

Goal Area 5: Preparing for Climate Change Impacts

INTRODUCTION. Across the globe, climate change-related impacts are wreaking havoc; sea levels are rising, heat waves are occurring more frequently and for longer periods, glaciers are melting, and weather-related natural disasters such as Hurricane Katrina and Hurricane Sandy are causing diverse environmental, public health and environmental impacts. In King County, decreasing mountain snowpack, increasing flooding, and rising sea levels are evidence that the climate system is changing. The region faces significant environmental and economic challenges stemming from climate change, including stressed and rapidly changing ecosystems, costly impacts on public and private property, and new public health risks.



Snoqualmie Valley flooding. Since 1990, King County floodplains have been declared federal flood disaster areas 12 times.

EXISTING COUNTY ACTIONS AND PROGRAMS. The County has developed programs and projects to help reduce the impacts of floods, support farm and forest owner action to address climate change impacts, and that begin to prepare the region for the effects of climate change on stormwater, public health, and emergency response. These efforts promote equity and social justice by helping those who are most vulnerable to climate change impacts.

- Managing flood risk.** King County formed a Flood Control District in 2007 to increase capacity for addressing regional flood risks, particularly in the face of projected climate change impacts. The creation of the Flood Control District and Flood Control District Assessment has increased local funding for flood risk reduction by a factor of ten, with total annual funding of \$40 million in 2013. In 2011, the Flood Control District completed three flood protection infrastructure projects and raised, relocated, or demolished 18 chronically flooded homes.
- Education and Training.** King County is educating the public about local climate change impacts and providing resources to help them take action, partnering with the National Wildlife Federation and other organizations to help residents and property owners address likely climate change impacts.



Farm pads. Roughly two dozen farm pads have been constructed in flood-prone agricultural areas of King County since the early '90s, and another dozen are under construction as of 2012.

- **Developing preparedness plans.** King County, in partnership with scientists from the University of Washington Climate Impacts Group and other agencies, has begun to implement and learn from practical preparedness steps for County facilities and operations, focusing on potential infrastructure impacts and service delivery needs.

COORDINATION WITH OTHER PLANS. The Preparing for Climate Change goals are coordinated with the following plans:

- King County Strategic Plan
- King County Comprehensive Plan
- King County Flood Hazard Management Plan

ACCOUNTABLE AGENCIES. Strategies related to addressing climate change impacts on natural resources are primarily the responsibility of the [*Water and Land Resources Division*](#) (WLRD). Strategies related to flooding are the responsibility of the WLRD's [*Rivers and Floodplain Management Section*](#). Strategies related to emergency management are the responsibility of the [*Office of Emergency Management*](#). Strategies related to planning for health impacts are the responsibility of the [*Department of Public Health - Seattle and King County*](#). Strategies for preparing for impacts to infrastructure and operations are the responsibility of all King County agencies. The Department of Natural Resources and Parks Climate Team plays a coordinating and oversight role in this goal area, and also is accountable for strategies related to staff training and education.

COUNTY SERVICES

GOAL S.5: King County will work with local cities and other partners to prepare for the effects of climate change on the environment, human health and the economy.

- ▶ **Measure 1:** Number of King County homes at risk of flooding or river channel migration
 - ★ **Target 1:** A target is being developed as part of the King County Flood Hazard Management Plan Update, which will be adopted by the King County Council and the King County Flood Control District Board of Supervisors in 2013.

OBJECTIVES	STRATEGIES
<p>Objective S.5.1: King County will work with local cities and other partners to identify and adapt to the impacts of climate change on natural systems, human health, public safety, infrastructure, and the economy</p>	<p>Strategy A: Mitigate flood risks by implementing the King County Flood Hazard Management Plan and consider climate change impacts when updating flood risk reduction policies and capital improvement plans and projects</p> <p>Strategy B: Review and evaluate climate change impacts on natural resources that King County programs are designed to protect—forests, fisheries, productive farmland, water resources—to assess and improve the efficacy of existing strategies and commitments</p> <p>Strategy C: Integrate observed and projected climate change-related changes in severe weather, flooding, drought, fire, landslides and related issues into emergency management planning and programs</p> <p>Strategy D: Identify and plan for the impacts of climate change on human health including increasing temperatures, flooding, risk of vector-borne and infectious diseases, mental stress, and respiratory effects. Prioritize responses based on the needs of the most vulnerable populations including the very young and old, those in poor health, and those with limited resources</p>

COUNTY OPERATIONS

GOAL O.5: King County will plan and prepare for the likely impacts of climate change on County-owned facilities, infrastructure and natural resources.

