CHAPTER 7 ENVIRONMENT

WHAT YOU WILL FIND IN THIS CHAPTER

- Information about the health of Ellensburg's natural environment.
- Policies and programs that seek to protect and enhance natural resources such as critical areas, aquatic resources, and tree canopy.
- Policies that provide a framework for reducing vehicle dependency and air pollution.
- Policies that address minimizing our impacts on the environment through green building and decreasing waste.

OVERVIEW

Ellensburg's environment is comprised of both natural and built features. Views of the Stuart Mountain range, the Yakima River, and healthy air and water are just some aspects of the natural environment that the Ellensburg community values.

The relationships between these features, development, and natural processes have profound impacts on the quality of life in Ellensburg. Preserving the quality of the environment depends on government, business, and individuals working together to protect and improve this amazing area in which we live, work, and raise families. Coordinated positive actions can minimize adverse impacts that can occur during development and redevelopment, or because of previous practices.

This element contains goals, policies, and programs to support the City's role in protecting the natural environment and building an eco-friendly sustainable future. As growth and development occurs, Ellensburg is working to build a healthier, greener, and more viable future for generations to come.

BACKGROUND & CONTEXT

Bordered by the Yakima River to the west, Ellensburg includes unique, environmentally sensitive wetlands and stream corridors that provide amenities for residents and key habitat corridors for wildlife. Ellensburg is also the county seat with a vibrant downtown and University campus. Protecting and enhancing this urban ecosystem requires coordinated efforts by government, businesses, and individuals.

Ellensburg has long embraced and maintained progressive environmental policies, such as promoting and accommodating a variety of transportation methods, and clean industries and development, innovative stormwater and building practices that promote low impact development, land uses to encourage commercial development that provides jobs and services to neighborhoods, and protecting and retaining natural systems.

Ellensburg is a city that cares about trees and in 1983 became the first community in the State of Washington to be designated as a Tree City USA. Ellensburg has maintained its Tree City USA status and today has over 5,600 street trees. Ellensburg has promoted solar energy starting as far back as 2000, and in 2006 installed a 36-kilowatt community solar system, the first of its kind in the nation. As part of the adoption of the 2013 Land Development Code, the City adopted outdoor lighting regulations that help to reduce light pollution and incorporated many strategies from the Energy Efficiency and Conservation Strategy (EECS). There are many environmental benefits to energy efficiency and conservation strategies. These strategies provide environmental benefits to our natural and built environment. However, the primary focus of the EECS was to provide guidance on achieving, measuring, and reporting energy efficiency and conservation.

City operations are only one component in Ellensburg's overall impact on the environment. If the community is to make a significant difference in their impact on local and global systems, it will be because of constructive individual and household choices.

Climate change

The International Panel on Climate Change (IPCC) and University of Washington Climate Impact Group have done extensive research and confirmed that Washington's climate is changing, and the impacts of these projected changes will be far reaching. Although Washington State is working to significantly reduce its contributions to climate change, some changes are likely inevitable. However, there is not clear consensus about what exactly those changes will be. One potential scenario for areas east of the Cascade Mountains could result in warmer, wetter winters with increasing rainfall and rain intensity and increases in extreme weather events. Impacts may include declines in snowpack, increasing stream temperatures, and more frequent summer water shortages in basins such as the Yakima River.

Water quality and quantity

Among Ellensburg's natural resources are the many streams that flow through the City, which are generally confined, channelized, and culverted but most still support fish and other naturally-occurring aquatic life. Water quality is very important in sustaining the community's aquatic resources. With the City's interest in protecting the community's natural resources, a great effort has taken place to enforce stormwater regulations, build and maintain stormwater facilities, and provide education and knowledge to community members about what they can do to protect and improve water quality.

The best way to control pollutants and discharge rates is at the source. The most effective way to achieve that is through best management practices such as those found in the state's Stormwater Management Manual for Eastern Washington. The Washington State Department of Ecology continues to revise the list of best management practices to improve their effectiveness in protecting water quality in order to meet state standards with recent emphasis on low impact development.

