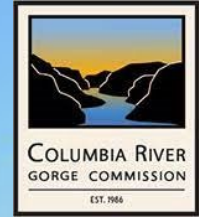


# Columbia River Gorge National Scenic Area



## CLIMATE CHANGE ACTION PLAN

2023-2025

Adopted December 13, 2022

# Executive Summary

This Executive Summary provides an overview of the Gorge Commission’s Climate Change Action Plan, a guide to climate change action in the Columbia River Gorge National Scenic Area (NSA). It is an “at-a-glance” summary of the Commission’s climate change goals, strategies, and actions that are described in more detail in the comprehensive plan that follows.

## Purpose of the Action Plan

Climate change is the most sweeping and urgent threat facing land and resource managers today. In the Columbia River Gorge National Scenic Area—an incredibly dynamic and biodiverse landscape—Tribes, agencies, local governments, and communities are taking action to build resilience in our natural and built systems to cope with climate change (adaptation) and to reduce greenhouse gas emissions (mitigation).

The Commission developed this Climate Change Action Plan to identify our greatest needs and opportunities to build resilience and reduce emissions, and to guide our ongoing climate work. The Action Plan is a living document that is designed to be adaptive. Through regular review of the Action Plan, we will integrate our learning, evaluate progress, and update actions as needed.

This Action Plan builds upon several important milestones:

- 1986** National Scenic Area Act
- 1991** Management Plan and Land Use Designations for the NSA
- 2009** Vital Sign Indicators Project: State of the Gorge Report
- 2019** Summary of Climate Change Effects in the NSA: Report to the Commission by Owen Wozniak
- 2021** Draft USDA Forest Service Climate Change Vulnerability and Adaptation in the Columbia River Gorge National Scenic Area, Mt. Hood National Forest, and Willamette National Forest Report
- 2022** Revised Management Plan with climate change policies
- 2022** Gorge Commission’s Climate Change Action Plan



*Photo by Peter Marbach*



## Key Climate Change Impacts and Opportunities in the NSA

Based on local climate change vulnerability assessments completed for this region, we expect these changing conditions to impact natural and human systems in the NSA:

- **Rising air and water temperatures:** Warmer and drier conditions impact aquatic and terrestrial habitats, with more extreme heat events in summer months.
- **Hydrological changes:** Overall snowpack and summer stream flows will decrease, while winter stream flows will be more likely to rise and fall quickly from extreme weather events, causing flooding, increased sediment delivery, and habitat changes.
- **Increased wildfire:** The risk of more frequent, high-severity, and large wildfires has increased in recent years, threatening scenic, natural, cultural, and recreation values, human health, and local economies.

These impacts are not experienced by all people and places equally. Climate change disproportionately affects communities of color, Tribal communities, rural communities, and those who rely upon natural resource based economies. The Commission has a responsibility to engage with individuals and communities that have historically been excluded from land use planning decisions in this region. Two overarching approaches guide our climate work:

**Adaptation:** Build resilience and adapt to climate change by protecting resilient lands and addressing the most pressing impacts on natural, scenic, cultural, and recreation resources, and the economic vitality of NSA communities. This can include addressing past management decisions that limit the adaptive capacity of natural systems and processes (e.g., reconnecting floodplains to handle changes in the magnitude and seasonality of flows and sediment).

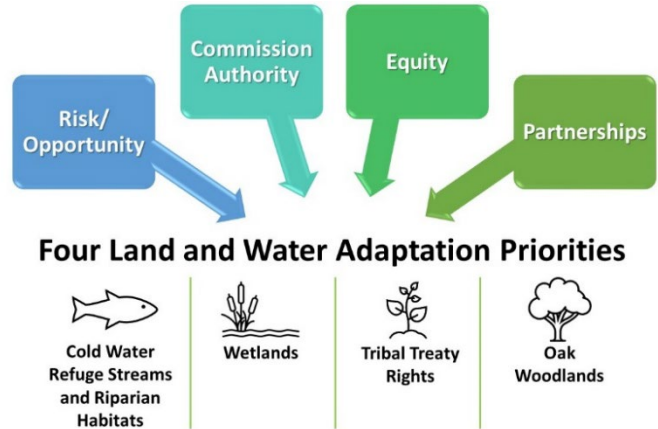
**Mitigation:** Mitigate climate change by reducing greenhouse gas (GHG) emissions and protecting and enhancing carbon sequestration in the NSA.



