CHAPTER

1

Climate Change

The National Scenic Area is made up of a diversity of intact landscapes, living cultures, and communities that, while vulnerable to climate change impacts, also provide a vital foundation for climate resilience. The Gorge Commission is committed to leading and working with others to reduce the greatest drivers of climate change and adapt to changing conditions with the goal of sustaining a thriving, resilient National Scenic Area for future generations.

Climate change poses the most wide-reaching and urgent challenge facing resource management agencies today.[1,] Several states, including Oregon and Washington, have taken lead roles in addressing greenhouse gas (GHG) emissions and climate adaptation, emphasizing the importance of acting immediately.[2] As a bi-state agency, the Gorge Commission is positioned to contribute to regional solutions for addressing climate change.

Climate change impacts the scenic, cultural, natural, and recreation resources and the economy and people of the National Scenic Area. Thus, the Management Plan must address it.

The National Scenic Area is particularly vulnerable to the extremes of climate change impacts including wildfire, given its topography and high winds. With a patchwork of land ownership and economies heavily reliant on natural resources, the National Scenic Area is likely to experience climate change impacts intensely.

CLIMATE CHANGE IMPACTS IN THE NATIONAL SCENIC AREA

The National Scenic Area faces numerous current and predicted effects of climate change including extreme heat, warmer average air temperatures, shift from snow to rain, earlier runoff, warmer water temperatures, reduced water quality, increased flooding, drought, landslides, and wildfire, changes in species

[1] Intergovernmental Panel on Climate Change, 2018: Global warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above preindustrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty [V. Masson-Delmotte, P. Zhai, H. O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J. B. R. Matthews, Y. Chen, X. Zhou, M. I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, T. Waterfield (eds.)]. In Press.

[2] Recognizing that Oregon has "an urgent, moral obligation to set and achieve more ambitious GHG reduction goals," Executive Order 20-04 calls for the state to reduce its GHG levels at least 80 percent below 1990 emission levels by 2050, building on goals established in previous legislation (ORS 468A.205). The Washington Clean Energy Transformation Act (SB 5116), requiring a transition to a 100 percent clean electricity supply by 2045, is among the strongest legislation in the country aimed at reducing GHG emissions.

abundance and distribution, and increased invasive species and diseases.[3]

Some of these changes are already occurring and could have notable impacts on National Scenic Area resources, including:

- Increased frequency and severity of wildfire affecting air quality, visibility, and local economies;
- Increased vulnerability of culturally-important resources, including traditional First Foods, treaty-reserved rights, and cultural sites;
- Flow and water temperature changes threatening aquatic species and habitats; and
- Shifting vegetation ranges impacting the effectiveness of development screening practices.

Given the complex and interconnected nature of climate change impacts in the National Scenic Area, it is essential that climate resilience,[4] adaptation,[5] and mitigation[6] efforts involve federal, bi-state, state, county, city, and tribal governments, as well as the public.

The Management Plan is one of several tools the Gorge Commission, and the National Scenic Area jurisdictions, use to protect and enhance the scenic, natural, cultural, and recreation resources, and the economy of the Columbia River Gorge in the face of a changing climate. The National Scenic Area Act's focus on resource protection, compact urban areas, and protection of agricultural and forestry uses serves as a strong foundation for addressing climate change impacts. Existing Management Plan provisions—such as minimum parcel sizes, resource protection buffers, and mitigation measures—provide a framework to build climate resilience. However, changing conditions require new and thoughtful regionwide policies to secure a healthy and resilient future for the National Scenic Area.

Beyond the Management Plan, the Gorge Commission serves in a variety of roles that advance climate resilience efforts throughout the National Scenic Area. As a regional planning body responsible for the largest National Scenic Area in the country, the Gorge Commission engages on issues such as sustainable recreation; natural hazard mitigation planning and wildfire resilience; transportation; and habitat connectivity. The Gorge Commission also leads the Vital Sign Indicators initiative to monitor long-term trends and policy effectiveness at a landscape scale, which will directly inform policy changes necessary to continue to accomplish the purposes of the National Scenic Area Act in the context of climate

[3] "Summary of Climate Change Effects in the Columbia River Gorge National Scenic Area," Wozniak, October 8, 2019, pages 5-7.

[4] The IPCC defines **resilience** as "the ability of a social or ecological system to absorb disturbances while retaining the same basic structure and ways of functioning, the capacity of self-organization, and the capacity to adapt to stress and change."

[5] The IPCC defines **adaptation** in this way: "In human systems, the process of adjustment to actual or expected climate and its effects, in order to moderate harm or exploit beneficial opportunities. In natural systems, the process of adjustment to actual climate and its effects; human intervention may facilitate adjustment to expected climate." Climate change adaptation actions typically include researching and understanding impacts, preparing for and adjusting to impacts, and employing sustainability concepts to achieve objectives or protect valued resources given expected changes.

