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Natural Systems Chapter Relationship to Vision

Vision	Natural Systems Chapter Concepts
<p>County Government. County government that is accountable and accessible; encourages citizen participation; seeks to operate as efficiently as possible; and works with citizens, governmental entities and tribal governments to meet collective needs fairly while respecting individual and property rights.</p>	<ul style="list-style-type: none">▪ Provides policy direction for County regulations and non-regulatory actions, as well as investments to protect natural resources. Includes policies to help shape intergovernmental processes.
<p>Natural Environment. Natural ecosystems – including interconnected wetlands, streams, wildlife habitat, and water quality – that are rehabilitated, protected and enhanced and that allow for flexible and innovative development to meet environmental and growth goals. In developed areas, the growth pattern supports conservation of non-renewable energy and minimizes impacts on air quality and climate.</p>	<ul style="list-style-type: none">▪ Protect the ecological integrity of streams, lakes, wetlands, Puget Sound and Hood Canal while allowing for compatible growth and development.▪ Manage land use and stormwater to protect groundwater and surface water quality and quantity.▪ Reduce the risk of damage to property, life and the natural environment from geologically hazardous areas and flooding.▪ Protect and restore fish and wildlife habitat, including priority habitats for sensitive species.
<p>Housing. Residential communities that are attractive, affordable, diverse, and livable supported by appropriate urban or rural services. A variety of housing choices are available, meeting a full range of resident income levels and preferences. Residents are able to walk between neighborhoods and to community destinations.</p>	<ul style="list-style-type: none">▪ Minimize habitat fragmentation and protect open space and connective corridors.▪ Ensure that open space plans are consistent with habitat inventories and habitat protection plans.
<p>Open Space. An open space network – including greenbelts, wildlife habitat, forested areas, and active and passive parks – that is accessible, interconnected, provides opportunities for recreation and defines and distinguishes urban and rural areas.</p>	<ul style="list-style-type: none">▪ Focus housing and population growth in urban areas to reduce impacts to natural systems.
<p>Urban Areas. Healthy urban areas that are the region's centers for diverse employment and housing opportunities, all levels of education, and civic and cultural activities.</p>	<ul style="list-style-type: none">▪ Protect rural areas and natural systems by focusing growth in urban areas.
<p>Rural Areas. Rural areas and communities where unique historical characters, appearances, functions, and pioneering spirits are retained and enhanced. Natural resource activities, such as forestry, agriculture, and mining continue to contribute to the rural character and economy. Rural recreation opportunities are enhanced, including equestrian facilities, trails, and others.</p>	<ul style="list-style-type: none">▪ Identify land for commercial and industrial development, and allows for a variety of uses and development types on those lands, while preserving natural resources and ecosystems that contribute to the County's attractive quality of life.
<p>Cultural Resources. Historical and archaeological resources that are recognized and preserved for future generations.</p>	<ul style="list-style-type: none">▪ Focus growth in areas that will have access to urban services such as sewers and water systems, reducing impacts on water quality and quantity▪ Provide policy direction for land use patterns and stormwater management practices to reduce impacts on surface waters and groundwater resources▪ Provide guidance for investments in stormwater drainage infrastructure.
<p>Transportation. An efficient, flexible, and coordinated multi-modal transportation system – including roads, bridges and highways, ferries, transit, and non-motorized travel – that provides interconnectivity and mobility for county residents and supports our urban and rural land use pattern.</p>	



Chapter 4. Natural Systems

4.1. Plan Context

As Kitsap County continues to grow, the detrimental impacts of that growth on the natural environment becomes more pronounced. The proximity of attractive natural areas and the recreational opportunities made available by fish, wildlife, clean water and open spaces play a large role in enhancing the quality of life in Kitsap County. In order to adequately meet the need for protection, preservation and enhancement of natural resources, the Natural Systems Chapter provides a framework that recognizes the relationship between Kitsap County's natural resources, land use planning, and a variety of regulatory and non-regulatory efforts.

