DEPARTMENT OF ECOLOGY
State of Washington

Washington State Climate Resilience Strategy

Appendix E:
Summaries of agencies' current climate resilience work

Table of contents

These summaries are for the ten agencies that developed the Climate Resilience Strategy. Other state agencies make valuable contributions to climate resilience efforts.

Icon key:

 Reduced water availability and drought

 Marine and coastal changes

 Flooding

 Extreme heat

 Wildfire and smoke

Department of Ecology

The Department of Ecology is Washington's lead environmental protection agency dedicated to protecting, preserving, and enhancing Washington's environment for current and future generations. Through innovative partnerships, Ecology works to protect and sustain healthy land, air, and water in harmony with a strong economy. The agency executes this mission under its 11 environmental programs and offices that manage an array of topics.

Our work is guided by the four goals outlined in our strategic plan. The second goal in this plan informs the agency's climate work: reduce and prepare for climate impacts. Ecology is the state's lead agency in addressing climate change and its approach focuses on both mitigation and adaptation. We implement several policies aimed to reduce greenhouse gas emissions. This includes the Climate Commitment Act, which established a market-based system to reduce greenhouse gas emissions, policies to set clean fuel and zero-emission vehicle standards, and efforts to reduce emissions caused by solid waste (particularly food or organics waste).

We also lead efforts to help Washington adapt to climate change impacts and prepare for and reduce future ones. This includes floodplain management, drought preparedness and emergency response, water supply management, air quality monitoring, and coastal hazards planning. Through these efforts, Ecology supports collaborative processes and initiatives that seek multi-benefit solutions by balancing the needs of individuals, communities, and ecosystems.

Environmental justice is central to all aspects of Ecology's work and coordinated across the agency through the Office of Equity and Environmental Justice. This office leads efforts to reduce health disparities in communities most at risk, and to identify and remove governmental barriers for these communities. The Office of Equity and Environmental Justice also supports and coordinates the agency's work to implement the HEAL Act, the state's environmental justice law, and advances efforts to further equitable practices and outcomes across the agency.

Work we do	Key examples

Strengthen community and ecosystem resilience to changing conditions on coasts and shorelines with a focus on nature-based approaches, partnerships, and equity.
Improves our resiliency to withstand:
 
	• Coastal hazards resilience mitigation and planning.
	• Shoreline planning and management.
	  ○ Updating shoreline master plans to require sea level rise considerations
	  ○ Climate resilience guidance
	• Technical assistance and capacity building through land use and other planning processes.
	• Monitoring and mapping: shoreline photos, coastal processes (beaches and bluffs), shoreline protection measures, Padilla Bay monitoring and research, and ocean acidification.
	• Leadership and partnerships.

Support flood planning and flood projects that reduce hazards to communities and improve ecosystem functions. Improves our resiliency to withstand: 	• Providing technical assistance and grants to support community planning for flood hazards. • Office of Chehalis Basin: Comprehensive planning and grants for projects to reduce flood damages such as levees, pumps, and elevation/buy outs of structures, fund multi-benefit projects that reduce risk and restore aquatic and floodplain habitat. • Coordinate floodplain efforts in the Nooksack Basin and transboundary area.

Identify and proactively advance solutions that increase resilience of Washington's water resources including preparing for and responding to drought.
Improves our resiliency to withstand:
 
	• Enhanced riparian protections.
	• Local and regional planning efforts to advance water resilience:
	  ○ Yakima Basin Integrated Plan
	  ○ Icicle Creek Strategy
	  ○ Walla Walla Water 2050
	• Grants to support drought preparedness plans and emergency response actions.
	• Water quality infrastructure grants.
	• Issue drought declarations.

Protect and restore critical habitats to improve water quality, address and reduce damage from extreme events, and build climate resiliency. Improves our resiliency to withstand: 	• Grants for wetland conservation and environmental restoration. • Washington Conservation Corps program restores habitats across the state. • Office of Chehalis Basin, implement projects in the aquatic species restoration plan. • Protect wetlands through regulatory and non-regulatory approaches. • Environmental monitoring of habitat areas. • Provide engagement, education, training, and support to local conservation projects related to climate resilience.

Work we do	Key examples
Ensure cleanup and remediation of toxic sites integrates future climate change. Improves our resiliency to withstand: 	• Sustainable Remediation Guidance to increase site resilience and co-benefits. This guidance is included in Public Works Contracts and several grant scoring criteria. • Model Toxics Control Act rulemaking includes regulatory requirements for climate resiliency as part of clean-up efforts.
Invest in clean water infrastructure that is climate resilient. Improves our resiliency to withstand: 	• Water Quality Grant and Loan Programs.

