



**TO:** Columbia River Gorge Commission

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**DATE:** August 10, 2021

**RE:** **Information Item\***: Vital Sign Indicators Program: Scenic and Recreation Resources Progress Report and Commission Discussion

**Purpose**

The purpose of this staff report is to share progress on scenic and recreation Vital Sign Indicators since February 2021 when the Commission discussed the 2021 VSI Assessment and Work Plan. This report provides an overview of the review process and rationale for the preliminary list of Vital Sign topics being considered. Two summary tables describing how the 2021 draft Scenic and Recreation Vital Signs connect with the original 2009 Vital Sign Indicators are included as appendices.

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## **I. Program Background**

The Columbia River Gorge National Scenic Area (CRGNSA) Management Plan directs the Gorge Commission to design a monitoring and evaluation program to evaluate the effectiveness of the Management Plan in protecting and enhancing the scenic, natural, cultural, and recreation resources, and supporting and protecting the local economies of the CRGNSA (Part IV, Chapter 1: Gorge Commission Role). As a joint Gorge Commission and U.S. Forest Service initiative, the Vital Sign Indicators (VSI) program evaluates the long-term health of these resources and the economy. VSI program objectives include:

- Track the status and trends of protected resources over time to assess if we are achieving Management Plan goals.
- Use indicator data to guide adaptive management, including ongoing decision-making and future Management Plan review and revision.
- Consult with the four Columbia River treaty tribes and build and strengthen partnerships with agencies, counties, and communities to leverage information and capacity toward shared management goals.
- Communicate our findings through accessible, interactive formats to raise awareness of the health of the CRGNSA.

In 2007, the Gorge Commission, U.S. Forest Service, partner agencies, Gorge residents, and non-profit organizations began working on the VSI project as a community-driven planning initiative. Through this process, 51 Vital Sign Indicators were created to assess the condition of scenic, natural, economic, cultural, and recreation resources in the CRGNSA. In May 2009, the Commission prepared a “State of the Gorge” report that summarized data for 24 indicators with the goal of reporting on the remaining 27 indicators in the second phase of the project in 2011.

As a result of budget cuts and staff changes in 2010, the VSI project did not move forward as anticipated. The Gorge Commission recently secured dedicated funding and staff resources to revive VSI and is coordinating a comprehensive update of all indicators in 2021-22. Working together with partners, the Gorge Commission is focused on identifying a few key indicators for each resource area that are actionable and directly tied to the Management Plan, prioritizing those with existing datasets whenever possible.

The following criteria, approved by the Gorge Commission in February 2021, will be used to select indicators:

1. **Measurable:** Indicators should be directly measurable through repeatable quantitative or qualitative methods.
2. **Relevant to management actions:** Indicators should provide information on the condition of protected resources related to specific Management Plan provisions.
3. **Clear:** Indicators should be understandable by the public and policymakers.
4. **Consistently available:** Indicator data should be reliably available over time to track long-term status and trends.
5. **Obtainable:** Indicator data should be available through existing monitoring programs whenever possible.

6. **Cost-effective:** Indicator data acquisition, analysis, and reporting should make efficient use of limited financial and staff resources.

7. **Additional Consideration:** While criteria 1-6 should be the primary criteria for selecting indicators, the ability of indicators to tell a *compelling story* that calls attention to the status of scenic, natural, cultural, and recreation resources, and economies, of the CRGNSA, should also be considered.

The Gorge Commission recognizes the tremendous time and effort of those who contributed to the 2009 VSI project and seeks to carry forward the goals of the original project, using their effort as a foundation while making the changes necessary now based on evolving knowledge over the last decade.

## **II. Methodology for Scenic and Recreation Resources Indicator Review Process**

Following the first phase of the comprehensive 2021 VSI update that focused on climate change and natural resources, Gorge Commission and Forest Service staff have been exploring key management questions and priority Vital Sign topics for scenic and recreation resources in June and July 2021. The progress sections that follow summarize the rationale for selecting specific topics to focus on for indicator development in the next several months.