Low impact development is a stormwater management strategy that emphasizes the use of existing natural features integrated with small-scale stormwater controls to more closely mimic natural hydrologic patterns with a focus on infiltration. Low impact development techniques include preserving native vegetation, designing development to fit site characteristics, minimizing impervious surfaces, and infiltrating stormwater on site.

Air quality

Ellensburg's geographic position creates optimal conditions for long periods of high pressure that can result in lengthy air inversions during the winter months when wood stoves are commonly used for heating. This is especially concerning during high heating season, when any smoke emitted into the lower atmosphere becomes trapped until changing conditions allow for cleaner air to pass through, exposing residents to unhealthy air. During the winter high heating season, air quality readings from the Washington State Department of Ecology monitoring station in Ellensburg reports one of the highest levels of fine particulate matter ($PM_{2.5}$) in the state. Washington State Department of Ecology issues restrictions on the use of uncertified stoves and fireplaces to help address air pollution from wood smoke that lead to high levels of $PM_{2.5}$.

According to a 2014 Kittitas County Air Quality Survey, for the past several years, Ellensburg's number of days with

FINE PARTICULATE MATTER ($PM_{2.5}$)

$PM_{2.5}$ are tiny particles in the air that reduce visibility and are a concern for people's health when levels in the air are high. Outdoor $PM_{2.5}$ levels are most likely to be elevated on days with little or no wind or air mixing. Outside fine particles come from vehicle emissions, burning of fuels, and natural sources such as forest or grass fires.

unhealthy fine particle pollution levels has risen. According to the Environmental Protection Agency's National Ambient Air Quality Standards Review, Kittitas County is a high-risk community that is in danger of violating the federal air quality standards. If this trend continues, Kittitas County could become an area of non-attainment which would result in costly and demanding federal interventions.

Washington State Department of Ecology and Kittitas County Public Health provide educational resources related to air quality and wood burning stoves. In addition, HopeSource offers a discount on the purchase and installation of a new wood, pellet, or gas device or a ductless mini-split system, when old stoves or inserts are replaced.

Promoting sustainable growth and development and partnering with local organizations and agencies is essential if the City is to improve air quality and maintain compliance with federal air quality standards over the long term. Land use policies that promote a decreased reliance on single-occupancy vehicles, planning practices that place greater emphasis on multimodal transportation options, natural resource conservation practices that reduce the urban heat island effect, and green building practices that increase resource efficiency make clean air easier to achieve.

Critical areas

Ellensburg's critical areas provide a variety of functions and values that are important to the sustainability of Ellensburg's quality of life through the use of critical areas regulations which establish a regulatory framework for critical areas and their buffers. Ellensburg's critical areas regulations extend protection to the following critical areas: wetlands, frequently flooded areas, fish and habitat conservation areas, critical aquifer recharge areas, and geologic hazard areas.

Ellensburg's critical areas provide valuable habitat, protect and enhance water quality, facilitate stormwater conveyance, enhance local aesthetics, and offer recreation, cultural resources, and education opportunities. Ellensburg recognizes the importance of preserving and protecting the functions and values of various environmental features, and recognizes that once destroyed such functions are difficult to replicate or replace.

Critical areas that are within shoreline jurisdiction are regulated by the Shoreline Master Program; those that are not in shoreline jurisdiction are regulated by the City's critical areas regulations. These regulations are periodically reviewed and updated in accordance with state mandates.

WHAT ARE CRITICAL AREAS?

The Growth Management Act requires incorporated areas and counties to adopt regulations for the protection of environmentally critical areas, which include wetlands, aquifer recharge areas, fish and wildlife habitat conservation areas, areas of frequent flooding, and geologically hazardous areas. Critical areas may not be suitable for development, either because they are environmentally sensitive, or it is not safe to build near them.