Reduce greenhouse gas emissions in line with state limits and improve air quality in overburdened communities
Improves our resiliency to withstand:
 
	• Greenhouse gas inventory and accounting.
	• Implement laws designed to address major emission sources:
	  ○ Climate Commitment Act, Clean Fuel Standard, Zero-Emissions Vehicles.
	  ○ Solid Waste: landfill methane emissions, organic materials management, food waste, reduce/reuse/recycle materials, manage biosolids and organics land application.
	  ○ Clean Energy Facility siting.
	• Grants for tribes (capacity), clean diesel, woodstove replacements, landfill grants, and climate pollution reduction grants.
	• Monitoring, modeling, and forecasting air quality and emissions. Multi-agency partnerships to track wildfire smoke and prescribed burns.

Support disaster response in partnership with others. Improves our resiliency to withstand: 	• Disaster debris management: technical and regulatory assistance and support. • Deploy Washington Conservation Crews to support disaster response and recovery in affected communities.

Department of Agriculture

The Washington State Department of Agriculture is the state's primary agency for managing, overseeing, and advancing agricultural interests in Washington. Our mission is to support the viability and vitality of agriculture through service, regulation, and advocacy while protecting consumers, public health, and the environment. We provide services to the agricultural industry including certifications, laboratory testing, produce grading, and marketing. Regulatory actions include licensing, permitting, inspection, and compliance support. We also provide growers with technical support, grants, and education to improve agricultural viability and environmental health. We use policy, science, planning, outreach, and promotion to advocate for Washington's agricultural industry, products, and lands.

The following programs manage our climate initiatives: Natural Resources and Agricultural Sciences, Plant Protection, Animal Health, Pesticide Management, and Food Assistance. We've also outlined the agency's climate priorities in our Department's strategic plan. This includes fostering the voluntary adoption of on-farm climate smart practices; increasing food security, operational resilience, and worker safety through the impacts of climate change with proactive and emergency response measures; and supporting innovation sector wide.

Work we do	Key examples

Programs, research, grants, and regulations to support climate change adaptation and mitigation in the Washington agricultural sector.
Improves our resiliency to withstand:
 
	• Land management regulations and recommendations to ensure proper use of pesticides and nutrients.
	• Research, policy support, outreach, and technical guidance to promote on-farm climate-smart practices.
	  ○ Climate smart livestock farm planning and support.
	  ○ Healthy soils and soil carbon sequestration planning and support.
	  ○ Prevention and eradication of emerging plant and animal diseases and pests.
	  ○ Advocacy for rural clean energy projects and transportation.
	  ○ Provision of data concerning soil, water quantity and quality, land use, and best management practices to identify and reduce vulnerabilities.
	• Reducing barriers to climate-smart practices by making them more accessible and affordable.
	• Creating a market signal for good stewardship through the Saving Tomorrow's Agricultural Resources program.
	• Provision of grants and cost share for climate smart projects, technologies, and soil amendments (e.g., the Compost Reimbursement Program and Resilient Food Systems Infrastructure grant program).

Making food systems more resilient to climate impacts. Improves our resiliency to withstand: 	• Grants and technical assistance to strengthen collaboration in the regional food supply chain. • Improving the resilience of food supply chain distribution systems to severe weather events. • Food Assistance and Food Security Program to improve emergency food distribution to low-income communities. • Reducing food waste.
Planning and policies to guide agency efforts related to climate resilience. Improves our resiliency to withstand: 	• WSDA Climate Resilience Plan to identify gaps in agency actions, synthesize latest science to inform decision making, engage with stakeholders, and act. • Hiring a full-time staff member focused on climate issues within the Department. • Developing common metrics by which all WSDA programs can be evaluated, including a metric for food system resilience which includes supporting on-farm climate adaptation.

Department of Commerce

The Department of Commerce carries out its mission to strengthen communities in Washington by managing a wide portfolio of activities and programs that help build vibrant communities, advance infrastructure, support business and economic development, and promote the state to create new economic opportunities domestically and internationally. Commerce oversees and participates on many independent boards, commissions, and councils. These provide statewide guidance on issues related to affordable housing, economic development, and infrastructure.

Much of our climate work is focused on land use planning and energy development. Recently, the Legislature added a climate goal to the Growth Management Act which requires certain local jurisdictions to address climate change, greenhouse gas emissions, and climate resilience through their comprehensive plans. As the primary agency responsible for implementing the act, we developed extensive guidance, recommendations, and other resources to help local jurisdictions incorporate climate change into their land use management practices. Commerce also plays a significant role overseeing and managing the state's energy infrastructure. We also operate several programs and initiatives to expand clean energy technologies, improve the resilience of energy systems, and plan for energy emergencies and distribution impacts.

Work we do	Key examples

Technical guidance, support, and funding to accelerate clean energy development.
Improves our resiliency to withstand:
 
	• Regulations and policies to require the use of renewable energy and conservation measures.
	  ○ Energy Independence Act
	  ○ Renewable Energy Certificates
	• Efforts to accelerate the construction and implementation of clean energy technologies.
	  ○ Clean Energy Transformation Act and Green Bank programs.
	  ○ Clean energy manufacturing, electric vehicle charging infrastructure.
	  ○ Solar Development Grant Program
	• Funding and initiatives to explore emerging clean energy technologies and their use in Washington.
	  ○ Renewable natural gas, geothermal energy, tidal and wave energy, offshore wind.