A brief explanation of terms in this section is noted here:

**Management Plan Goal:** A goal included in the text of the Columbia River Gorge National Scenic Area Management Plan.

**Key Management Question:** A priority question or information need identified by the Gorge Commission and U.S. Forest Service to support implementing the Management Plan.

**Vital Sign:** The topic for a high-level indicator. Represents important components or attributes of protected resources that guide assessment of progress toward Management Plan goals (e.g., scenic quality and visitor experience). Each Vital Sign is represented by one or more indicators.

**Indicator:** A short description of what is being measured with a reference to measurement method or unit of measurement (e.g., stream temperature).

### **Main steps of the indicator review process completed to date:**

- Identify **key management questions:** Building upon the 2009 VSI list of scenic and recreation indicators, staff compiled key management questions and possible Vital Sign topics based on review of the Gorge 2020 Management Plan revision process and informational interviews conducted for the VSI Assessment. In June 2021, Forest Service and Gorge Commission staff held several joint work sessions to discuss these management questions and identify possible Vital Sign topics for both scenic resources and recreation. (See the attached summary tables for details on how the preliminary Scenic and Recreation Vital Signs described below connect with the original 2009 indicators.)

- Identify **priority Vital Signs**: Using management questions as a guide, staff discussed which Vital Sign topics captured the most important attributes of protected scenic and recreation resources in the Management Plan. The list of possible Vital Signs included in this report were identified through an iterative process considering several factors:
  - **Opportunity to affect resource condition**: Land management, mitigation, land use policy, and other partner efforts.
  - **Scale and stressors**: Spatial extent in CRGNSA, potential for development, and other drivers such as population growth.
  - **Climate change impacts**: Includes available information from vulnerability assessment snapshots completed for climate change action planning. Since climate change impacts vary across habitat types, this progress report does not include specific vulnerability ratings for each scenic or recreation topic based on where it occurs on the landscape. Climate-related considerations are included that apply broadly to scenic resources (e.g., landscape setting vegetation changes from increased wildfire) and recreation (e.g., increased water-based recreation use during warmer temperatures).
  - **Equity considerations**: Diversity of recreation opportunities and equitable access to information and experiences are a few topics explored in this report. Staff will continue to coordinate work on the VSI update with the Commission’s Diversity, Equity, and Inclusion (DEI) planning effort.

In the next phase of the scenic and recreation indicator development process, staff will work with partners to identify indicators, available datasets, and existing monitoring efforts in the CRGNSA. Staff will also be discussing the feasibility of establishing desired conditions, baseline conditions, and thresholds for Scenic and Recreation Vital Sign Indicators.

### **III. Progress on Scenic Resource Vital Signs**

The following tables highlight Management Plan goals, key management questions, and examples of potential indicators for each of the draft Scenic Vital Sign topics. A summary of the rationale for each Vital Sign is provided, including how each connects with 2009 Vital Sign Indicators.

#### **A. Scenic Quality at Key Viewing Areas**

<b>Management Plan Goal</b>	<b>Key Management Questions</b>	<b>Vital Sign</b>	<b>Potential Indicators</b>
Emphasize protection and enhancement of National Scenic Area landscapes visible from key viewing areas.	How are landscapes seen from Key Viewing Areas changing over time? Are we achieving the Scenic Standards for landscapes seen from Key Viewing Areas?	<b>Scenic Quality at Key Viewing Areas</b>	Intactness of Landscape Setting defining characteristics as seen from Key Viewing Areas

**Rationale:** Assessing the quality of landscapes seen from Key Viewing Areas (KVAs) is a key part of determining achievement of scenic standards in the Management Plan. Land use changes,

development, and other stressors can affect the intactness of landscape settings which has implications for both scenic quality at KVAs and the character of landscape settings. While climate change impacts vary across landscape setting types, increased wildfire, shifting vegetation types, and increased mortality from pests and pathogens are expected to affect the visible CRGNSA landscape over time. Considering climate change, along with the range of variability and disturbance regimes at play in the gorge, the updated landscape setting character descriptions in the revised Management Plan include more detail on landscape features to account for these variations.