This chapter includes goals and policies to protect and enhance natural resources and to guide future growth in a manner that minimizes impacts to the county's natural environment. Impacts of development are minimized primarily through regulations on development while enhancements to natural resources are primarily through non-regulatory efforts. The implementation of the policies outlined in the chapter supports the protection and enhancement of these areas. These elements are defined, mapped, and regulated in the Kitsap County Critical Areas Ordinance (CAO), which received Best Available Science (BAS) review in 2005.

Key elements of natural systems in the county are regulated as critical areas, including geologically hazardous areas, critical aquifer recharge areas, wetlands, frequently flooded areas, and fish and wildlife habitat conservation areas.

Non-regulatory efforts to enhance natural resources include (1) habitat/open space planning and property acquisition, typically by a public entity; (2) salmon recovery planning, monitoring, and project implementation; and (3) water resources planning, monitoring, management, and project implementation.

This chapter works with other chapters of the Kitsap County Comprehensive Plan (Plan) to protect and enhance critical areas and natural resources. Chapter 2, *Land Use*, helps protect sensitive environmental areas by directing intense development away from them and into more suitable areas. This chapter also works with Chapters 5 and 6, *Economic Development* and *Housing*, to keep the community attractive to residents and businesses by retaining the features

that contribute to a high quality of life. This chapter also works with Chapter 10, *Parks, Recreation, and Open Space*, by identifying areas that should be considered for acquisition as County-owned parks and open space.

4.2. Natural Systems Goals and Policies

4.2.1. Geologically Hazardous Areas

Geologically hazardous areas are defined as critical areas due to their susceptibility to erosion, sliding, earthquake, or other geological events. They are not suited to siting high density or intensity commercial, residential or industrial development consistent with public health or safety concerns. Critical aquifer recharge areas are defined as areas that contain hydrogeologic conditions that facilitate aquifer recharge and/or transmit contaminants to an underlying aquifer.

Goal 1. Protect public safety and health, maintain water quality and habitat, minimize erosion of soils and bluffs, and diminish the public cost of repairing areas from damage due to landslides, erosion and seismic activities.

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| Policy NS-1 | Ensure that development in geologically hazardous areas occurs in a manner that poses no hazard to health or property and that minimizes impacts to the natural environment, including stream and shoreline processes. |
| Policy NS-2 | Delineate hydric soils on a wetlands map and ensure development on these soils is in accordance with wetlands policies and regulations. |
| Policy NS-3 | Where information about extensive fill areas is known, depict fill areas as areas of geologic hazard. |
| Policy NS-4 | Review building and land use applications in geologically hazardous areas to see that public health, safety and welfare are protected. |
| Policy NS-5 | Restrict development in Geologically Hazardous Areas unless the site is demonstrated by a qualified geotechnician to be suitable for building. |
| Policy NS-6 | Protect the forested slopes and ridgelines designated as geologically hazardous areas. Formulate design criteria for development in these areas. |
| Policy NS-7 | Maintain and minimize alteration of natural shoreline processes such as eroding shoreline bluffs, or feeder bluffs, that support the geologic, biologic, and aesthetic diversity of the County's shorelines. |

Goal 2. Consider geologically hazardous areas in designating comprehensive plan designations and implementing zones.

- Policy NS-8 Maintain and update a County map for land use planning and regulatory purposes that depicts both Areas of High and Areas of Moderate Geologic Hazard.
- Policy NS-9 Maintain a Critical Areas Ordinance (CAO) that addresses land use controls in geologically critical areas.
- Policy NS-10 Base the geologically hazardous areas map on best available scientific information, such as the Coastal Zone Atlas of Washington, Quaternary Geology and Stratigraphy of Kitsap County, and other available geotechnical reports.
- Policy NS-11 Update the geologically hazardous areas map regularly to reflect the latest information.
- Policy NS-12 Establish development standards in geologically hazardous areas that promote maintenance of existing vegetation to discourage clearing of ridgelines and slopes to provide scenic vistas, and to ameliorate stormwater drainage impacts.
- Policy NS-13 Encourage location of building sites away from steep slopes and breaks-in-slopes.