Planning activities focused on energy systems and distribution during emergency events.
Improves our resiliency to withstand:
 
	• Development of plans to guide emergency response.
	  ○ Cybersecurity and Physical Security Strategic Plan and Restoration Plans
	  ○ Energy restoration prioritizations
	  ○ Establish reliable communication channels with energy partners during emergencies

Efforts to support the resilience of energy systems to promote efficiency and maintain operations under uncertain climate scenarios.
Improves our resiliency to withstand:
 
	• Preparing for severe weather driven risks.
	  ○ Support for back-up power projects in schools, community centers, and other public spaces.
	• Forecasting expected future energy needs and ensuring adequate resources to meet demand.
	• Improving energy efficiency and weatherization for households through direct service.
	  ○ Energy Efficiency Grant Program

Planning and guidance to incorporate climate into local land use policies and resilience planning efforts. Improves our resiliency to withstand: 	• Supporting communities to identify expected hazards and risks to be addressed through land-use planning. • Guidance, technical assistance, and funding to address climate change through Comprehensive Plan Development and Updates.

State Conservation Commission

The Washington State Conservation Commission works to advance voluntary and incentive-based conservation and land management programs on agricultural, forest, and other lands across Washington. We coordinate efforts through 45 conservation districts across the state that serve to connect individuals and communities with technical expertise and funding to support natural resource management actions and initiatives. Conservation districts provide services tailored to meet the needs of the local communities they serve. This includes assistance to develop site specific land management plans, technical expertise to support project planning and permitting, and grants and low-cost services to promote the conservation of water, soil, landscapes, and habitats.

Many of the programs and initiatives that we lead build climate resilience by advancing multi-benefit projects that strengthen agriculture and other land use practices while advancing environmental and habitat conservation goals. Many of these programs provide technical expertise to help farmers prepare for climate impacts, including drought and severe weather. Other programs we administer seek to protect agricultural lands throughout the state under conservation easements. These efforts contribute to climate resilience by limiting conversion to more intensive uses through development.

The Commission's 2022–2027 Strategic Plan identifies climate resiliency as a strategic priority area. Our goals to advance climate resiliency include:

- Build the adaptive capacity of farmers and producers to adapt to changing climate conditions.
- Increase carbon sequestration.
- Reduce emissions.
- Build awareness of climate-smart land use practices.
- Preparing natural and working lands for the projected impacts of climate change.

Work we do	Key examples
Protection of agricultural lands. Improves our resiliency to withstand: 	• Easement programs to protect agricultural lands and prevent land conversion and development. ○ Farmland Preservation and Land Access grant program. ○ Agricultural Conservation Easement Sponsorship Program.
Technical guidance and resources to promote sustainable agricultural practices. Improves our resiliency to withstand: 	• Information and grant funding to support climate resilient land management. ○ Sustainable Farms and Fields Program ○ Irrigation Efficiencies Grant Program ○ Shellfish Program ○ Voluntary Stewardship Program ○ Natural Resource Investments funding to support best management practices. • Financial assistance to farmers after natural disasters to support recovery. ○ Disaster Assistance Program • Technical assistance to land managers. ○ Conservation Technical Assistance
Multi-benefit initiatives to promote habitat restoration and sustainable agriculture. Improves our resiliency to withstand: 	• Voluntary on-farm programs and financial support to provide habitat benefits. ○ Voluntary Stewardship Program ○ Natural Resource Investments funding to support best management practices. ○ Conservation Reserve Enhancement Program ○ Salmon Riparian Grant Programs • Actions and funding to support ecosystem recovery initiatives. ○ Riparian Plant Propagation Program ○ Washington Shrubsteppe Restoration and Resilience Initiative • Funding to support forest health, reduce fuel loading, and promote wildfire resilience. ○ Forest Health and Community Wildfire Resiliency

Emergency Mangement Division

The Washington Emergency Management Division (EMD) plans and coordinates efforts focused on mitigating, preparing for, responding to, and recovering from emergency and disaster-related events in Washington.

We develop and update the state's Enhanced Hazard Mitigation Plan in coordination with other state agencies. This plan helps us identify risks and hazards, analyze vulnerabilities, and propose strategies and actions so we can limit impacts to people, property, the economy, environment, and infrastructure. The plan includes guidance for local jurisdictions to develop local hazard mitigation plans, information for residents about how to prepare for emergencies, and a coordinated approach for state agencies to implement mitigation strategies. Many of the hazards we identified in the plan are exacerbated by the impacts of climate change. These include drought, wildfire, flooding, and extreme weather. Finally, the plan includes valuable information about how state agencies and communities across the state can build resilience to projected climate impacts.