# Selecting Commission Priorities for Climate Change Adaptation and Mitigation

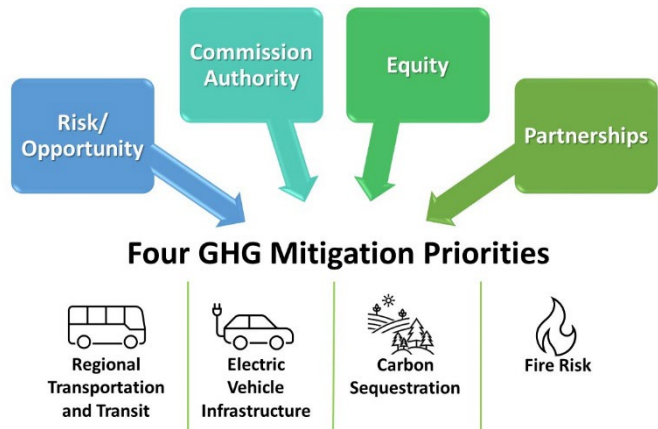
## Adapt to Impacts

We ranked climate vulnerability and risk for over 30 values and resources in the NSA. From among these, **four land and water adaptation priorities** rose to the top. Priorities are based on Commission approved criteria: opportunity to improve condition or risk of inaction, Commission’s role and authority in affecting the resource, equity implications for historically excluded or climate-vulnerable people, and opportunities for partnerships to advance and strengthen our efforts.



## Mitigate GHG Emissions

We identified options to reduce the sources or enhance the sinks of greenhouse gases in the NSA. Transportation is by far the largest contributor to GHG emissions in this landscape. Land-based carbon storage and sequestration offer a smaller, yet still significant contribution (9-14% of Oregon and Washington’s state reduction goals according to recent publications). Reducing fire risk is also an opportunity to prevent or reduce carbon emissions while protecting carbon in living trees and soils. We established **four GHG mitigation priorities**, based on Commission approved criteria.



This Action Plan highlights two additional climate priorities that were identified at the outset of this process: (1) high climate resilient areas that support many species, habitats, and human communities and (2) equity in community engagement and climate action outcomes.

For each of these priorities, we developed goals, strategies, actions, and measures to track our progress. The NSA’s Vital Sign Indicators (VSI) long-term monitoring program is integral to our evaluation approach. Goals, strategies, actions, and progress measures are described in more detail in Parts III and IV of the Action Plan.



## Adapting to Impacts - Land and Water Adaptation Priorities

The following pages summarize goals, strategies, example actions, and progress measures to adapt to impacts. [Part III](#) lists each priority action the Commission intends to accomplish.



### Cold Water Refuge Streams and Riparian Habitats

Rising stream temperatures and winter floods threaten native aquatic species, including salmon and steelhead that are critically important to Columbia River Treaty Tribes.

Cold water refuge (CWR) habitats are limited on the lower Columbia River with 98% of total CWR volume located in 12 primary tributaries. Ten of these 12 CWR streams are in the NSA.

For more about streams and riparian habitats, see the [vulnerability snapshot](#) on page 14. Priority actions are listed in [Part III](#) on page 51.

#### Goals for Cold Water Refuge Streams and Riparian Habitats

1. By 2030, summertime water temperature on NSA CWR streams do not increase and are trending towards federal/state water quality standards for temperature.
2. By 2030, based on VSI monitoring and with partner input, the Commission has set goals for summer baseflows and winter high flows (these may crossover with wetlands goals).

**Strategy 1:** Improve stream temperatures and riparian vegetation.

**Strategy 2:** Generate decision support tools to evaluate actions and set future actions.

#### Action Examples:

- Develop policy options to accelerate enhancement.
- Develop buffer policy options to improve stream and riparian conditions.
- Partner with EPA and others to advance habitat goals in the Columbia River CWR Plan.

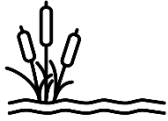
#### Action Examples:

- Monitor stream flow, temperature, and salmonid habitat quality to inform decision-making.