Wetlands

Wetlands are integral to Ellensburg's urban landscape and the local hydrologic cycle. They reduce floods, contribute to stream flows, and improve water quality. Each wetland provides various beneficial functions, but not all wetlands perform all functions, nor do they perform all functions equally well. Large wetlands and wetlands hydrologically associated with lakes and streams, have a relatively more important function in the watershed than small, isolated wetlands.

Urbanization in the watershed diminishes the function of individual wetlands by increasing stormwater volume, reducing runoff quality, isolating wetlands from other habitats, and decreasing vegetation. Undeveloped land adjacent to a wetland provides a buffer to help minimize the impacts of urbanization. The long term success and function of the wetland is dependent on land development strategies that protect and restore wetland buffers. Science indicates that an undeveloped vegetated buffer is equally important as the wetland itself as it contributes to the function of the wetland by providing wildlife habitat, retaining stormwater, filtering sediment and pollution, and moderating water temperature. Most of the wetlands in Ellensburg are privately owned and regulated by the City's critical areas regulations or shoreline master program.

Frequently flooded areas

Flooding is caused by excess surface water runoff and is exacerbated when eroded soil from cleared land or unstable slopes reduces the waterway's natural capacity to carry water. Construction and development activity within the floodplain reduces the floodway capacity. Flooding can cause significant public safety problems, extensive property damage, and habitat destruction.

The Growth Management Act states that frequently flooded areas should include at a minimum 100-year floodplain designation from the Federal Emergency Management Agency and National Flood Insurance Rate Program. The primary floodplain areas with defined base flood elevations are along Wilson Creek, while other creeks, canals, and irrigation ditch areas are characterized by shallow flooding or have undefined flood depths.

100-YEAR FLOODPLAIN

A 100-year flood is a flood event that has a 1% probability of occurring in any given year.

The flat topography of the City's floodplains can make accurate prediction of flood hazards a challenge, and the floodplain can also be sensitive to relatively small changes resulting from development activities. Under the Flood Insurance Program some floodplain development is allowed if eligibility requirements are met.

Fish and wildlife habitat conservation areas

Fish and wildlife habitat conservation is the management of land for maintaining species in suitable habitats within their natural geographic distribution so that isolated subpopulations are not created. Habitat resources identified in Ellensburg include the Yakima River floodplain, streams and riparian habitats, lakes and ponds, agricultural areas, shrub-steppe habitat, and critical habitat for steelhead and bull trout.

A habitat inventory conducted in 2005 indicated the greatest impacts on areas of wildlife habitat in and around the City have been from agricultural practices and urban development. The majority of the remaining native habitat is generally limited to streams, wetlands, and steep slopes. Seasonal flooding of wetlands in agricultural areas provide temporal habitat for some species such as water fowl. Remnant patches of shrub-steppe habitat are present on steep slopes.

The only river frontage within the City and the largest contiguous tract of native habitat in Ellensburg is found along the Yakima River in Irene Rinehart Riverfront Park. This property is planned to remain undeveloped, park property. The Yakima River floodplain provides significant habitat linkage with other riparian habitats beyond Ellensburg and its UGA.

Critical aquifer recharge areas

Critical aquifer recharge areas are those areas with a critical recharging effect on aquifers used for potable water. Critical aquifer recharge areas have prevailing geographic conditions associated with infiltration rates that create a high potential for contamination of ground water resources or contribute significantly to the replenishment of ground water.

The overall groundwater flow patterns of the aquifer system underlying the City of Ellensburg are generally well established because of the simple hydrogeological framework. This framework consists of groundwater recharge in the uplands around the edge of the Kittitas Valley, deep groundwater flows, and paths that discharge to the Yakima River. There are no naturally occurring aquifer recharge areas identified in the City of Ellensburg that provide water to municipal supply wells.