EMD also provides technical assistance to local jurisdictions and Tribes undergoing their own hazard mitigation planning efforts. This includes reviewing local and tribal hazard mitigation plans and sharing state resources for their development. EMD's Mitigation section also conducts original research into the geographic distribution of hazard risk and vulnerability. This includes what drives risk and influences its distribution over time and space. The goal of this research is to identify risk factors, including climate-related factors, and guide decisions around funding hazard mitigation projects.

Work we do	Key examples

Hazard mitigation efforts to prepare the state for the impacts of climate change.
Improves our resiliency to withstand:
 
	• Statewide planning and grants to help governments, communities, and individuals prepare for climate-driven hazards.
	  ○ Washington State Enhanced Hazard Mitigation Plan
	  ○ Hazard Mitigation Assistance Grants
	  ○ Review and approval of local and tribal hazard mitigation plans

Disaster response and recovery efforts to support communities impacted by climate-driven events. Improves our resiliency to withstand: 	• Distribution of public and individual assistance resources in response to federally declared disaster events. • Activation of the State Emergency Operations Center during emergency events to provide support and resources.
Planning and policies to guide agency work in support of resilience initiatives. Improves our resiliency to withstand: 	• Management of the State Resilience Office to guide emergency planning efforts.

Department of Fish and Wildlife

The Washington Department of Fish and Wildlife (WDFW) is the state's principal steward of fish and wildlife resources. State law directs WDFW to conserve native fish and wildlife, protect and enhance the environment, and provide recreational and commercial fishing, hunting, wildlife viewing, and other sustainable opportunities for Washingtonians.

In communities across the state, we:

- Manage fishing and hunting resources to maximize recreational and commercial opportunities and economic benefits while conserving fish and wildlife species.
- Operate fish hatcheries that produce salmon, steelhead, trout and other game fish.
- Manage programs that benefit hundreds of fish and wildlife species, including those protected under endangered species laws.
- Oversee nearly 1 million acres of public wildlife lands to provide public access while protecting the environment.
- Maintain boat launches and other water access sites.
- Conserve and restore habitat with a special focus on ecosystems that support native fish stocks.
- Enforce laws and regulations that protect fish and wildlife resources and public safety.

We implement our mission by co-managing fishing and hunting activities in concert with Tribal governments through a cooperative, government-to-government relationship. Federal case law (U.S. v Washington, U.S. v Oregon), state law (State v Buchanan, State v Chambers), and executive orders provide the basis for this relationship. In addition, the agency works closely with the Tribes in a variety of forums, and with a variety of partners, to restore and protect habitat needed to support healthy fish and wildlife populations.

The agency's work related to climate change and resilience is largely focused on its habitat and species management efforts. In 2017, we adopted a policy to coordinate efforts around addressing the risks presented by climate change. This policy outlines a series of principles for climate smart conservation that focus on needed investments, landscape scale actions, interactions between multiple climate stressors, and strategies to combat uncertainty and promote adaptive management. We implemented this policy through several actions and programs, including designing climate-resilient bridges and culverts to promote fish passage and assessing 268 species and 80 ecological systems for their vulnerability to climate impacts.

In 2020, the agency published its 25-year Strategic Plan which outlines strategies, near-term actions, and long-term goals to direct its work. We identified several near-term actions to promote climate resilience through the plan's strategy and that focus on proactively addressing conservation challenges. These include developing a WDFW Climate Resilience Plan and identifying species and habitats at risk from climate impacts, finding opportunities to make agency actions more climate resilient, and implementing nature-based solutions to climate risks across the state.

Work we do	Key examples

Restoration and protection of habitats to support species management and build resilience to climate impacts.
Improves our resiliency to withstand:
 
	• Programmatic efforts to support Puget Sound restoration, protection, and planning efforts.
	  ○ Habitat Strategic Initiative
	  ○ Estuary and Salmon Restoration Program
	  ○ Shore Friendly Program
	• Adapting restoration techniques to ensure resilience in the face of climate change.
	  ○ Climate informed forestry practices and marine restoration.
	  ○ Updates to seed and plant procurement strategies to build more genetic diversity and resilience to changing climate conditions.
	  ○ Improvements to land acquisition priorities to consider future climate scenarios.
	• Mapping and data efforts to inform habitat restoration prioritization.
	  ○ Identification of refugia and corridor mapping to advance habitat connectivity.
	  ○ Monitoring of Puget Sound habitats to determine habitat suitability against climate change.

Building resilience into management practices for species recovery.
Improves our resiliency to withstand:
 
	• Incorporating climate resilience into the management practices for individual species recovery:
	  ○ Sunflower sea star, pinto abalone, Olympia oyster, Taylor's Checkerspot Butterfly, etc.
	• Incorporating climate resilience into salmon recovery and management.
	  ○ Understanding climate impacts on the survival of salmon and steelhead.
	  ○ Hatchery Climate Vulnerability Assessment
	  ○ Climate informed improvements to infrastructure and operations.
	  ○ Water temperature thermal mapping efforts to identify cold water refuge areas and groundwater discharges to streams.
	• Regional and state-wide efforts to improve species recovery and promote resilience.
	  ○ Understanding climate impacts on marine ecosystems, including heat impacts on shellfish and associated response planning.
	  ○ Invasive species monitoring.
	  ○ Incorporating climate resilience into the State Wildlife Action Plan.
	• Supporting communities and economies susceptible to climate impacts on commercial and recreational industries, such as through fisheries disaster relief funding.