### How will we measure success?

The Commission will track temperature and flow of CWR streams through our Vital Sign Indicators monitoring effort (see Part IV for more on VSI). We are working to define goals for stream flows to provide sufficient water in summer months and to protect redds from scouring during winter floods.





## Wetlands and Wetland Species

Drying conditions threaten and add stress to wetland habitats and associated species. Rare and culturally important plants that are most affected by climate change in the NSA are those associated with wetlands and waterfall spray areas. Past management decisions have altered floodplains and their ability to adapt to changing precipitation and flows, and have reduced the beneficial role of native beavers, or wishpoosh (word used for beaver by Yakama and Warm Springs Tribes).

For more about impacts to wetlands, see the [vulnerability snapshot](#) on page 15. Priority actions are in [Part III](#) on page 53.

### Goals for Wetlands

1. By 2025, baseline extent and condition for wetlands are established and support implementation of the Management Plan’s goal of no wetland loss.
2. By 2030, wetland extent and function are increasing. Based on VSI information, more detailed goals can be set at this time with targets for wetlands acreage and condition.

**Strategy 1:** Accelerate wetland restoration and enhancement.

**Strategy 2:** Develop policies to strengthen protections for wetlands and wetland species.

**Strategy 3:** Generate decision support tools to guide future policy.

#### Action Examples:

- Develop policy options for permit-exempt or streamlined enhancement.
- Support partner projects that enhance wetlands and connect floodplains.

#### Action Examples:

- Develop policy options to improve wetland buffers.
- Develop best practices guidance to protect wetland habitat.

#### Action Examples:

- Gather baseline data on wetland extent and condition to inform decision making and help prioritize wetlands for enhancement.

### How will we measure success?

The Commission will measure the extent and condition of NSA wetlands through our Vital Sign Indicators monitoring effort (see Part IV for more on VSI). We will refine our goals as our understanding of wetland status and trends improves.





## Tribal Treaty Rights: Emphasis on Native Plants and Wildlife

Sovereign Tribes in this region are leading numerous climate change initiatives on reservation lands and across the landscape. The Commission is learning about Indigenous priorities for climate change action and how our efforts can contribute to treaty-reserved rights and protection of water, plants, and animals that are culturally important to Tribes, often called First Foods. Actions in this plan strengthen our ability to work together with Treaty Tribes to identify and advance goals for First Foods protection and access in the NSA.

Read more about Tribal Treaty Rights and culturally important species in the [vulnerability snapshot](#) on page 23. Priority actions are described in [Part III](#) on page 55.

### Goal for Tribal Treaty Rights

By 2023, the Commission has identified specific goals, strategies, and policy approaches for First Foods protection and access, created with the Columbia River Treaty Tribes.

**Strategy 1:** Build knowledge and options for protecting native plants and opportunities to gather them safely.

**Strategy 2:** Consult with Treaty Tribes to identify policy needs to protect native plant communities and plants gathered for food, medicine, or other purposes.

**Strategy 3:** Support Treaty Tribes in their work to restore access for traditional gathering and fishing.

#### Action Example:

- Co-create strategies with Tribes for supporting Treaty Rights.

#### Action Example:

- Develop policy options to protect culturally important plants, wildlife, and their habitats.

#### Action Example:

- Gather baseline information on culturally important plants to help prioritize areas for protection and restored access.

### How will we measure success?

The Commission will consult with the Columbia River Treaty Tribes to identify meaningful ways to assess First Foods protection and access as we work together on this Action Plan goal for Tribal Treaty Rights.



## Oregon White Oak Woodlands

Oregon white oak woodlands are one of the most biodiverse and climate-resilient ecosystems in the NSA. Oaks are drought-hardy and fire-adapted; they are expected to expand in range under future conditions. At the same time, oak woodlands are one of the fastest changing systems as a result of development and fragmentation, invasive species, historical fire suppression leading to conifer encroachment, and other land uses. Oak and pine-oak systems make up much of the deer and elk winter range in the NSA.

Read more about oak woodlands in the [vulnerability snapshots](#) on page 17. Oak woodland priority actions are described in [Part III](#) on page 57.

