetation buffer around the wetland and by prohibiting filling, draining, and clearing within wetlands and their associated buffers.

5. 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).
6. 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).
7. The county should consider establishing a wetland mitigation bank to provide an alternative to individual stream and wetland mitigation projects associated with essential public projects. Enhancement of degraded wetlands is preferred over creation of new wetlands.
8. 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.
9. The county should cooperate with adjoining jurisdictions to develop complementary regulations pertaining to streams, upland wildlife habitat, and other Critical Areas that span jurisdictional boundaries.
10. 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.
11. 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.
12. 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.
13. The county should encourage the Thurston Conservation District Board to continue their voluntary efforts regarding education, conservation planning, and use of best management practices on existing farms, golf courses, parks, schools, residences, and other facilities that use pesticides and fertilizers near surface water bodies.

**OBJECTIVE 2: *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 3:** *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, such as dry accretion beaches, and undeveloped bays and lagoons.
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:** 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 emplacement of fill in floodways and floodplains, except to the minimum extent necessary to accommodate public infrastructure and utilities that cannot be accommodated elsewhere and 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 disruption of long-term stream channel migration processes that allow formation of essential habitat features by prohibiting construction of new structures in channel migration zones and 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 regulate uses in and around areas where groundwater periodically surfaces as necessary to avoid property damage and protect groundwater quality.
7. The county should maintain the county's enrollment in the Community Rating System through the National Flood Insurance Program.

## IMPORTANT FISH, WILDLIFE, AND PLANT HABITAT

### **GOAL 5:** PROTECT, CONSERVE, AND ENHANCE THE ECOLOGICAL FUNCTIONS OF IMPORTANT FISH, WILDLIFE, AND PLANT HABITATS.

**OBJECTIVE:** 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. Include wildlife corridors that lead away from riparian areas to facilitate wildlife migration to upland habitats and minimize the potential for increased fecal contamination of streams from wildlife sources.

3. The county should encourage protection of areas containing special plants and special plant communities listed by the state Department of Natural Resources 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, consider 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.

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 Geological 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. The county should cooperate with adjoining jurisdictions to develop complementary regulations pertaining to streams, fish, wildlife, plant habitats, and other Critical Areas that span jurisdictional boundaries.
  - 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 6: PROTECT INFRASTRUCTURE, PROPERTY, AND THE ENVIRONMENT FROM NATURAL HAZARDS AND THEIR POTENTIAL IMPACTS.

**OBJECTIVE 1:** The County should reduce greenhouse gas emissions using the science-based, regionally-adopted targets.

#### POLICIES:

1. The County should promote energy efficiency in homes and businesses so that energy consumption in buildings is reduced.
2. The County should promote renewable energy in homes and businesses so that the share of all energy consumed that is cleaner (non-greenhouse gas emitting) increases.
3. The County should promote more efficient, healthier transportation and land use to reduce motorized vehicle miles traveled and thus fuel consumed as well as greenhouse gas emissions per mile.
4. The County should encourage smart local purchases so that emissions related to solid waste are reduced.
5. The County should establish a standard for approving transportation, zoning, land use and industrial or residential developments based on the impacts these changes or projects will have on the greenhouse gas emissions of the region.
6. The County should support tracking countywide greenhouse gas emissions, and continue to participate in regional efforts to reduce greenhouse gas emissions.

**OBJECTIVE 2:** The County should improve community resilience to climate change

#### POLICIES:

1. The County should plan and prepare for climate change impacts so as to reduce damage from such events as droughts, flooding, tree disease, wildfires and other hazards which have immediate and long-term health implications and are expected to increase as the climate of our region changes.
2. The County should consider ways to ensure local food production and security in the face of changing climate conditions.

**OBJECTIVE 3:** Thurston County should identify areas of increased hazard and climate impacts, develop mitigation strategies, implement such strategies to reduce repetitive losses.

**POLICIES:**

1. 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. Pursue funding to implement highest priority actions identified in the adopted Hazards Mitigation Plan for the Thurston Region.
3. Factor climate impacts into the planning of operations and the coordination of disaster response and recovery activities among first-responders, including public health, law enforcement, fire, and emergency medical services personnel.
4. Develop and implement a comprehensive drought-response strategy that sets action levels for different drought stages.
5. Evaluate and secure sustained funding to restore and protect riparian vegetation along freshwater and marine shorelines.
6. 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).
7. Incorporate projected sea-level rise and flooding information into the designation of regulatory hazard areas.

**GREENSPACES**

**GOAL 7: IDENTIFY AND PROTECT IMPORTANT GREENSPACES USEFUL FOR RECREATION, TRAILS, WATER RESOURCE PROTECTION OR WHICH CONTAIN IMPORTANT WILDLIFE HABITATS.**

**OBJECTIVE 1:** *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 periodically update the public lands and open space maps (Maps E-2 and E-3) 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, locate, design, and construct trails to avoid significantly degrading important wildlife habitats or disrupting their use by state priority or federally protected wildlife species.

**OBJECTIVE 2:** *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 form 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.
2. 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.

3. 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.
4. The county should encourage private property owners to protect important greenspaces through the clustering of development on the least sensitive portion of the property.
5. 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.
6. 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).
7. 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.
8. 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 and E-3) , and the preservation of important wildlife habitat.
9. 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.
10. The county should develop liaison with the Nature Conservancy, land trusts and other organizations and agencies interested in acquisition of lands for conservation and preservation.
11. 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.
12. The county should consider amending the open space program enrollment criteria to enable enrollment of parcels of less than five acres that contain important wildlife habitat, consistent with Chapter 84.34 RCW.
13. 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.

### 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).

#### Goals:

- A. 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.
- B. Operate and maintain the parks, trails, nature preserves, and recreation programs in a safe, clean, and environmentally responsible manner.
- C. Expand educational and interpretational opportunities of the natural, cultural, historical, and artistic heritage within the county's parks, trails, and nature preserves.
- D. Provide connectivity, where feasible, between open spaces, parks, preserves, trails and wildlife corridors.
- E. Promote community by expanding the county's regional trail system to connect the county's urban and rural communities.
- F. Promote community by providing opportunities for independent play as well as organized recreation, special events, and group/family activities.
- G. Coordinate county parks and recreation programs with the county Health Department's health and wellness programs to foster the well-being of our citizens.
- H. Improve public access to the county's freshwater and marine shorelines through acquisition, easements, and lease arrangements.
- I. Acquire and develop park lands to maintain a level of service that keeps pace with population growth and demographic change in the county.
- J. 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.
- K. 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.

- L.** Protect the recreational and environmental value of existing parks, trails and preserves.
- M.** Create a safe, productive, and rewarding workplace which emphasizes teamwork, communication, and interdepartmental coordination.

**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, 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.

**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 Program.
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. 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 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:** 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. Require that the deed, title, or covenants for lots in new residential subdivisions 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 1:** *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 in management approaches, 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.

**OBJECTIVE 2:** *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 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.