Geologically hazardous areas

The Growth Management Act defines geologically hazardous areas as land that is not suited for commercial, residential, or industrial development because the lands are susceptible to erosion, sliding, earthquakes, or other geologic events. Geologic hazard areas are regulated mostly to protect public safety and properties. The City of Ellensburg is located on gently sloping topography with very few slopes that qualify as steep slope hazards or landslide hazards under the GMA guidelines. Exceptions to this include slopes immediately west of Brick Road, the slope immediately south of the Kittitas County Fairgrounds extending around the base of the city water tower, and the slope immediately south of the intersection of 10th Avenue and Cora Street.

Shorelines of the state

In Ellensburg, the City of Ellensburg Shoreline Master Program (SMP) regulates shoreline jurisdiction. The Ellensburg Shoreline Master Program contains goals, policies, and regulations that operate as a comprehensive plan as well as regulatory document for shorelines in Ellensburg. Ellensburg contains only two water bodies that are considered shorelines of the state: Yakima River and Lake Mattoon. Critical areas that are in the shoreline jurisdiction of these areas are also regulated by Ellensburg's SMP.

SHORELINE JURISDICTION

In Ellensburg, shoreline jurisdiction includes all shorelines of the state, upland areas within 200 feet of the ordinary high water mark of those waters; associated wetlands and river deltas; and floodways and contiguous floodplain areas landward 200 feet from such floodways.

The purpose and intent of the Ellensburg SMP is to:

- Promote the public health, safety, and general welfare of the community by providing long range, comprehensive policies and effective, reasonable regulations for development and use of shorelines within Ellensburg;
- Manage shorelines in a positive, effective, and equitable manner;
- Assume and carry out the City's responsibilities established by the Shoreline Management Act; and
- Implement the Shoreline Management Act for shorelines of the state in the City of Ellensburg.

The goals and objectives in the most current adopted Ellensburg Shoreline Master Program are hereby adopted by reference in this Comprehensive Plan.

GOALS, POLICIES, & PROGRAMS

These environment goals, policies, and programs help the City to preserve the natural environment, mitigate the impacts of urban development, and restore habitat areas.

Goal E-1: Develop and implement climate change adaptation strategies that create a more resilient community by addressing the impacts of climate change to public health and safety, the economy, public and private infrastructure, water resources, and habitat.

Policy A **Design programs that reduce greenhouse gas emissions through reducing energy consumption and vehicle emissions, and enhancing land use patterns to reduce vehicle dependency.**

Program 1 Support federal, state, and regional policies and education programs intended to protect clean air in Ellensburg and the Kittitas Valley.

Program 2 Advocate for expansion of public transit, car sharing, alternative fuel vehicle facilities, and electric charging stations.

Program 3 Encourage higher density projects to be compatible with future public transportation services.

Program 4 Promote compact growth and infill development in areas that are already developed in order to preserve open space and ecological functions and encourage residential access to services.

Program 5 Work with residents, businesses, and waste haulers to increase recycling and composting opportunities in order to reduce landfill waste.

Policy B **Evaluate the climate vulnerabilities and implications of City actions and identify policies and programs that help to mitigate those vulnerabilities. Consider the effects of shifting conditions (changing rainfall patterns, increasing temperatures, and more extreme weather events) and the effects they cause (altered vegetation, changing water demands, economic shifts).**

Program 1 Minimize the impacts of climate change on our community through implementing climate informed policies, programs, and development regulations.

Goal E-2: Maintain City leadership in energy conservation and renewable energy production.

Policy A **Conduct city operations in a manner that ensures sustainable use of natural resources, promotes an environmentally safe workplace for its employees, and minimizes adverse environmental impacts.**

Program 1 Incorporate LEED certification techniques and/or lifecycle cost analysis for existing and new municipal buildings to reduce ongoing operational energy.

Policy B **Promote and invest in energy efficiency and renewable energy resources and technology as an alternative to non-renewable resources.**

Program 1 Promote the use of solar and other renewable energy technology within the community.

Program 2 Assist citizens with upgrading energy efficiency in homes and businesses through weatherization and improvements to mechanical and lighting systems.

Program 3 Create incentives to encourage the use of sustainable building methods and materials (such as those specified under certification systems like LEED and Built Green) that may reduce impacts on the built and natural environment.