### Goals for Oregon White Oak Woodlands

1. By 2025, critical corridors for oak woodlands and deer habitat connectivity are identified and policy options are provided to the Commission. Through work with East Cascades Oak Partnership (ECOP), comprehensive oak habitat maps are available.
2. By 2030, based upon information generated through Goal 1, Oregon white oak woodlands and corridors in the NSA are maintained or improved.

**Strategy 1:** Develop policy and compensatory mitigation standards to protect oak habitat and maintain or restore connectivity.

**Strategy 2:** Develop policy and compensatory mitigation standards to protect winter range and maintain or restore connectivity.

**Strategy 3:** Develop decision support tools to inform policy updates and Management Plan implementation.

#### Action Example:

- Develop policy options to protect oaks and accelerate oak enhancement.

#### Action Example:

- Develop policy options to protect and enhance wildlife corridors in oak woodlands.

#### Action Examples:

- Establish baseline data on oak extent and condition.
- Provide planners with information about oak condition and function.

### How will we measure success?

The Commission and partners in the East Cascades Oak Partnership will measure the extent and condition of oak woodlands through our Vital Sign Indicators monitoring effort (see Part IV for more on VSI).





## High Climate Resilient Areas



Intact landscapes provide ecosystem functions that will be even more important in a changing climate, like groundwater recharge, surface water filtration, biodiversity, and more. We have identified areas that are expected to fare well, “high climate resilient areas (HCRAs),” based on local data about physical and biological characteristics and development. By prioritizing lands that can support native plants and wildlife into the future, we also allow species room to move when resources are scarce, and for some species to shift their ranges over time.

This topic is listed in Part III of the Action Plan as part of our overall climate action approach in the NSA. High climate resilient areas support the eight priorities by ensuring that functioning natural landscapes are available in the future to support adaptation to impacts, while maintaining carbon sequestration opportunities.

High climate resilient areas priority actions are described in [Part III](#) on page 48.

### Goal for High Climate Resilient Areas

By 2035, 70% of high climate resilient areas in the NSA are protected by policies or conservation status, as defined in this Action Plan. (See conservation status definition in the Appendix on page 83.)

**Strategy:** Protect natural landscapes, connectivity, and ecosystem functions.

### Action Examples:

- Develop policy options to protect high climate resilient areas into the future.
- Support conservation action by other parties (e.g., land trusts, state and federal agencies, and private landowners).
- Support land management practices such as prescribed fire and beaver-based restoration.

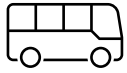
### How will we measure success?

Through coordination with local conservation partners, we will track the percent of high climate resilient areas in the NSA protected through conservation status over the next decade as we work toward our 2035 goal. See Appendix for a detailed description of the methods and approaches for conserving high climate resilient areas.



## Reducing Greenhouse Gas (GHG) Emissions - Mitigation Priorities

The following pages summarize goals, strategies, example actions, and progress measures to mitigate GHG emissions. Part III provides additional detail about each of the actions the Commission intends to accomplish.



### Regional Transportation, Including Transit

Transportation is the largest source of GHG emissions in the Northwest, particularly in the Gorge, where industrial and residential development are limited. The Commission has a unique role as a regional planning body in a complex, multi-jurisdictional area with high visitation. Addressing transportation emissions through planning and policies has multiple co-benefits for equity and resource protection.

Read more about regional transportation as a [mitigation opportunity](#) on page 35. Priority actions are described in [Part III](#) on page 58.

#### Goals for Regional Transportation to Reduce Single Occupancy Vehicle Miles

1. By 2025, the number of gas-powered single occupancy vehicle trips across the Gorge decreases from 2022 level. This goal will be supported by transit, shuttle, and parking solutions.
2. From 2022-2025, transit ridership increases each year.

**Strategy 1:** Leverage and build partnerships to reduce transportation-related emissions.

**Strategy 2:** Reduce congestion and improve traffic efficiency.

**Strategy 3:** Promote regional connected bike/pedestrian/multi-modal transportation.

#### Action Example:

- Collaborate with regional partners, bringing solutions, funding, and resources to the Gorge.