4.2.2. Critical Aquifer Recharge Areas

In Kitsap County, groundwater is the source of all drinking water outside of Bremerton’s service area. Places where rainfall soaks into the ground are called recharge areas. Places where the geologic conditions are such that surface contaminants could pollute water supplies are considered critical aquifer recharge areas. The CAO recognizes two categories of critical aquifer recharge areas: Category I and II, with Category I being areas with a higher risk of contamination of water supplies.

Category I and II critical aquifer recharge areas are protected through a combination of regulatory restrictions on land uses that pose an elevated risk of contaminating groundwater and low-density zoning.

Goal 3. Safeguard the quality and quantity of long-term water supplies by preserving and protecting critical aquifer recharge areas through use of the appropriate regulatory means.

- Policy NS-14 Coordinate with the US Geological Survey, Kitsap County Health District, and Kitsap Public Utility District to maintain and update the methodology and mapping used to identify Category I and Category II Critical Aquifer Recharge Areas.

- Policy NS-15 Limit land uses listed by the Environmental Protection Agency (EPA) Office of Groundwater and Drinking Water exhibit titled “Potential Sources of Drinking Water Contamination Index” within Category I Critical Aquifer Recharge Areas. Within Category II areas, require appropriate safeguards and/or mitigation for listed land uses.

- Policy NS-16 Require proposed projects that present a threat to critical aquifer recharge areas and groundwater quality to provide hydrogeologic information to evaluate the proposal, in accordance with adopted plans and regulations.

- Policy NS-17 Implement plans created to improve water resource management, including the recommendations of the proposed Kitsap Peninsula Watershed Plan and Kitsap County Groundwater Management Plan, using resources available to accomplish higher priority actions first.

- Policy NS-18 Take immediate action to correct or limit saltwater intrusion in areas with evidence of intrusion.

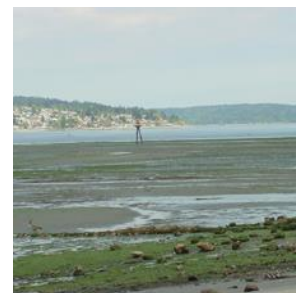
4.2.3. Surface Water Resources

Surface waters include wetlands, streams, ponds, lakes, marine waters of Puget Sound and Hood Canal. These areas are highly valued by Kitsap citizens and are home to a wide variety of fish and wildlife species.



Wetlands generally include, but are not limited to swamps, marshes, estuaries, bogs, and ponds less than 20 acres, including their submerged aquatic beds and similar areas. Wetlands do not include those artificial wetlands intentionally created from non-wetland sites, including, but not limited to, irrigation and drainage ditches, grass-lined swales, canals, stormwater facilities, wastewater treatment facilities, farm ponds, and landscape amenities, or those wetlands created after July 1, 1990, that were unintentionally created as a result of the construction of a road, street, or highway. Wetlands include those artificial wetlands intentionally created from non-wetland areas to mitigate the conversion of wetlands.

Goal 4. Protect the water quality, flows and ecological integrity of rivers, streams, lakes, wetlands, the Puget Sound and Hood Canal by appropriately regulating through the development review process stormwater and land use while allowing for compatible growth and development.



- Policy NS-19 Protect marine and fresh surface water resources by ensuring that development, including rights-of-way, in critical areas is consistent with the CAO, Shoreline Management Master Program, and other applicable local regulations.
- Policy NS-20 Evaluate, avoid, minimize, and mitigate unavoidable impacts to surface water quality and quantity during the planning and development review process. Consider the cumulative impacts of existing and future development on surface water quantity and quality.
- Policy NS-21 Require native vegetation buffers along streams and wetlands to protect the functions and values of those surface waters.
- Policy NS-22 Strive to achieve no net loss of wetland function in the short term, and a measurable gain of wetland function in the long term, in the following manner: Avoid direct impacts on wetlands and buffers; minimize direct impacts to wetlands and buffers; and mitigate impacts through creation, restoration, or enhancement of wetlands or buffers.