[6] The IPCC defines **mitigation** of climate change as "a human intervention to reduce the sources or enhance the sinks of greenhouse gases." Mitigation actions typically include minimizing contributions to climate change, slowing and reversing impacts, and storing or sequestering greenhouse gases.

change. In addition, the Gorge Commission engages in regional partnerships to improve implementation of the Plan's policies, while supporting landowner actions to protect and enhance resources vulnerable to climate change impacts.

GMA PROVISIONS

Framework for Action: Climate Change Adaptation and Mitigation

As a bi-state compact agency committed to protecting and enhancing the scenic, natural, cultural, and recreation resources and economic vitality in the Columbia River Gorge National Scenic Area, the Gorge Commission has a unique responsibility to respond to the urgent threats of climate change. The Gorge Commission manages a large and complex mosaic of land ownership on the doorstep of one of the region's largest metropolitan areas. The policies in this chapter provide a framework for action to address the most pressing and significant impacts of climate change on National Scenic Area resources.

A foundational component of this framework is a Climate Change Action Plan with a target completion date, clear objectives, and integrated monitoring that supports adaptive management through amendments and revisions to the Management Plan. The Gorge Commission is committed to ensuring that equity considerations are integrated into climate change adaptation and mitigation analysis, planning, decision-making, and project implementation.

GMA Policies

1. The Gorge Commission shall develop and adopt a Climate Change Action Plan that is based upon a local climate vulnerability assessment that integrates risk information with regional land use data. The Climate Change Action Plan shall include specific strategies and actions for climate adaptation and mitigation. The Climate Change Action Plan shall include consultation with the four Columbia River treaty tribes, the Forest Service, the six counties in the National Scenic Area, and shall involve the public. The Climate Change Action Plan shall be reviewed by the Gorge Commission and Forest Service and approved if determined to be consistent with the National Scenic Area Act and the Management Plan. The Climate Change Action Plan shall be regularly reviewed and updated as needed, based upon new data and information. The Climate Change Action Plan's focus will be to inform future policy changes that are consistent with the Gorge Commission's authorities and responsibilities. Among the priorities for action planning are these topics:

    A. **Streams and riparian areas** – protecting and enhancing aquatic and riparian systems. This includes expanding stream buffers, requiring vegetation enhancement, protecting cold water refuge habitats for fish, and other approaches.

        (1) Apply a 200-foot buffer width to these EPA priority cold water refuge streams within the GMA: the Sandy River, Wind River, Little White Salmon River, White Salmon River, Hood River, Klickitat River, and Deschutes River. [7] (See guidelines for "Water Resource Buffer Zones"

[7] Streams within the GMA that are included in the Draft Columbia River Cold Water Refuges Plan completed

in Part I, Chapter 3: Natural Resources. The Management Plan's natural resource objectives, policies, and guidelines regulate most uses, except activities allowed outright and forest practices that are administered by each state's Forest Practices Act.)

B. **Forest resources** – protecting forested lands for timber production which provides for carbon storage. This includes siting and development standards, land conversion policies, and other approaches.

(1) The Gorge Commission shall prohibit conversion of forest lands to any use other than agriculture, recreation, and open space. For conversion to agriculture or recreation, the Management Plan should require full mitigation. (See "Land Use Policies" in Part II, Chapter 2: Forest Land.)

C. **Priority Habitats** – protecting Priority Habitats by assessing the risks and likely impacts of climate change and developing policies to adapt to these impacts where possible.

D. **Invasive Species** – protecting biodiversity through invasive species monitoring and management.

E. **Wildfire** – protecting scenic, natural, cultural, and recreation resources from wildfire and reducing the risk of human-caused ignitions from new development and other causes. This includes siting and development standards, building design and materials standards, and other approaches.

F. **Climate change action priorities of the four Columbia River treaty tribes** – protecting culturally-important resources, including traditional First Foods, treaty-reserved rights, and cultural sites.

G. **Agricultural lands** – protecting agricultural lands from conversion to other uses, except for conversion to forest land.

H. **Transportation** – protecting scenic, natural, cultural, and recreation resources, and the economy, of the National Scenic Area through regional transportation solutions that reduce greenhouse gas emissions, lessen congestion, and improve public safety.

2. The Gorge Commission is committed to long-term monitoring that assesses changing conditions of and climate impacts to the scenic, natural, cultural, and recreation resources, and the economy, of the National Scenic Area. The Gorge Commission will include climate change indicators as part of the Vital Sign Indicators (VSI) program. VSI shall inform planning efforts, support decision-making, and guide adaptive management.