Policy C **Promote community responsibility and engagement through public education and involvement programs that raise awareness about environmental issues.**

Program 1 Include informational handouts and tips for energy efficient practices with utility bills.

Program 2 Provide education to support the implementation of low impact development practices, integrated site planning, and green building practices, focusing on early consideration of these in the site development process.

Goal E-3: Increase the number of residents who choose to walk or bicycle in lieu of driving to reduce auto demand on local and arterial streets, promote air quality, and increase overall community health.

*See the Transportation Chapter for policies and action items that apply to this goal.

Goal E-4: Comply with the Eastern Washington Phase II Municipal Stormwater Permit managed by the Washington State Department of Ecology and EPA.

Policy A **Operate, maintain, and enhance the stormwater system to protect water quality, help preserve and enhance critical areas, and help reduce flooding by maintaining the storm drainage system.**

Program 1 Conduct stormwater plan review and construction inspection for redevelopment and new development projects.

Program 2 Continue to invest and seek funding opportunities for capital improvement projects.

Program 3 Maintain Tree City USA status and minimize the loss of tree canopy and natural areas due to transportation and infrastructure projects and mitigate for losses where impacts are unavoidable.

Program 4 Monitor and assess the storm drainage system and operation and maintenance programs to ensure compliance with the municipal stormwater permit.

Program 5 Encourage low impact development techniques in new development and redevelopment projects to reduce runoff from streets, parking lots, and other impervious surfaces and improve water quality.

Policy B **Strive to eliminate inappropriate discharges into the stormwater system.**

Program 1 Provide education and outreach opportunities on the impacts of rain, snow melt, and wash water on rivers and streams.

Critical areas

The following goals are implemented through the City's Critical Areas regulations in the land development code.

Goal E-5: Protect members of the public and public resources and facilities from injury, loss of life, or property damage due to landslides and steep slope failures, erosion, seismic events, or flooding.

Goal E-6: Maintain healthy, functioning ecosystems through the protection of unique, fragile, and valuable elements of the environment, including ground and surface waters, wetlands, and fish and wildlife and their habitats, to conserve the biodiversity of plant and animal species.

Goal E-7: Direct activities not dependent on critical areas resources to less ecologically sensitive sites and mitigate unavoidable impacts to

critical areas by regulating alterations in and adjacent to critical areas.

Goal E-8: Prevent cumulative adverse environmental impacts to water quality, wetlands, and fish and wildlife habitat, and the overall net loss of wetlands, frequently flooded areas, and habitat conservation areas.

ACTION ITEMS

Coordination and collaboration

Work with state and local agencies and organizations to provide educational materials on wood burning stoves, burn restrictions, and other air quality programs.

Critical areas regulations

Review and update critical areas regulations in compliance with RCW 36.70A.172, best available science, and most recent state guidance.

Educational materials

Provide educational materials on energy efficient practices with utility bills. Provide education to support the implementation of low impact development practice and green building practices.

Incentives for sustainable building methods

Create an incentive program to encourage the use of sustainable building methods and materials that may reduce impacts on the built and natural environment.

Land development code review

Review land development code to ensure zoning and land development code regulations provide for and encourage compact growth, infill development, and mixing of residential and commercial uses.

POLICY CONNECTIONS

The **Environment** chapter sets goals and policies to ensure that the natural beauty and environmental resources of Ellensburg are preserved for future generations. Other chapters of the Comprehensive Plan include goals, policies, and programs that address energy conservation, efficient land use, and active transportation.

Policies that address energy efficiency and conservation, reduction of household waste, and environmental considerations for the development of capital facilities can be found in the **Capital Facilities and Utilities** Element.

The **Transportation** element contains a set of policies on active modes of transportation, public transportation, and environmental considerations for the development of transportation facilities.

Policies about the stewardship of city-managed open spaces are in the **Parks, Recreation and Open Space** Element.

The **Land Use** and **Housing** Elements address compact growth, infill development, and managing growth.