Several “Development Impacts” Vital Sign Indicators were included in the 2009 effort, designed to assess how the built environment contrasts with the surrounding landscape. Through the expanded landscape setting definitions and updates to the Forest Service Existing Scenic Condition and Seen Area Maps currently underway, impacts of buildings can be captured by assessing a shift in the characteristics of different landscape settings, rather than focusing on building number counts as a proxy for development impacts. Forest Service and Gorge Commission Visual Monitoring Point (VMP) panoramic photographs conducted every 5 years (from 1988-2016) can also support this Vital Sign.

The Scenic Quality at Key Viewing Areas Vital Sign integrates these 2009 indicators: Overall Scenic Quality (1.1.a), Development Impacts (1.1.b), Development Impacts (1.1.c), and Vantage Point Quality (1.1.d).

## B. Landscape Setting Quality

Management Plan Goal	Key Management Question	Vital Sign	Potential Indicators
Maintain the diversity of Gorge landscapes to protect and enhance the Gorge's scenic beauty.	Are we maintaining the intactness of distinctive landscape setting characteristics protected in the Management Plan?	<b>Landscape Setting Quality</b>	Intactness rating (e.g., unacceptably low to very high) of an area based on Existing Scenic Condition Map

### Rationale:

As described above, the main stressors affecting scenic quality at KVAs also apply to landscape settings across the CRGNSA. The Management Plan requires that new development meet specific scenic standards designed to protect distinctive characteristics of diverse landscape settings, ranging from coniferous woodland to river bottomland. Through this vital sign, the Gorge Commission and Forest Service can track changes in these distinctive characteristics to assess how land use and development is impacting the intactness of protected landscape settings over time. This information can also inform Scenic Handbook updates, helping to clarify for counties what is needed to meet landscape setting characteristics through development reviews. Similar to the Scenic Quality at KVAs Vital Sign, staff will be exploring in more detail how the Existing Scenic Condition and Seen Area maps, along with VMP photographs, can be used as data sources for the Landscape Setting Quality Vital Sign.

The Landscape Setting Quality Vital Sign integrates these 2009 indicators: Overall Landscape Quality (1.2.a) and Development Impacts (1.2.b).

## C. Visibility

Management Plan Goals	Key Management Questions	Vital Sign	Potential Indicators
Air quality shall be protected and enhanced, consistent with the purposes of the National Scenic Area Act.	Is air quality and visibility improving in the CRGNSA, since the Columbia Gorge Regional Air Quality Strategy was implemented?	Visibility	Haze (particulate matter)
SMA and GMA guidelines requiring exterior lighting to be “sited, limited in intensity, shielded, or hooded in a manner that prevents light from being highly visible from key viewing areas and from noticeably contrasting with the surrounding landscape setting, except for road lighting necessary for safety purposes.”	How is artificial light at night (ALAN) affecting visibility of the night skies in the NSA over time?		Artificial Light at Night (ALAN)

**Rationale:** The Management Plan addresses visibility directly by requiring the states of Oregon and Washington and the Forest Service to “continue to monitor air pollution and visibility levels in the Gorge” and “provide annual reports to the Gorge Commission on progress made regarding implementation of this policy [regional air quality strategy].” For more details on the history of air quality planning in the CRGNSA and the Gorge Commission’s role, see Appendix C.

Currently, the Forest Service CRGNSA unit conducts visibility monitoring through the Interagency Monitoring of Protected Visual Environments (IMPROVE) program as part of the national EPA Regional Haze Program. Under the Regional Haze Program, state and federal agencies work together to improve visibility in 156 national parks and wilderness areas across the country, referred to as Mandatory Class 1 Areas. Though not designated a Class 1 Area, the Columbia River Gorge National Scenic Area is included in the Regional Haze program, given its proximity to two Class I areas (Mt. Hood and Mt. Adams) and its high-value scenic resources. In addition, visibility serves as a climate-related indicator to inform possible climate change mitigation actions (e.g., transportation-related emissions reduction) and better understand air quality impacts from wildfire smoke on protected resources and local economies.