Work we do	Key examples

Understand, prevent, and ameliorate climate impacts on water and streamflow.
Improves our resiliency to withstand:
 
	• Monitoring, collaboration, and research.
	  ○ Accounting for projected streamflow impacts under the Hydraulic Code during project approval.
	  ○ Research of surface and groundwater interactions and their impacts on fish and aquatic resources.
	• Nature-based projects to restore and protect streamflows through riparian restoration, wetland reactivation, and beaver management.
	• Mechanisms to protect and restore streamflows such as water leasing, retiming water, water conservation, and providing guidance on fish flow needs.

Data gathering and information sharing to inform agency actions and support community partners in building climate resilience.
Improves our resiliency to withstand:
 
	• Internal agency planning to reduce emissions, prepare WDFW programs for climate impacts, and promote the prioritization of climate-resilient projects and programs.
	• External resources for communities and partners.
	  ○ Guidance to local jurisdictions for land use planning.
	  ○ Technical advice for more resilient restoration techniques and practices.
	  ○ Monitoring of habitats and environmental conditions.

Department of Health

The Washington State Department of Health (DOH) oversees a range of programs and initiatives to promote public health and implement its mission to protect and improve the health of all people in the state. Our work spans efforts to monitor and prevent disease, advance public health education, prepare for health emergencies, and more. We do much of this work in partnership with the state's 35 local health jurisdictions, the State Board of Health, Sovereign Tribal Nations and Indian Health Programs, health care (hospitals and clinics), and community-based organizations, as well as other state and federal agencies.

The agency leads a comprehensive effort to address the direct and indirect health impacts from climate-sensitive hazards such as wildfire smoke and extreme heat. DOH has launched projects focused on climate change, and also integrates climate change considerations into a provision of essential services across the public health system. This includes work to:

- Monitor climate-sensitive illnesses.
- Anticipate, respond to and prevent human exposures to health risks, including extreme weather.
- Oversee water system plans and funding resilient infrastructure.
- Decrease fecal coliform pollution and support safe shellfish growing and harvest conditions.
- Evaluate interventions to protect people from wildfire smoke.
- Implement other work to address health impacts.

In 2022, we released our Transformational Plan, which outlines five priorities for agency activities through 2024. One priority, Environmental Health, will advance health outcomes in natural, built, and social environments. This priority includes key strategies that build resilience to climate impacts within public health systems, support emissions reduction efforts, and incorporate environmental justice principles into decision-making processes. Recently, DOH's Office of Resiliency and Health Security added climate change to its mandate to better prepare for and respond to climate-driven impacts on public health.

Climate and environmental justice are central to our work on climate change. Overburdened communities throughout the state face health inequities, which make them especially vulnerable to the effects of climate change. We are working to lessen climate change impacts on the health of overburdened communities through meaningful engagement and by incorporating community priorities and environmental justice principles into our programs and initiatives.

Work we do	Key examples
Assess and monitor population health and factors that influence health, and community needs and assets. Improves our resiliency to withstand: 	DOH epidemiology units monitor, characterize and share information about the distribution of climate sensitive hazards, health risks and burdens in populations to inform prevention priorities. • Washington Tracking Network (WTN): Environmental Health Disparities Map, and other climate and health data • State Health Assessment will include new climate resilience indicators • Zoonotic and vector-borne disease surveillance Office of Drinking Water supports: • Water level monitoring at public water systems in vulnerable areas • Data compilation and analysis of source water protection at critical aquifer recharge areas.

Investigate, diagnose, and address health problems and hazards.
Improves our resiliency to withstand:
 
	• Environmental public health (EPH) and Epidemiology and Public Health Laboratory (PHL) units collect data, test and investigate risks and exposures sensitive to climate conditions.
	  ○ Expanded testing and early warning systems to prevent consumption of shellfish impacted by current and emerging biotoxins and bacterial pathogens, including Vibrio vulnificus.
	  ○ Testing and investigation of animal and human illnesses from cyanotoxin.
	  ○ Vector-borne and zoonotic disease surveillance and case investigation.
	  ○ Analysis of associations and seasonality of climate factors affecting foodborne and waterborne illness.

Communicate to inform and educate people about health, factors that influence it, and how to improve it. Improves our resiliency to withstand: 	• Works with National Weather Service and the Office of the State Climatologist to anticipate weather hazards and disseminate timely risk communication messages to protect health. • EPH units provide guidance to prevent and reduce exposures to pathogens and contaminants that may increase with climate change. • Multiple units conduct outreach and education about climate change and health.