Goal 5. Maintain accurate and scientifically sound development regulations that protect the water quality, flows and ecological integrity of rivers, streams, lakes, wetlands, Puget Sound, and Hood Canal while allowing for compatible growth and development.

- Policy NS-23 Maintain a CAO that protects surface water resources including fish and wildlife habitats and wetlands with special consideration for anadromous fish.
- Policy NS-24 Utilize BAS to improve the protection of and increase the accuracy of information about wetlands, flood plains, channel migration zones, watershed boundaries and stream locations and types.
- Policy NS-25 Map wetlands, streams, fish and wildlife habitat conservation areas, geologically hazardous areas, frequently flooded areas, flood plains, channel migration zones, and the findings of professionally conducted local wetlands inventories in the County's Geographic Information System.
- Policy NS-26 Support and encourage community groups to sponsor professionally conducted local wetlands inventories.
- Policy NS-27 Develop and implement a mitigation banking program with sites in multiple watersheds to mitigate for unavoidable impacts to wetlands, streams, and their buffers. Ensure that replacement of altered or displaced wetland or stream functions occurs within the drainage basin or service area designated by the department.

4.2.4. Frequently Flooded Areas

Frequently flooded areas are defined as lands, shorelands, and waters that are within the 100-year floodplain as designated by the Federal Emergency Management Agency on Flood Insurance Rate and Boundary Maps.

Goal 6. Reduce the risk of damage to life, property, and the natural environment from flooding through appropriate regulatory means. Prevent development on floodplains that might have the potential to damage property or increase height, flow or velocity of floodwater.



- Policy NS-28 Avoid development in frequently flooded areas except when no conditions will be created which will be injurious to life, property or natural systems in times of flooding.
- Policy NS-29 Require improvements to existing structures within frequently flooded areas are constructed using methods and practices that minimize flood damage.
- Policy NS-30 Minimize diking and bank protection that may alter the natural hydrology of streams, except where used to enhance habitat.
- Policy NS-31 Prohibit the construction of flood barriers that will unnaturally divert floodwaters or that may increase flood hazards in other areas.
- Policy NS-32 Encourage maintenance of natural vegetation in floodplains to minimize runoff into streams and reduce the damage caused by increased stream flow, stream velocity and coastal flooding.

Goal 7. Prevent land use in floodplains that may degrade water quality during times of flooding.

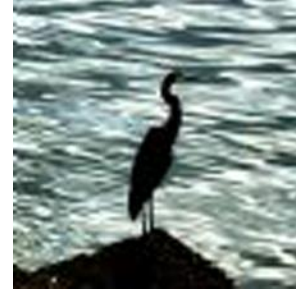
- Policy NS-33 Prohibit locating hazardous materials and solid waste facilities in floodplains.
- Policy NS-34 Coordinate with the Kitsap County Health District to discourage locating on-site septic systems in floodplains.

4.2.5. Plant, Fish and Wildlife Habitat Conservation Areas

Fish and wildlife habitat conservation areas are defined as those areas identified as being of critical importance to the maintenance of fish, wildlife, and plant species, including areas with which endangered, threatened, and sensitive species have a primary association; habitats and species of local importance; commercial and recreational shellfish areas; kelp and eelgrass beds;

forage fish spawning areas; naturally occurring ponds and their submerged aquatic beds that provide fish or wildlife habitat; waters of the state; lakes, ponds, streams or rivers planted with game fish by a government or tribal entity or private organization; state natural area preserves and natural resource conservation areas.

Areas that are critical for fish and wildlife are primarily conserved via regulatory means; other areas are primarily dealt with through non-regulatory, incentive-based approaches.



Goal 8. Preserve the biological diversity of Kitsap County and Puget Sound by appropriately regulating terrestrial and aquatic habitat areas.