Artificial light at night (ALAN) is another critical factor affecting visibility in the CRGNSA. Management Plan guidelines require that exterior lighting associated with development outside of Urban Areas prevent artificial light from being highly visible from KVAs and from noticeably contrasting with surrounding landscape settings. By aligning a few representative ALAN monitoring locations with KVAs, the Gorge Commission and Forest Service can assess whether existing exterior lighting guidelines are adequately protecting visibility at night as viewed from KVAs. Along with scenic impacts, artificial light at night affects protected wildlife in the CRGNSA, disrupting nocturnal wildlife behavior such as amphibian breeding rituals and bird migration and hunting.

The Oregon chapter of the International Dark-Sky Association (IDA) has been discussing with staff a proposal to establish monitoring locations in the CRGNSA as part of the Oregon Skyglow Measurement Network. This methodology involves self-contained photometers measuring and recording overhead night sky brightness at 5-minute intervals from dusk through dawn each night. Equipment cost, data acquisition, and analysis would be covered by IDA Oregon. An example of how visual data can be used to communicate technical information to diverse audiences, this indicator illustrates the role that citizen science and partnerships can play in implementing the VSI program.

The Visibility Vital Sign integrates two 2009 indicators, Visibility and Night Light. The haze indicator was also included with the Air Quality Vital Sign described in the VSI Natural Resources and Climate Change Progress Report (June 8, 2021). Staff will continue working on a conceptual graphic to illustrate how natural and scenic resource Vital Signs intersect on the topic of visibility.

#### **IV. Progress on Recreation Vital Signs**

Review of potential Vital Sign topics for recreation is grounded in this foundational Management Plan goal—providing quality recreation experiences for diverse visitors and residents, while protecting natural, scenic, and cultural resources now and into the future. Forest Service and Gorge Commission staff are currently reviewing different monitoring planning resources, such as the Interagency Visitor Use Management Monitoring framework used by several federal land management agencies, as part of the indicator development process. Identifying methods to integrate a multidimensional understanding of sustainability—ecological, social, and economic—within the indicator framework is also a part of this review. More details on these resources are provided in the References section at the end of this report.

The tables below highlight the Management Plan goal, key management question, and potential indicators being considered for each of the draft Recreation Vital Sign topics. A summary of the rationale for each Vital Sign is provided, including how each connects with 2009 Vital Sign Indicators.

##### **A. Recreation Opportunities and Visitor Experience**

<b>Management Plan Goal</b>	<b>Key Management Questions</b>	<b>Vital Sign</b>	<b>Potential Indicators</b>
Provide a diversity of resource-based recreation opportunities that are accessible to all segments of the public that emphasize the quality of the recreation experience meeting present and future needs by protecting and enhance the natural, scenic, and cultural resources and support economies of local communities.	<p>Are resource-based recreation activities in the CRGNSA providing quality recreation experiences for diverse users?</p> <p>Does the Recreation Intensity Class (RIC) framework allow for adequate inventory and protection of the range of recreational settings (social, physical, and managerial) desired across the CRGNSA?</p> <p>Are recreation investments and enhancements responsive to</p>	<b>Recreation Opportunities and Visitor Experience</b>	<p>Visitor satisfaction (e.g., National Visitor Use Monitoring surveys at USFS sites)</p> <p>ROS-focused indicators (for both trail and developed site settings; could include crowding, level of development, or level of managerial restrictions or permits required)</p>

	recreation use trends and visitor preferences in the CRGNSA?		Indicator comparing recreation activities provided with use trends (activity participation)
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**Rationale:** The Management Plan directs the Forest Service and Gorge Commission to provide a diversity of high-quality, resource-based recreation opportunities that are accessible to all. To provide some guidance on how to meet this goal when considering new recreation development, the Management Plan applies four Recreation Intensity Classes (RICs), ranging from very-low-intensity to high-intensity, to all lands within the CRGNSA. They are an overlay to the underlying land use designations and describe the potential suitability of lands for recreation use, and the facilities and experience that users can expect during their visit. In the revised Gorge 2020 Management Plan, a description of the desired social, physical, and managerial setting for recreation development was included for each RIC to provide a more holistic picture of planning considerations. These settings are derived from the Recreation Opportunity Spectrum (ROS), a system used to classify and manage different types of recreation opportunities.