Work we do	Key examples
Strengthen, support and mobilize communities and partners to improve health. Improves our resiliency to withstand: 	• Support local adaptation planning and resiliency projects: ○ National Estuary Program (NEP) funds projects to decrease fecal pollution impacting shellfish. ○ EPH units support indoor air quality improvements for schools, including School Plus Climate grants. ○ Climate Healthy Adaptation Initiative funds community-based resilience strategies and local climate action planning. ○ The Drinking Water State Revolving Fund program provides loans to increase the resilience of drinking water system infrastructure. ○ Source water protection program supports forest health workshops to mobilize watershed protection partnerships.
Create, champion, and implement policies, plans and laws that impact health. Improves our resiliency to withstand: 	The Built Environment unit champions an evidence-based public health approach to cross-sector local land use planning and policies, with the aim of reducing health disparities while adapting to a climate impacted future.
Use legal and regulatory actions designed to improve and protect the public's health. Improves our resiliency to withstand: 	• Use of regulatory and oversight roles to prepare for climate impacts. ○ On-site Sewage System rules to plan for sea level rise. ○ Oversees and supports Group A drinking water systems in planning for future demand, hazards like drought and wildfire, water use efficiency and climate resilience. ○ Office of Radiation Protection considers future weather extremes as part of efforts with other agencies to safely decommission radioactive waste sites and facilities.

Work we do	Key examples
Assure an effective system that enables equitable access to the individual services and care needed to be healthy. Improves our resiliency to withstand: 	DOH Office of Community Health support infrastructure hardening at long term care facilities to adapt to extreme heat events.
Build and support a diverse and skilled public health workforce. Improves our resiliency to withstand: 	Agency-wide effort to diversify workforce and train staff to partner with and serve overburdened communities and address health inequities, including harms from environmental injustices that climate change will exacerbate.
Improve and innovate public health functions through ongoing evaluation, research, and continuous quality improvement. Improves our resiliency to withstand: 	Establish early warning & surveillance systems for emerging climate-sensitive health risks. • Develop models identifying suitable tick habitat under future climate scenarios. • Pilot a Pollen Monitoring System. • Pilot use of remote sensing data to support freshwater harmful algae bloom monitoring. Evaluate interventions and best practices: • Pilot and evaluate strategies to manage indoor air quality during smoke events, including distribution of portable air cleaners. • Identify climate-adaptive practices for decreasing fecal pollution impacts on shellfish growing areas.

Build and maintain a strong organizational infrastructure for public health.
Improves our resiliency to withstand:
 
	• Implementing agency-wide greenhouse gas emissions reduction initiatives at agency facilities.
	• Building model programs for public health crises:
	  ○ Climate Change Response Core Team – Model Program: accelerate system-wide readiness to provide core services to address/prevent health impacts from smoke, freshwater harmful algae blooms, heat and other climate-sensitive hazards.
	  ○ Homelessness Core Team – Model Program: increase capacity to address environmental health concerns around homelessness, including effects of extreme weather, smoke and fire.

Department of Natural Resources

The Department of Natural Resources manages 5.6 million acres of public lands across Washington, which generate revenue and financial benefits for public schools, state institutions, and other services. This includes managing 2.6 million acres of state-owned aquatic lands, 2.1 million acres of working forests, as well as recreational lands, commercial lands, range, and agricultural lands. Our mission is to manage, sustain, and protect the health and productivity of Washington's lands and waters so that they meet the needs of present and future generations.

Much of our climate work is focused on how climate change will impact the agency's land and aquatic management roles and responsibilities. In 2020, we developed the agency's Plan for Climate Resilience. This plan outlines various actions and strategies to help the agency prepare for and adapt to climate change impacts on public lands across the state. It includes recommended actions and strategies to help reduce carbon emissions, build resilience against climate impacts such as wildfire and changes in water availability, and promote equity and environmental justice through climate resilience actions.

Many of these themes are central to the agency's 2022-2025 Strategic Plan which outlines several goals and strategies related to climate change and resilience. We also embedded environmental justice priorities through goals to build authentic relationships with communities across the state, educate the public about the role of public lands, and optimize land management to increase the economic and social benefits of public lands for the state.

Work we do	Key examples
Conduct internal agency planning to build resilience into agency programs and activities. Improves our resiliency to withstand: 	• DNR Plan for Climate Resilience and Resilience 3-Year Report. • Watershed Resilience Action Plan. • Trust Land Transfer Program to maintain performance of public trust lands. • Drought resilience for DNR managed water rights.
Education, outreach, and public involvement to promote public lands stewardship and environmental literacy. Improves our resiliency to withstand: 	• Youth Education and Outreach programs, outdoor learning opportunities, and internship programs. • Planning efforts to promote responsible and sustainable management of outdoor recreation.