- Policy NS-35 Minimize habitat fragmentation and maximize connectivity of open space corridors when designating land use and zoning classifications, and reviewing development proposals.
- Policy NS-36 Identify and protect habitat conservation areas throughout Kitsap County, where appropriate.
- Policy NS-37 Coordinate with appropriate state agencies, local tribal governments, and community organizations to refine and maintain thorough countywide assessments of habitat types and areas with important habitat elements. Based upon these assessments, develop a habitat protection plan that identifies areas most in need of protection and restoration, with special consideration for anadromous fish species.
- Policy NS-38 Coordinate to minimize habitat fragmentation and protect open space and connective corridors.
- Policy NS-39 Consider the impacts to habitat conservation areas, plant communities, and fish and wildlife populations in designating land use and zoning classifications.
- Policy NS-40 Require vegetative buffers along surface waters to protect fish and wildlife habitat. Larger or enhanced buffer areas may be required to adequately protect priority fish and wildlife species. Buffer enhancement, restoration, and/or mitigation shall be required where buffers have been degraded or removed during new development.
- Policy NS-41 Review building permit applications located within identified habitat conservation areas and forward those that may pose a potential adverse impact to the appropriate agencies for review.
- Policy NS-42 Encourage developers to protect continuous corridors of native vegetation wherever possible, to disturb as little natural vegetation as feasible, and to

enhance or restore wildlife habitat by transplanting or planting native vegetation in the developed landscape.

- Policy NS-43 Encourage cluster development to protect fish and wildlife habitat and, where possible, plan cooperatively with adjacent property owners to provide maximum habitat potential.
- Policy NS-44 Consider long-term impacts to habitat conservation areas and important habitat elements during the review of conversion option plans for forestry lands.
- Policy NS-45 Encourage best management practices in the use of herbicides and pesticides near surface waters or drainage ditches.

Goal 9. Maintain accurate and sound development regulations that preserve the biological diversity of Kitsap County and Puget Sound.

- Policy NS-46 Improve mapping of habitat conservation areas throughout Kitsap County.
- Policy NS-47 Maintain a CAO and development regulations that protect habitat conservation areas and important habitat elements.
- Policy NS-48 Identify species of local importance within Kitsap County.

Goal 10. Preserve the biological diversity of Kitsap County and Puget Sound using non-regulatory means as appropriate.

- Policy NS-49 Maintain a countywide inventory of existing plant, fish, and wildlife habitat, including habitat for all species of concern identified by Washington Department of Fish and Wildlife (WDFW), and make information available to the public.
- Policy NS-50 Map priority conservation areas based upon a synthesis of existing countywide assessments of aquatic habitat quality, terrestrial habitat quality, and groundwater recharge potential. Work with appropriate state agencies, local tribal governments, and community organizations to refine and maintain thorough countywide assessments of habitat types and areas with important habitat elements. Based upon these assessments, develop a habitat protection plan that identifies areas most in need of protection and restoration, with special consideration for anadromous fish species. Implement the habitat protection plan through the Parks, Recreation and Open Space Plan and other incentive-based, non-regulatory efforts. Where inventories are incomplete, make it a high priority to complete them.
- Policy NS-51 Minimize habitat fragmentation and maximize connectivity of open space corridors when implementing non-regulatory efforts.

- Policy NS-52 Work with other government jurisdictions to coordinate watershed management and habitat protection efforts for watersheds and corridors that cross jurisdictional boundaries.
- Policy NS-53 Ensure that the County’s Parks, Recreation, and Open Space Plan is consistent with habitat inventories and habitat protection plans.
- Policy NS-54 Minimize impacts to fish and wildlife species when siting trail systems through habitat conservation areas.
- Policy NS-55 Encourage public-private partnerships and voluntary efforts to protect, restore, and enhance fish and wildlife habitat. Provide information about existing government and private programs pertaining to voluntary habitat protection, enhancement, and restoration.
- Policy NS-56 Participate in efforts to resolve the low dissolved oxygen challenges facing Hood Canal.

Goal 11. Protect anadromous fish runs in Kitsap County using appropriate regulatory means.

- Policy NS-57 Give special consideration to the protection of anadromous fish species when determining land use and zoning designations, and when developing and applying development regulations. Consider the relative importance of a stream’s fisheries resource.