- ▶ **Measure 1:** Number of key facilities and natural resource assets and programs assessed for vulnerability to climate change impacts
 - ★ **Target 1:** A target will be established as part of the 2015 SCAP update.
- ▶ **Measure 2:** Number of key facilities and natural resource assets and programs vulnerable to climate change impacts that implement a plan for reducing likely impacts
 - ★ **Target 1:** A target will be established as part of the 2015 SCAP update.

OBJECTIVES	STRATEGIES
<p>Objective O.5.1: Identify and adapt to the impacts of climate change on County infrastructure and operations</p>	<p>Strategy A: Collaborate with the scientific community to develop assumptions about countywide climate change impacts and integrate this science into capital project siting, planning, design and construction</p> <p>Strategy B: Inventory essential County facilities and infrastructure that are subject to climate change impacts such as flooding and inundation from sea level rise, and develop strategies for reducing risks and mitigating damages</p> <p>Strategy C: Manage King County-owned natural lands in ways that help reduce climate change risks to those lands and help minimize regional climate change impacts</p> <p>Strategy D: Train and educate staff to develop skills and expertise related to preparing for climate change impacts</p>

PRIORITY ACTIONS:

- **Manage flood risk.** As part of *King County's Flood Hazard Management Plan*, the County will review available information on the potential impacts of climate change on winter floods and consider these impacts in updating flood-risk reduction policies and capital improvements plans and projects.



Levee project funded by the King County Flood Control District

- **Educate and train the public and staff.**

King County will continue to educate the public and its staff about local climate change impacts and provide resources to help them take action.

For example King County will provide information to citizens on Vashon Island about the impacts of rising sea levels, partner with farm and forest owners to address flooding impacts, and conduct staff trainings on local impacts of climate change and how they relate to County priorities.

- **Develop preparedness plans.** In collaboration with the local scientific community, and as part of the work leading into the 2015 SCAP update, King County will develop standard assumptions about local climate change impacts to be used by King County agencies in their planning. The County will also develop an inventory of key King County-owned facilities and natural resource assets and programs vulnerable to climate change-related risks (such as flooding, drought, sea level rise) and plans for reducing likely impacts. To accomplish this work, King County will explore and pursue partnerships with the City of Seattle and other King County cities.



West Point Wastewater Treatment Facility on the edge of the Puget Sound. King County is incorporating the latest science about rising sea levels into planning and operations of the wastewater treatment and conveyance system.

- **Integrate climate change issues into emergency management.** King County will integrate observed and projected climate change-related changes in severe weather, flooding, drought, fire, landslides, and related issues into emergency management planning and programs, including the *2014 King County Regional Hazard Mitigation Plan*.
- **Plan for impacts on public health.** King County will continue to partner with the University of Washington to identify and plan for the impact of climate change on human health, including synthesizing data on the effects of changing temperature on illness and death in King County.

- **Further develop reclaimed water program.**

Consistent with requirements of the Washington State departments of Ecology and Natural Resources, King County will continue to develop its reclaimed water program to reduce reliance on Puget Sound for the discharge of treated effluent. King County will also consider projects using reclaimed water when they can benefit wastewater ratepayers. Not only can reclaimed water reduce Puget Sound discharges, it can be used in response to climate change impacts. For example, nonpotable, reclaimed water can be used for agricultural irrigation and for groundwater recharge.



The Seattle Sounders FC practices at Starfire soccer center in Tukwila, which irrigates with King County reclaimed water.