Guided by the Management Plan goal above, staff are exploring a variety of indicators that may be used to assess diverse and high quality recreation experiences, ranging from visitor satisfaction measures to the types of different recreation opportunities available (e.g., dispersed, developed, overnight, day-use, reservation-based, fee-based, and others). Some of these topics overlap with the Equitable Access Vital Sign that follows.

The Recreation Experience Vital Sign integrates these 2009 indicators: Recreation Quality (5.2.a), Recreation Site Quality (5.2.b), and Recreation Demand (5.1.a).

**B. Access and Equity**

Management Plan Goals	Key Management Questions	Vital Sign	Potential Indicators
<p>Provide a diversity of resource-based recreation opportunities that are accessible to all segments of the public that emphasize the quality of the recreation experience meeting present and future needs by protecting and enhance the natural, scenic, and cultural resources and support economies of local communities.</p> <p>Provide equitable and accessible (regardless of income level, ethnicity, gender, ability, or age) resource-based recreation opportunities.</p>	<p>Are we providing a <i>diversity of resource-based recreation opportunities</i>?</p> <p>Are these recreation opportunities <i>equitable</i>?</p> <p>Are these recreation opportunities <i>accessible</i>?</p> <p>Are we enhancing recreation opportunities near communities with larger, more diverse populations?</p>	<p><b>Access and Equity</b></p>	<p>Participation in recreation activities by different demographic groups</p> <p>Visitor satisfaction (e.g., access to recreation activities and information)</p> <p>Inequity Index (ratio between percentage of racial and ethnic minority population within 50 miles of a National Forest boundary compared with the percentage of National Forest visitors belonging to a racial or ethnic minority). (Note: USFS Region 3 adopted index as part of performance measure in 2014 Sustainable Recreation Strategy.)</p>

**Rationale:** Providing equitable and accessible recreation opportunities is a goal in the Management Plan, and it also directly connects to the Commission’s Diversity, Equity, and Inclusion planning effort, a priority initiative for 2022-22. Since explicit definitions of “equitable,” “accessible,” and “diversity” are not included in the Management Plan, more discussion is needed on what these mean in the context of recreation management and monitoring in the CRGNSA. For example, when considering the goal to provide a diversity of resource-based recreation opportunities, what does the desired condition, or outcome, look like? A few examples of questions staff and partners will be exploring under this Vital Sign include:

- What do accessible opportunities look like? Physical access to a site, information access, feeling safe and welcome, and others? How well are we providing accessible facilities, trails, water recreation, and interpretive opportunities for diverse users?
- How well are we engaging with diverse communities across different aspects of recreation management: outreach, interpretation, transportation, recreation development, and others?
- What evaluation components are needed to assess recreation equity? Consider the demographic characteristics noted in the Management Plan goal above (race, ethnicity, income level, gender, ability, and age) or are others needed? `

The Access and Equity Vital Sign integrates the objectives of the 2009 indicators, Recreation Availability (5.1.c) and ADA Accessibility (5.1.d), while expanding “access” beyond ADA requirements.

**C. Recreation Impacts on Other Protected Resources**

Management Plan Goals	Key Management Question	Vital Sign	Potential Indicators
<p>Protect scenic, natural, cultural, and recreation resources when providing new recreation opportunities.</p> <p>Collaborate with partner agencies and stakeholders to develop management strategies and actions to protect and enhance natural, scenic, and cultural resources from overuse at popular recreation sites and trails.</p>	<p>How are recreation activities—both managed and unmanaged—impacting natural, scenic, and cultural resources in the NSA?</p>	<p><b>Recreation Impacts on Other Protected Resources</b></p>	<p>Percent of official trails that are maintained each year across land ownership (USFS, state parks, and counties)</p> <p>Miles of user-created trails; Ratio of system to non-system (user created) trails within specified geographic areas (could indicate unhealthy system and leakage of use)</p> <p>Measure of resource impact (e.g., erosion, vegetation loss, or wildlife disturbance)</p>