Work we do	Key examples
Data collection and monitoring efforts to inform management of public lands, aquatic lands, and forests. Improves our resiliency to withstand: 	• Lidar Program to collect high quality land cover data and share through a public database for use in land management, hazard planning, and climate resilience planning. • Data collection efforts to monitor habitats, species, pests, and diseases to inform land and forest management. • Earth Resource Program to understand carbon storage, groundwater, and geothermal resources. • Natural Heritage Program.

Improved forest management to support species and habitats, advance environmental justice, and adapt forestry operations under increased risk of drought, heat, and wildfire.
Improves our resiliency to withstand:
 
	• Climate adaptation strategies to promote forest health under changing climate conditions.
	  ○ 20-year Forest Health Plan: increase the pace and scale of restoration and management.
	  ○ Forest Action Plan
	  ○ Forest Health Treatment Tracker
	  ○ Improving genetic diversity of seeds and plants to adapt to changing conditions.
	• Forest management actions to protect forest lands, support landowners, and align forestry activities with species and habitat management.
	  ○ Stewardship planning
	  ○ Forest Legacy Program
	  ○ Open space conservation
	  ○ Forest restoration grants
	• Promoting community connections and environmental justice through forest management.
	  ○ Forest Resilience Environmental Justice Implementation Plan: equitably expand partnerships, tribal engagement.
	  ○ Grant programs to fund forest collaboratives and build local capacity.
	  ○ Urban and Community Forest programs

Work we do	Key examples

Habitat conservation and recovery efforts to protect species and resources on public lands.
Improves our resiliency to withstand:
 
	• Monitoring and restoration of marine and nearshore habitats.
	  ○ Removal of marine debris, derelict structures, derelict vessels, and creosote pilings.
	  ○ Aquatic stewardship guidance and habitat monitoring.
	  ○ Kelp and eelgrass conservation and management.
	  ○ Geoduck Taskforce
	• Conservation of upland habitats.
	  ○ Shrubsteppe Restoration and Resilience Initiative
	  ○ Natural Heritage Plan
	• Habitat Conservation Plans under the Endangered Species Act.
	• Invasive species management including European Green Crab, Northern Pike, ghost shrimp, and weedy plants.

Hazard management to reduce wildfire risk, support wildfire recovery, and mitigate drought impacts.
Improves our resiliency to withstand:
 
	• Programs and initiatives intended to prevent/ minimize wildfire events, prepare communities, and build resilience.
	  ○ Prescribed fire and treatment initiatives.
	  ○ Community Wildfire Resilience and Preparedness Program
	  ○ Community Defense and Prevention Grants to develop and revise Community Wildfire Protection Plans and implement recommendations.
	  ○ Wildfire Ready Neighbors program and expansion to Western Washington.
	• Wildfire Recovery.
	  ○ Post-wildfire debris management, landslide hazard mitigation, and communication improvements.
	• Resilience co-benefits through school and public building seismic retrofits that add solar power and backup battery resources that allow these spaces to serve as resilience hubs during climate-driven events like extreme heat or high wildfire smoke.
	• Sea level rise planning to inform management of aquatic lands and coastal infrastructure.

Puget Sound Partnership

The Puget Sound Partnership is Washington's lead agency for the restoration and protection of Puget Sound. We work with a wide range of partners from across the region to align recovery efforts under a shared vision and strategy, ensure smart investments informed by science and monitoring, and advance policy and funding initiatives to reach shared goals.

The Partnership's work is guided by the Action Agenda, which serves as a regional plan for advancing protection and restoration efforts across Puget Sound. Strategies and actions in the agenda seek to protect and restore habitats and habitat-forming processes, protect and improve water quality, protect the food web and imperiled species, prevent the worst effects of climate change, and ensure human wellbeing.

Each strategy in the agenda considers how climate change will impact various actions and provides implementation recommendations to build climate adaptation and resiliency into Puget Sound recovery efforts. This allows the Partnership to advance multi-benefit projects and reduces the vulnerability of the Puget Sound ecosystem to climate change hazards. This includes using data and tools to incorporate climate resilience into project design and decision making, accelerating the implementation of projects that reduce emissions and decrease vulnerability of Puget Sound habitats, and establishing initiatives to advance environmental justice for communities in the region.

Work we do	Key examples
Incorporating climate resilience into the Puget Sound Action Agenda. Improves our resiliency to withstand: 	• 2022 – 2026 Action Agenda strategy to integrate climate adaptation and resilience across all Action Agenda strategies. • Supporting climate resilience work through the Action Agenda's Implementation Strategies and Progress Indicators to ensure investments are climate resilient.