#### Action Example:

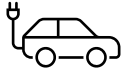
- Support implementation of regional plans to relieve congestion on Gorge highways.

#### Action Example:

- Review Recreation Intensity Class (RIC) guidelines for potential changes to increase multimodal connections.

### How will we measure success?

We will track the annual number of gas-powered single occupancy trips and annual transit ridership in the Gorge in collaboration with partners responsible for transportation (Oregon and Washington Departments of Transportation, recreation site managers, and transit operators).



## EV Infrastructure

Transportation emissions are far and away the largest source of GHG emissions in the Gorge, and in Oregon and Washington. Nationally and globally, a transition away from fossil fuels is a key climate mitigation strategy. Several decision-support tools and funding sources are ramping up now to rapidly increase charging in the region.

Read more about EV infrastructure as a [mitigation opportunity](#) on page 38. EV priority actions are described in [Part III](#) on page 60.

### Goals for EV Infrastructure

1. By 2025, public direct current (DC) fast charging is available at least every 25 miles along I-84 or SR-14, and 50% of Urban Areas have public Level 2 or DC fast charging stations.
2. By 2025, the Gorge has a strategy for the desired locations and types of charging stations, and partnerships in place to implement them by 2030.

**Strategy 1:** Urge inclusive and proactive regional EV planning.

**Strategy 2:** Support incentives and reduce barriers to EV charging stations.

#### Action Examples:

- Create a regional strategy for the locations and types of charging facilities in the Gorge.
- Support pilot projects and innovation to reduce fossil fuel and hydroelectric power draw from EVs.

#### Action Example:

- Develop policy options and partnerships to accelerate EV infrastructure in the Gorge.

### How will we measure success?

We will track the number of charging stations using public data such as PlugShare and the Alternative Fuels Data Center.



## Carbon Sequestration in Natural and Working Lands

Carbon sequestration is an important component of climate change mitigation, particularly in Northwest forests. This relates directly to another priority, reducing fire risk, addressed on the next page. Carbon is stored in plants, roots, and soils on all natural and working lands, including those high climate resilient areas described earlier. Actions contributing to related adaptation priorities will help protect carbon sequestration while we are in an information-gathering and goal-setting stage for carbon sequestration actions and targets specific to different land cover types and habitats.

Read more about carbon sequestration as a [mitigation opportunity](#) on page 40. Carbon sequestration priority actions are described in [Part III](#) on page 61.

### Goal for Carbon Sequestration

By 2030, the Commission has measurable, time-bound goals for enhancing carbon sequestration on natural and working lands, with associated strategies and actions.

**Strategy 1:** Develop policy and mitigation standards to retain and enhance carbon sequestration in forests.

**Strategy 2:** Generate decision support tools.

**Strategy 3:** Promote practices that store carbon in soils, plants, and wetlands.

#### Action Example:

- Develop policy options to accelerate forest health and maintain carbon sequestration.

#### Action Example:

- Establish baseline information and data-driven goals for carbon sequestration on natural and working lands.

#### Action Example:

- Support private lands stewardship and forest collaboratives to improve carbon sequestration.

### How will we measure success?

As we develop baseline information about current and potential carbon sequestration of different land cover types and habitats, we will measure success by extent of lands protected and enhanced. Our initial focus will be on forested lands as a land-based carbon sequestration opportunity in the NSA.



## Fire Risk

Western states have seen major increases in the length of fire seasons and the size and frequency of fires in recent years. In the NSA, nearly all lands are considered to be in the wildland-urban interface where human developments are at elevated risk. The Eagle Creek Fire of 2017 demonstrated some of the multi-faceted implications of large, severe fires, including smoke and health impacts, immediate and sustained economic impacts, and the challenges of enforcing closures of recreation areas that were unsafe post-fire. The Gorge Commission recently joined the Washington Fire Adapted Communities Learning Network and will leverage state and national resources to advance our work. Read more about fire risk as a [mitigation opportunity](#) on page 42. Priority actions are in [Part III](#) on page 63.