**Rationale:** The Management Plan requires protection of natural, scenic, and cultural resources, while providing diverse recreation opportunities in the CRGNSA. Population growth, high public interest in outdoor recreation, and robust tourism marketing efforts in the Pacific Northwest region continue to be major drivers of recreation use in the gorge. Climate change will likely increase demand for water-based recreation and may increase pressure on the wetter, cooler western gorge as extreme heat events become more common. As temperatures warm and snowfall decreases, increased use during shoulder seasons and winter months is expected. Increased trail use during the wetter months of the year will increase the potential for erosion and sedimentation. Fire

closures and more extreme weather events will affect regional use patterns as demonstrated in increased and sustained use in nearby national forests following the Eagle Creek fire in 2017.

While all of these factors have the potential to impact cultural, scenic, and natural resources, some pose a greater overall threat than others. When considering which impacts to monitor through a high-level vital sign, it is important to consider the role that unmanaged use, such as user-created trails, plays in relation to high intensity use at developed sites that are already “hardened” to accommodate high visitation within a relatively small footprint (e.g., Multnomah Falls). Ecological impacts, such as vegetation loss, soil compaction, and erosion, are often more associated with unmanaged use, rather than developed site use. Although trail use is only one type of recreation use in the CRGNSA, starting with this topic may provide an opportunity to assess condition at the intersection of ecological, social, and economic (managerial) sustainability. Examples of indicators that address these three spheres include miles of user-created trails (ecological); ratio of user-created trails to official trails, possibly indicating demand for a certain experience or location (social); and percent of trails maintained (managerial). Monitoring the nature, location, and extent of unmanaged use over time allows the Gorge Commission, Forest Service, and other recreation managers in the CRGNSA to assess if new recreation opportunities, restoration, or other actions may be needed in certain areas to meet recreation and resource protection management goals.

The Recreation Impacts on Other Protected Resources Vital Sign incorporates the 2009 Environmentally Sustainable Recreation indicator.

#### **VI. Next Steps for Scenic and Recreation Vital Signs Review**

- Incorporating Commission feedback on draft Scenic and Recreation Vital Sign topics, staff will identify potential indicators and available data in the next phase of the indicator review process.
- Staff will discuss the feasibility of identifying baseline conditions, thresholds, and desired conditions for Scenic and Recreation Vital Signs.

#### **VII. Topics for Commission Consideration**

Below are suggested VSI discussion items for the Commission meeting on August 4, 2021:

##### **Discussion Item:**

- Do the draft Scenic and Recreation Vital Sign topics capture the most important protected resources the Gorge Commission and Forest Service should be focusing on to assess progress toward Management Goals?

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## Appendix A: 2009 Scenic Vital Sign Indicators and Draft 2021 Scenic Vital Sign Framework Cross-Walk Chart