Integrating climate resilience into salmon recovery actions and policies.
Improves our resiliency to withstand:
 
	• Development of key strategies and actions for climate resilience in the 2024 Salmon Recovery Plan.
	• Use of grants and novel programs to fund projects that increase the climate resiliency of salmon recovery projects.
	  ○ Puget Sound Acquisition and Restoration Program
	  ○ Nearshore Conservation Credit Program

Using climate change information and projections to guide ecosystem recovery efforts.
Improves our resiliency to withstand:
 
	• Incorporating climate resilience into Local Integrating Organizations Ecosystem Recovery Plans.
	  ○ Sea level rise planning and guidance.
	  ○ Shoreline armoring removal prioritization.
	• Tracking and evaluating ecosystem conditions and preparing for expected climate impacts.
	  ○ Puget Sound Ecosystem Monitoring Program.
	  ○ Alternative Future Scenarios.

Internal agency planning to advance climate resilience through policy and funding initiatives.
Improves our resiliency to withstand:
 
	• Advocacy for funding and legislative priorities to advance climate-resilient approaches to Puget Sound recovery.
	  ○ Ranking of state agency Puget Sound-related funding requests according to how well they implement the Action Agenda.
	  ○ Puget Sound Day on the Hill to connect with federal partners.
	• Internal work plans and policies to guide agency actions and priorities.
	  ○ Science Workplan
	  ○ Social Science Coordination
	  ○ All Board's Work Plans

Department of Transportation

The Washington State Department of Transportation (WSDOT) maintains and operates multimodal transportation infrastructure throughout the state, including an extensive network of highways and roads, ferries, public-use airports, rail, and other transportation systems. Our work includes construction, maintenance, and the day-to-day operation of transportation networks. This supports our mission to provide safe, reliable, and cost-effective transportation options to improve communities and economic vitality for people and businesses.

The agency's climate work focuses on building climate resilience into the transportation system, reducing transportation-related greenhouse gas emissions, and promoting nature-based solutions and other sustainable practices. Since 2010, WSDOT has worked to address the challenges and risks posed by climate change on the state's transportation infrastructure and has established policy and guidance for building more climate resilient infrastructure.

WSDOT has several programs that deal directly with risk reduction and hazard mitigation:

- Fish Passage program: replaces undersized culverts with climate-resilient, fish passable water crossing structures.
- Chronic Environmental Deficiencies program: uses nature-based solutions to address locations along state highways that interact with rivers, streams, or coastlines, that experience frequent repairs or maintenance to highway infrastructure due to environmental hazards such as coastal and stream erosion.
- Roadside Maintenance program: improves roadway safety and environmental outcomes using best management practices for protecting habitat and water quality.
- Unstable Slopes/Geotechnical program: identifies and addresses natural hazards and climate impacts.
- Stormwater program: improves stormwater treatment from existing roads and infrastructure, with an emphasis on green infrastructure retrofits.

We also lead efforts to reduce transportation-related emissions and improve sustainability. We do this by promoting and investing in electric vehicles and low carbon fuels, taking actions to reduce vehicle miles travelled, and delivering equitable and healthy transportation choices. Our work is guided by six statutory policy goals and our Strategic Plan. Resilience is one of three strategic plan goals. Resilience strategies include efforts to reduce the impacts of climate change and other threats to transportation infrastructure as well as efforts to facilitate an equitable transition to clean fuels and reduce greenhouse gas emissions.

Work we do	Key examples

Building climate resilience and risk management into the design, construction, operations and management of transportation facilities and infrastructure.
Improves our resiliency to withstand:
 
	• Funding, design, and construction of infrastructure upgrades to make specific transportation infrastructure more resilient.
	  ○ Tsunami and sea level rise design considerations and guidance for ferries.
	  ○ Interstate 5 Master Plan
	  ○ Post-wildfire burn roadside stabilization
	• Design improvements and updates to facilitate fish passage and increased habitat connectivity.
	• Broad-scale risk management activities to build resilience into transportation operations.
	  ○ Avalanche risk management planning.
	  ○ Stormwater retrofit program.
	  ○ Coastal highway vulnerability study.
	  ○ Rail, freight, and ports natural hazard resilience assessment.

Improving resilience of roadsides, ferry terminals, airports, multimodal transit facilities.
Improves our resiliency to withstand:
 
	• Some examples:
	  ○ Roadside carbon sequestration.
	  ○ Wildfire resistant roadside vegetation and fuels reduction.
	  ○ Promoting pollinator health through native vegetation.
	  ○ Unstable slope risk reduction.
	  ○ Culvert maintenance to reduce flooding.

Planning and policies to guide agency work and support partners. Improves our resiliency to withstand: 	• Ongoing maintenance and preservation of WSDOT operated infrastructure. • Natural Hazard Resilience Assessment for WSDOT-owned capital facilities. • Emissions reduction efforts. • Guidance and technical support for addressing climate change in WSDOT projects.
Data gathering Improves our resiliency to withstand: 	• Vulnerability assessments. • Monitor the condition of transportation assets. • Inventory locations of repeat flooded areas and other damage from emergency events.

Work we do	Key examples
Emergency response Improves our resiliency to withstand: 	• Develop and maintain emergency response plans. • Develop and implement clear protocols for recovery efforts. • After event strategies to improve resilience, reduce future impacts. • Continuity of operations.