Goal 12. Protect and restore anadromous fish runs in Kitsap County using appropriate non-regulatory means.

- Policy NS-58 Restore local salmon populations by coordinating activities of the East Kitsap Lead Entity and participating in activities of the Hood Canal Lead Entity and the Shared Strategy for Puget Sound.
- Policy NS-59 Develop and implement recovery plans for anadromous fish and other listed species under the Federal Endangered Species Act. Work with appropriate state and federal agencies, local tribal governments, and community organizations and adjacent jurisdictions to identify deficiencies in County programs and regulations.
- Policy NS-60 Work with resource agencies, tribal governments, and others to inventory nearshore areas, prioritize and implement restoration projects.
- Policy NS-61 Work with resource agencies, local tribal governments, and others to inventory, prioritize, and restore fish blockages, degraded stream reaches, and wetlands.

Policy NS-62 Support and coordinate volunteer stream and wetland restoration and preservation efforts.

Goal 13. Develop and implement watershed plans to improve water resource management and implement improvements for ground- and surface water quality and quantity in cooperation with neighboring jurisdictions, tribal governments, and interested citizens.

Policy NS-63 Implement plans created to improve water resource management and monitoring, including the recommendations of the proposed Kitsap Peninsula (WRIA 15) Watershed Plan and Kitsap County Groundwater Management Plan, using resources available to accomplish higher priority actions first. Use watershed plans as a means of identifying projects with a broad base of community support and coordinating with neighborhood jurisdictions.



Policy NS-64 Coordinate with other jurisdictions, agencies, and private landowners to reduce the impacts of non-point source pollution upon aquatic resources by implementing the recommendations of approved watershed action plans. Where appropriate, recommendations that apply to all watersheds should be implemented on a countywide basis.

Goal 14. Develop a funding strategy and financing plan that uses a mix of local, state, federal and private funds to achieve conservation and restoration priorities.

Policy NS-65 Develop locally-controlled long-term funding source(s) for natural resource protection and enhancement. Utilize these funds to the maximum extent possible to leverage grant funds.

Policy NS-66 Coordinate with Ecology, Kitsap Public Utility District, Kitsap County Health District, area tribal governments, and other jurisdictions and government agencies to pursue funding for water resource management efforts.

Goal 15. Comprehensively monitor water resources through non-regulatory means to ensure their long-term viability.

Policy NS-67 Ensure that local water resources are comprehensively monitored, paying special attention to aquifer recharge areas, groundwater levels, stream flows, and saltwater intrusion. Maintain a countywide water quality monitoring program.

Goal 16. Comprehensively manage water resources primarily through non-regulatory means to ensure their long-term viability.

- Policy NS-68 Adequately maintain groundwater quantity to avoid saltwater intrusion and to protect in-stream flows for anadromous fish populations. Utilize BAS to determine desired streamflows and determine means of achieving those flows.
- Policy NS-69 Seek opportunities to use reclaimed water for wetland augmentation, irrigation, stream enhancement, and aquifer replenishment.
- Policy NS-70 Take immediate action to correct or limit saltwater intrusion in areas with evidence of intrusion.
- Policy NS-71 Coordinate actions of the Kitsap County Surface and Stormwater Management Program with other agencies and jurisdictions to improve runoff quality and reduce runoff flow rates. Utilize a basin approach to stormwater facility planning.
- Policy NS-72 Ensure all County-owned stormwater facilities and culverts are properly designed, constructed and maintained to reduce the occurrence of flooding.
- Policy NS-73 Employ best management practices in the County's use of herbicides and pesticides near surface waters or drainage ditches.
- Policy NS-74 Work with Kitsap Conservation District to encourage implementation of farm management plans that limit livestock access to streams and wetlands.
- Policy NS-75 Encourage the County's Solid Waste Division to address agricultural and forestry technical assistance, on-site sewage inspections, boater waste reduction, and other source control-related activities.
- Policy NS-76 Educate County residents and businesses about the natural environment and the benefits of healthy surface and groundwater resources.

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Appendix

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Citations

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