2009 Scenic Vital Sign Indicators								DRAFT 2021 VSI Scenic Framework
Objective	Vital Sign Number	Vital Sign	Measure	Proxy Measure	Year Reported	Connects to Management Plan Provision? YES/NO/UNCLEAR	Management Plan Reference and Notes	Vital Sign
1.1 Protect and Enhance Scenic Quality	1.1.a	Overall Scenic Quality	Percent of public who perceive scenic resources to be in good condition or better according to both (a) residents and (b) visitors		TBD in 2011	YES--Vital Sign topic; Perception is not part of MP; Review of measure needed	Scenic Quality captures four main scenic resource goals: Key Viewing Areas (KVAs), Landscape Settings, Scenic Travel Corridors, and Signs.	Scenic Quality at Key Viewing Areas
	1.1.b	Development Impacts	Percent of seen area, as viewed from public vantage points, containing development that highly contrasts with its surrounding landscape: (1) within 1/4 mile; (b) between 1/4 and 3 miles; and (c) beyond 3 miles (use VMP photos)		TBD in 2011	UNCLEAR-- KVAs are in MP; Visual Monitoring Points (VMPs) are not; Review of measure needed		
	1.1.c	Development Impacts	Number of developed areas, as seen from public vantage points, that highly contrast with their surrounding landscape: (a) within 1/4 mile; (b) between 1/4 mile and 3 miles; and (c) beyond 3 miles (used VMP photos)	Number of buildings, as seen from selected public vantage points, which noticeably contrast with their surrounding landscape	2009	UNCLEAR--Review of measure needed because type of buildings may be more useful than number to determine scenic impact (e.g., could have a building that is compatible with landscape)		
	1.1.d	Vantage Point Quality	Number of scenic observation points with significantly impaired panoramic views due to vegetation		2009	YES--KVAs; Review of measure needed because this focused only on vegetation	Emphasize protection and enhancement of National Scenic Area landscapes visible from key viewing areas.	
	1.1.e	Litter and Graffiti Impacts	Number of scenic observation points with significant graffiti or litter		TBD in 2011	UNCLEAR--Review of measure needed		
	1.1.f	Night Light	Effect of ambient light on the night sky		TBD in 2011	YES	SMA and GMA guidelines requiring exterior lighting to be "sited, limited in intensity, shielded, or hooded in a manner that prevents light from being highly visible from key viewing areas and from noticeably contrasting with the surrounding landscape setting, except for road lighting necessary for safety purposes."	Visibility (Haze and Artificial Light at Night)
	1.1.g	Visibility	Placeholder for visibility indicator		Summary in 2009	YES	Air quality shall be protected and enhanced, consistent with the purposes of the National Scenic Area Act.	
1.2 Protect the Visual Character of Diverse Landscapes	1.2.a	Overall Landscape Quality	Percent of each landscape type that is in good condition		TBD in 2011	YES--Landscape Settings; Review of measure needed	Maintain the diversity of Gorge landscapes to protect and enhance the Gorge's scenic beauty.	Landscape Setting Quality
	1.2.b	Development Impacts	Percent of each landscape type that is in good condition.	Percent of land area with development for each landscape type	2009	YES--Landscape Settings; Review of measure needed		

## Appendix B: 2009 Recreation Vital Sign Indicators and Draft 2021 Recreation Vital Sign Framework Cross-Walk Chart

2009 Recreation Vital Sign Indicators								DRAFT 2021 VSI Recreation Framework
Objective	Vital Sign Number	Title	Measure	Proxy Measure	Year Reported	Connects to Management Plan Provision? YES/NO/UNCLEAR	Management Plan Reference and Notes	Vital Sign
5.1 Address the Demand for Resource-Based Recreation Opportunities in an Environmentally Sustainable Manner	5.1.a	Recreation Demand	Percent of recreation sites at or above capacity more than X percent of the time on high season days--total and by recreation activity type	Percent of surveyed recreation sites above capacity more than 30% of the time on high season days	2009	YES--Vital Sign topic connects with MP resource protection goals; Review of measure needed	Collaborate with partner agencies and stakeholders to develop management strategies and actions to protect and enhance natural, scenic, and cultural resources from overuse at popular recreation sites and trails.	Recreation Impacts on Other Protected Resources
	5.1.b	Environmentally Sustainable Recreation	Percent of recreation sites that are environmentally degraded--total and by recreation activity type and specified as improving or not improving	(1) Percent of each surveyed recreation site that is more than 10% environmentally degraded as a result of human activity and (2) percent that are (a) improving, (b) not changing, and (c) worsening.	2009	YES--Vital Sign topic connects with MP resource protection goals; Review of measure needed	Protect scenic, natural, cultural, and recreation resources when providing new recreation opportunities.	
	5.1.c	Recreation Availability	Percent of visitors and residents rating the access to recreation activities as good or better--total and by recreation activity type		TBD in 2011	YES--Vital Sign topic connects with MP accessibility goal; Review of measure needed	Provide equitable and accessible (regardless of income level, ethnicity, gender, ability, or age) resource-based recreation opportunities.	Access and Equity
	5.1.d	ADA Accessibility	Percent of recreation sites that meet ADA standards--total and by recreation activity type	Percent of surveyed recreation sites that meet one or more ADA accessibility standards	2009	YES--Vital Sign topic connects with MP accessibility goal; Review of measure needed		
5.2 Protect and Enhance the Quality of Recreation Experiences	5.2.a	Recreation Quality	Percent of visitors and residents rating the overall recreation qualities of the Gorge as good or better		TBD in 2011	YES--Vital Sign topic connects with MP recreation opportunities and experience goal; Review of measure needed	Provide a diversity of resource-based recreation opportunities that are accessible to all segments of the public that emphasize the quality of the recreation experience meeting present and future needs by protecting and enhance the natural, scenic, and cultural resources and support economies of local communities.	Recreation Opportunities and Visitor Experience
	5.2.b	Recreation Site Quality	Percent of site users rating their overall experience as good or better--total and by recreation site		2009	YES--Vital Sign topic connects with MP recreation opportunities and experience goal; Review of measure needed		
	5.2.c	Recreation-Related Conflicts	Number of reported incidents related to recreational uses by type of incident		TBD in 2011	NO	Site level management topic.	