### Goals for Fire Risk

1. By 2025, combined efforts on public and private lands in the NSA result in at least 2,200 acres of fuels reduction treatments. Fuels reduction includes thinning encroached or overstocked stands and prescribed burning. With support from the Fire Adapted Communities Learning Network and multiple partners, the Commission will set long-term acreage targets based on forest types, Land Use Designations, and other considerations.
2. By 2030, at least six community-based groups in the NSA are leading community fire adaptation to prepare for, respond to, and recover from wildfire.

**Strategy 1:** Support private landowners to reduce fire risk.

**Strategy 2:** Coordinate with partners to advance forest health and reduce fire risk across all lands.

**Strategy 3:** Develop decision support tools to inform policy updates and Management Plan implementation.

#### Action Examples:

- Develop policy options to accelerate private forest health projects.
- Promote Firewise principles.

#### Action Examples:

- Support forest health treatments and improve outcomes of forest practices.
- Encourage forest use restrictions under high risk conditions to reduce fire risk.

#### Action Example:

- Track wildfire and fuels treatments to help prioritize policies and restoration work to reduce fire risk across the NSA.

### How will we measure success?

We will coordinate with agencies to estimate progress toward the goal of reduced fire risk and to refine goals for future years. The Commission will track fuels reduction projects through our Vital Sign Indicators monitoring effort (see Part IV for more on VSI).



## Equity and Inclusive Climate Action Work

As we prioritize the natural systems upon which we depend, we also prioritize our communities and strengthening the relationships that make us resilient together. Equity and inclusive community engagement are priorities that apply to adaptation and mitigation in the Action Plan.

An important principle throughout the Action Plan is to engage, learn from, and work on behalf of all people who are affected by climate change in the NSA, including those who have historically been excluded from land use planning decisions in the region. We have established goals, strategies, actions, and progress measures to guide us in these initial years of climate change action. Priority actions for inclusive climate work are in [Part III](#) on page 49.

### Initial Goal for Inclusive Climate Action Work

By 2025, the Commission has completed a comprehensive Diversity, Equity, and Inclusion (DEI) Plan with specific, measurable, and timebound goals to advance climate equity.

**Strategy:** Engage diverse communities and partners to plan for climate change and implement adaptation and mitigation actions.

### Action Examples:

- Review policies and procedures to improve outcomes for people who are most vulnerable to climate change.
- Pilot a Climate Stewards Program to educate and activate local leaders in climate change action.
- Engage youth, Tribal Councils, Latino/Hispanic and Spanish speaking community members, and other immigrant communities in the NSA to advance adaptation and mitigation actions.

## How will we measure success?

While we work toward detailed equity strategies and actions, we will track progress toward inclusivity through public engagement activities that meet the needs of diverse community members, new relationships, and Commission participation in DEI learning opportunities.



**opportunity to promote equity**

Throughout this Action Plan, you will see this icon to indicate an **opportunity to promote equity**. This icon simply helps to highlight a few of the clearest connections between the Commission's work and equity outcomes. Among the topics with the greatest potential for improving equity outcomes are:

Tribal Treaty Rights, Nature-Based Tourism, Agricultural Uses and Products, and Regional Transportation.

## How to Stay Engaged with the Climate Change Action Plan

You can find the latest on the Commission’s Climate Change Action Plan on our website: <http://www.gorgecommission.org/initiatives/climate-change>.

Here’s how the Climate Change Action Plan is organized:

<b>Introduction</b>	Explains the Commission’s approach and defines the Action Plan’s scope
<b>Part I - Adaptation</b>	Describes climate impacts to sensitive resources and opportunities to build resilience
<b>Part II - Mitigation</b>	Describes emissions sources and carbon storage opportunities to mitigate GHG emissions
<b>Part III – Priority Actions</b>	Identifies strategies and actions to address Commission priorities for adaptation and mitigation
<b>Part IV - Monitoring</b>	Describes an evaluation framework to track Commission actions and measure progress toward goals
<b>APPENDIX - High Climate Resilient Areas</b>	
<b>Information Reviewed to Create the Action Plan</b>	

## Partnering and Volunteering

We welcome interested individuals and organizations to reach out to Commission staff to find out more. As we implement the Action Plan, staff will share opportunities to work together through our website and during regular Commission meetings.

The Commission typically meets via Zoom on the second Tuesday of every month, with a few hybrid meetings each year. All meetings are open to the public.

