enhancing and protecting our natural resources
watershed health • air quality • human health
wildlife • urban forest • stormwater
global climate change

ACTION AREA:

Sustainability & the Natural Environment

WHY IS THIS IMPORTANT?

We care about the health of the environment, its effects on human health and the financial health of the City.

Our environmental resources (forests, trees, rivers and streams) perform valuable services. They help clean our air, cool our homes and give us places to relax. If our environment is not healthy, we must spend time and money to clean up pollution, meet national standards and keep the city healthy for Portlanders and wildlife.

This action area is about enhancing and protecting our natural resources and maintaining and improving Portland's position as an environmental leader. It addresses watershed health (water flow, water quality, habitat and native species) as well as air quality, to sustain the health of people, plants and wildlife. It calls on us to:

1. Protect and enhance our natural areas and urban forest;
2. Invest in green infrastructure and stormwater management, like green streets and eco-roofs; and
3. Use our resources wisely through energy conservation, recycling and waste management.

At a global level, action in this area will help us reduce our impact on the planet, avert natural hazards, and mitigate the most significant consequences of global climate change.

The choices we make every day—how we get to work, where and how we live, where we shop and what we buy—affect the health and quality of our environment.

If Portlanders want to maintain a local environment that is healthy for people, fish, flora, fauna and the economy, we will need to set objectives to maintain and improve the health of watersheds and for managing the use of natural resources and energy.

NATURE IN NEIGHBORHOODS

Most Nature

1. Forest Park - 91%
2. Linnton - 58%
3. Brooklyn - 50%
4. Homestead - 50%
5. East Hayden Island - 45%

Least Nature

27 of Portland's neighborhoods do not have any high value natural resource areas, according to the Natural Resource Inventory.

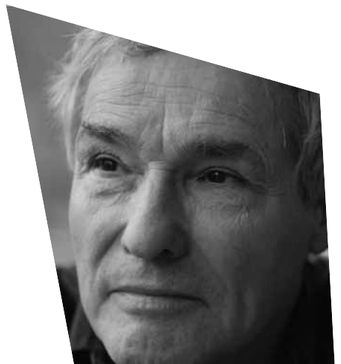
Source: Natural Resource Inventory Background Report.

Do you know how we manage stormwater?

In older Portland neighborhoods, most stormwater is handled in the same pipes as sanitary sewers (combined sewers) and is sent to treatment facilities to be filtered and treated before it is discharged. On rainy days, runoff fills the combined sewers and overflows into the Willamette River. Completion of the East Side Big Pipe in 2011 will reduce combined sewer overflows by 94 percent.

In much of East Portland, stormwater flows into underground injection control facilities (UICs or sumps), which filter the water through the soil and into groundwater. In areas where groundwater is high, some UICs are being redesigned to further reduce pollutants.

In most of West Portland, the Columbia Slough and East Buttes, stormwater soaks into the ground, flows over land or goes into streams. During heavy storms, runoff from roofs, streets and other hard surfaces can increase the risk of stream bank erosion, landslides and flooding.



Patrick lives with his wife near Tryon Creek State Park in Southwest Portland. He's lived in this area for over 20 years and loves the natural area, taking daily walks with his dog and sometimes volunteering to pull ivy and other invasive species. For several years now, he's been trying to eliminate chemical pesticides and herbicides from his garden, since he knows that these chemicals aren't good for pets or humans, and that they can run off his lawn and eventually end up in Tryon Creek. He was thrilled to know that there are salmon in the creek and wants to learn more about how he can keep the creek and watershed healthy. http://emswcd.org/; and http://www.westmultconserv.org/

HOW ARE WE DOING?

Carbon Emissions

By choosing to ride transit, bicycle and walk, and more fuel efficient cars, we can reduce our carbon footprint. While we have reduced carbon emissions significantly more than most urban regions in the nation, we still have a long way to go.

Status: In 2008, emissions in the City of Portland and Multnomah County were 1% below 1990 levels. U.S. average emissions were up 14%.

Target: Reduce total emissions to 40% below 1990 levels by 2030.

Target: Reduce total emissions to 80% below 1990 levels by 2050.

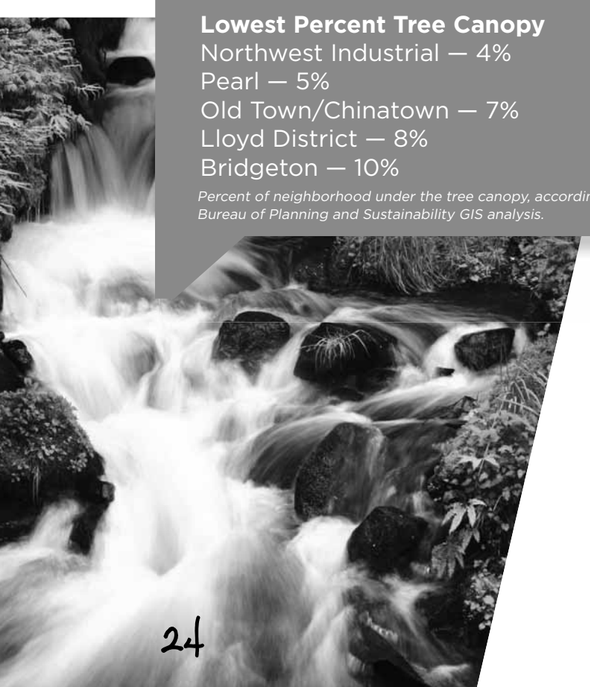
Source: City of Portland Service Effort and Accomplishments Report, 2007-08; Climate Action Plan 2009,