## Appendix C: History of Air Quality and Visibility Planning in the CRGNSA

The Gorge Commission's commitment to address air quality in the National Scenic Area through a regional planning approach dates back more than twenty years. The main air quality concerns noted at that time were visibility impairment, or haze pollution, and the effects of air pollution on natural and cultural resources. On May 9, 2000, the Gorge Commission adopted an amendment to the Management Plan directing the states of Oregon and Washington, in coordination with the Southwest Clean Air Agency (SWCAA) and the Forest Service, and in consultation with affected stakeholders, to develop and implement a regional air quality strategy. The following language from this 2000 amendment remains in the revised Management Plan adopted on October 13, 2020:

Revised Management Plan:

Part 1, Chapter 3: Natural Resources, SMA Provisions, Wildlife and Plants, Policy 15

*15. Air quality shall be protected and enhanced, consistent with the purposes of the National Scenic Area Act. The states of Oregon and Washington and the Forest Service shall:*

*A. Continue to monitor air pollution and visibility levels in the Gorge;*

*B. Conduct an analysis of monitoring and emissions data to identify all sources, both inside and outside the National Scenic Area, that significantly contribute to air pollution. Based on this analysis, the states of Oregon and Washington shall develop and implement a regional air quality strategy to carry out the purposes of the National Scenic Area Act, with the Forest Service, the Southwest Air Pollution Control Authority and in consultation with affected stakeholders.*

*The states of Oregon and Washington and the Forest Service shall together provide annual reports to the Gorge Commission on progress made regarding implementation of this policy. The first report shall include a workplan and timeline for gathering/analyzing data and developing and implementing the strategy. The workplan and strategy shall be submitted to the Gorge Commission for approval.*

In 2001, the Gorge Commission approved a workplan for this air quality plan amendment and approved a revised workplan in 2003. A year later, the air agencies—Oregon Department of Environmental Quality (DEQ), Washington Department of Ecology (ECY), and SWCAA—initiated an air quality study focused on identifying haze-contributing sources in the Gorge. This study included collection and analysis of monitoring data, chemical analysis of haze, and computer model simulations. In 2007, the air agencies hosted a Gorge Science Day for the Gorge Commission and stakeholders, followed by release of a draft air quality strategy for public review in 2008.

At its September 2011 meeting, the Commission approved the Columbia River Gorge Air Study and Strategy. Specifically, this strategy recommended using the federal Regional Haze Program as the framework for monitoring and improving visibility in the CRGNSA. Under the Regional Haze Program, state and federal agencies work together to improve visibility in 156 national parks and wilderness areas across the country, referred to as Mandatory Class 1 Areas. Though not designated a Class 1 Area, the Columbia River Gorge National Scenic Area is included in the Regional Haze program, given its proximity to two Class I areas (Mt. Hood and Mt. Adams) and its high-value scenic resources.