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by the U.S. Environmental Protection Agency, Region 10 in 2019. This report includes a total of 10 priority streams within the National Scenic Area. Tanner Creek, Eagle Creek, and Herman Creek are entirely within SMAs and currently have a 200-ft buffer within the National Scenic Area.

3. Based upon the findings of the vulnerability assessment and monitoring program, the Gorge Commission may determine that conditions in the National Scenic Area have significantly changed and may exercise its authority to develop responsive Management Plan amendments pursuant to section 6(h).

4. The Gorge Commission will partner with and learn from local, state, and federal agencies; the four Columbia River treaty tribes; non-governmental organizations; and diverse community residents and stakeholders to develop and implement strategies and actions for climate change adaptation and mitigation.

5. The Gorge Commission will develop and implement climate mitigation strategies, as consistent with the Gorge Commission's authorities and responsibilities, that limit and reduce greenhouse gas emissions, enhance forest carbon storage, and encourage renewable energy and transportation solutions. The Gorge Commission will work with regional partners engaged in sustainable transportation planning to convene regional discussions and coordinate strategies on alternatives to automobile transit to achieve multiple objectives under the Act and to reduce greenhouse gas emissions.

6. The Gorge Commission supports development and maintenance of safe, climate resilient infrastructure that strengthens economic and community resilience within the National Scenic Area.

7. The Gorge Commission encourages and supports voluntary efforts, consistent with the Management Plan, to improve climate change resilience through landscape health, stream enhancement, and other proactive measures.

SMA Provisions

The Forest Service recognizes that climate change affects resources and human communities at all scales – globally, in the Pacific Northwest, and in the National Scenic Area. The Forest Service integrates climate change information into decision making during land management planning and project development. Implementing effective climate change management actions across large landscapes will require continued close coordination between federal, state and county agencies, tribal governments, non-governmental organizations, industry partners, and private landowners.

Climate change adaptation actions can be taken to reduce vulnerability to climate change effects. Adaptation actions will be necessary to maintain resilient ecosystems and to protect and enhance scenic, natural, cultural and recreation resources while supporting the economies of the National Scenic Area.

Existing SMA policies and guidelines for resource protection and enhancement are inherently climate adaptive. These policies and guidelines include protecting forest and agricultural lands for forest and agricultural uses, forest practice guidelines that promote forest resilience, wildlife habitat and rare plant protections, substantial buffers for aquatic resources, and guidelines for resource enhancement projects.

The Forest Service has taken steps to identify locally relevant adaptation actions by developing climate change vulnerability assessments for geographic regions within Oregon and Washington. These vulnerability assessments are developed through a collaborative science-management partnership established to synthesize regionally focused climate change science, assess resource-specific climate change vulnerabilities, and develop locally relevant climate change adaptation strategies and tactics. A vulnerability assessment that includes the Gifford Pinchot National Forest has been completed. At the time of this writing the vulnerability assessment for the Columbia River Gorge National Scenic Area, Mt. Hood National Forest, and Willamette National Forest is undergoing peer review and is anticipated for publication as a Forest Service General Technical Report by the end of 2020.

The Forest Service works with other state and federal agencies, private landowners, non-governmental organizations, and tribal governments to foster climate-informed, sustainable land management. In the National Scenic Area, The Forest Service will continue to provide updated science and management recommendations related to climate change adaptation and mitigation, and will provide ongoing, science-based technical assistance to the Gorge Commission.

SMA Policies

1. The Forest Service supports the Gorge Commission's intent to develop a Climate Change Action Plan based upon local climate change vulnerability assessments.

2. The Forest Service is committed to continued long-term monitoring that assesses climate change impacts to the scenic, natural, cultural, and recreation resources and the economy of the National Scenic Area.

3. Based upon the findings from efforts such as the vulnerability assessments and ongoing monitoring programs, the Forest Service may evaluate whether conditions in the National Scenic Area have significantly changed and may exercise its authority to develop Management Plan amendments pursuant to section 6(h) of the National Scenic Area Act.

4. The Forest Service will continue to partner with and learn from local, state, and federal agencies, the four Columbia River treaty tribes, non-governmental organizations, the Gorge Commission, and others to develop and implement strategies and actions for climate change adaptation and mitigation in the National Scenic Area.

5. The Forest Service supports development and maintenance of safe, climate resilient infrastructure, consistent with the Management Plan, that strengthens economic and community resilience within the National Scenic Area.

6. The Forest Service encourages and supports voluntary efforts, consistent with the Management Plan, to improve climate change resilience through protection and enhancement of the scenic, natural, cultural and recreation resources.