NEIGHBORHOODS WITH TREES*

Highest Percent Tree Canopy
Forest Park — 94%
Homestead — 74%
Hillside — 71%
Arlington Heights — 71%
Marshall Park — 69%

Lowest Percent Tree Canopy
Northwest Industrial — 4%
Pearl — 5%
Old Town/Chinatown — 7%
Lloyd District — 8%
Bridgeton — 10%

Percent of neighborhood under the tree canopy, according to Bureau of Planning and Sustainability GIS analysis.



District Energy Systems

District energy is a cooperative effort to provide heating, cooling and hot water for buildings in a given area. These systems have reduced fossil fuel consumption around the world and are a key strategy for reducing carbon emissions in the U.S.

Status: In 2007, only a very modest amount of energy was produced by district energy systems.

Target: Produce 10% of the total energy used within Multnomah County and Portland with district energy systems by 2030.

Source: Climate Action Plan 2009,

Solid Waste Reduction

Recent data from the Environmental Protection Agency indicates that at least 35 percent of carbon emissions can be attributed to the lifecycle of goods other than food. Reducing waste through reuse and recycling is essential if we want to reduce carbon emissions.

In 2008, Portland's recycling rate was among the highest in the U.S.; It was 67 percent. The national average of 33 percent. However, that means that 33 percent of our waste still goes to landfills.

Target: Recover 90% of all waste generated by 2030.

Source: Climate Action Plan, 2009

Stream Water Quality

Portland's major waterways have problems with temperature—they are too warm to be healthy for salmon and trout and have problems with bacteria and pollutants.

Waterway	Oregon Water Quality Index (2006)
Columbia Slough	Very poor
Willamette River	Fair to good
Fanno Creek	Poor
Tryon Creek	Poor
Johnson Creek	Very poor

What is a watershed?

A watershed is an area that catches rain and snow and drains into a corresponding river, stream or other water body. Watersheds begin at ridgetops and end at a river, lake or wetland. A healthy watershed is one with habitat, water quality and water flow conditions that support fish and wildlife and are protective of human health

What is a "watershed approach" and why is it important?

In the past, land and water needs were considered separately. As we've learned more about natural systems, the link between land development activities, the design of streets and stormwater systems, and their effect on water quality in rivers has become apparent. In a "watershed approach," these links are all considered.

Tree Canopy Coverage

Trees trap rainwater, filter and reduce stormwater runoff, erosion and landslide risk. Trees help cool and clean the air. Trees along streams, ponds and rivers provide critical habitat for wildlife and help keep water cool for fish. Trees in forested areas, streets and neighborhoods provide habitat for birds and improve neighborhood livability. Trees that shade buildings can reduce demand for heating and air conditioning, helping to curb energy use.

Status: 26% of the City is under the tree canopy.

Target: 33% of the City is under the tree canopy.

Source: Urban Forest Canopy Report. Portland Parks and Recreation, 2007.

Read more...

Portland Plan Background Reports
Watershed Health • Infrastructure Condition and Capacity • Natural Resource Inventory • Urban Form • Urban Forestry • Human Health and Safety

Related Reports and Projects
Watershed Management Plan • Stormwater Management Manual • Climate Action Plan • Portland Recycles! Plan • Descending the Oil Peak: Navigating the Transition from Oil and Natural Gas • Parks 2020 Vision • Park System Plan • Urban Forest Canopy Report • Urban Forest Action Plan • River Renaissance Strategy

Links to all listed reports and projects are provided at the end of this handbook.

Consider...

1. **What more could be done in your neighborhood to improve environmental health?**

2. **What kind of environmental protection should the City of Portland focus on:**
   - Acquire and restore natural areas?
   - Adopt stronger regulations?
   - Help people restore nature in their backyards?
   - Help educate people about the value of natural resources?

3. **Reducing carbon emissions will require innovations to our buildings, transportation system and lifestyles. What are you doing now to address climate change? What more could you do? What could the public agencies do to help businesses and residents afford new energy efficient technologies?**

4. **One Climate Action Plan objective for 2030 is to reduce daily vehicle miles traveled by 30 percent. How could your community change to meet this goal?**

5. **What's the best thing we can do to better connect residents to the Willamette and Columbia Rivers?**

6. **Should we reduce development and density in environmentally sensitive areas?**