

Draft 01.10.2011

## **Vital Signs Indicators Framework: Structure for Methods Development, Analysis, and Reporting**

This is the first report on our efforts to organize the indicators in a formal conceptual framework that is understandable and tractable to decision makers, stakeholders, and the public. Though it is a very early draft we wanted to share it with the public and Commissioners to inform the discussions we hope to have at the January 11, 2011 special meeting. The sparseness of the report does not reflect the breadth of the work we have done to date but only the staff resources available during the month of December to transcribe copious notes.

One of the purposes of defining a formal framework is “so that indicator results can be put to the use they are intended” (Hagan and Whitman, 2006). One of our ultimate goals is to identify actions that may be necessary if indicator results suggest a problem. For this reason, we must identify the causes of changes to resources and what our particular role in those changes is. This information is included in our “conceptual models” of the indicators.

Conceptual models explain how it all works. They are used to identify known and assumed relationships, the causes of indicator trends, and include significant factors that affect the status of the indicator. This facilitates interpretation of indicator responses within the context of inherent variation and external factors. (*Cite various sources.*) Conceptual models are created by conducting a literature review and consulting with experts to identify methods that are credible and produce statistically sound results. They can be empirical, theoretical, qualitative or quantitative.

The Vital Signs process has included criteria for choosing indicators at multiple levels. As we continue to develop methods and report and analyze results, we will continue to apply evaluation criteria to so we know the results we are getting are telling us what we need to know with a high degree of scientific and statistical merit. In addition, we would like to maximize the utility of the indicators by ensuring the information can be used for informing the management plan and our policies. The feasibility of the indicators depends on available data and resources, but the overarching quality they all must possess is a link to stakeholder values (*Hagan and Whitman, 2006; cite others*).

*Note: Though the public process is not discussed in this report, it is the foundation for the VSI project and our management overall. Angie Brewer has produced a packet of information that highlights the open and transparent process. This is available at the January 11, 2011 special meeting, online, and upon request.*

## **Cultural**

### **Introduction**

The objectives of the VSI project for cultural resources are to protect and enhance significant resources described as: archaeological resources, historic resources, and traditional cultural properties. Four indicators for each resource were developed. Three address the protection of cultural resources by assessing the condition of the resource, conducting regular inventories of resources, and measuring stakeholder awareness of the protection process established in the Management Plan. The fourth indicator addresses the enhancement of cultural resources by gauging the public awareness of these resources in the region.

Indicator criteria were established in the development phase of the project and were used to evaluate each indicator for appropriateness. These criteria included relevance for measuring the health of the resource, availability of data, and whether the information would be easily understood by the general public. Other factors were considered when choosing the indicators including whether there was professional agreement about what was being measured. For example, 'Number of archaeological (or historic) resources enhanced' was not used because there was too much debate about what 'enhanced' meant. There was, however, general agreement that education about cultural resources was a type of enhancement and, thus, the indicators related to awareness were included in the project.

The following is a draft report describing the development and status of the "condition" indicators. This report will be updated as data are collected and analysis performed. In the future, reports will be created for the other cultural resource indicators as well. All final reports will be published on the Vital Signs website ([www.gorgevitalsigns.org](http://www.gorgevitalsigns.org)).

### **Cultural Resource Monitoring Indicators**

#### **Conceptual model**

Regular inventories of cultural resources provide the necessary basis for protection by identifying previously unknown sites as well as establishing baseline conditions. Once resources are identified, they are evaluated for significance based on a formal process that follows the guidelines of the Oregon or Washington state historic preservation offices. (A significant archaeological or historic resource is one that is either listed on or eligible for listing on the National Register of Historic Places.) If a resource is determined significant, it becomes part of the inventory of which a subset will be monitored over time. When a monitored resource becomes deficient of the qualities that originally qualified it as significant, it is no longer in 'good condition' according to the indicator. Condition can be affected by natural deterioration from aging, weather, and erosion. Human caused deterioration may be caused directly or indirectly by development, vandalism, or land uses. When monitoring condition, the cause of impact to the resource will be investigated.

Due to natural deterioration processes, it is assumed that trends will show decreasing condition of resources. The cause of the deterioration is therefore important to distinguish so that measures to slow, mitigate, or reverse the impact can be applied if possible. For example, if erosion caused by adjacent land use is exposing cultural resources, mitigation and restoration measures can be applied to stop the erosion and protect the resource. Monitoring results may also reveal the need for data recovery of a resource before it is lost regardless of the cause of deterioration. For example, efforts could be made to excavate an at-risk site to gain information about it before it is lost. Data may also provide information that might affect land management practices, enforcement of Management Plan resource protection, or the need for outreach and education.

## **Methods**

The methodology for the 'condition' indicators was developed by a former USFS Scenic Area Cultural Resource Manager, the current USFS Scenic Area Archaeologist/Heritage Program Manager, the Deputy State Historic Preservation Officer for the Washington Department of Archaeology and Historic Preservation, and a Commission land use planner. The methodology was reviewed by other government and tribal cultural resource professionals and a private historic resource specialist.

Previous method development investigated tracking "assessments of effect" which are conducted when a proposed land use or other action could potentially affect a significant cultural resource. However, this information does not provide useful information for the indicator because Scenic Area protections prohibit development that would have an adverse effect. Therefore there would always be a 100% no effect result except in cases of non-compliance which is an agency performance measure and not within the scope of the indicators.

A representative sample of sites on public and private lands, including a variety of types of resources, in diverse geographic locations throughout the gorge was chosen for monitoring. The number of resources in each set is limited to a manageable size such that the monitoring can be successfully conducted with limited personnel and budget.

Monitoring will be conducted by cultural resource professionals including the Forest Service Archaeologist, cultural resource specialists from other governments or state agencies, and other cultural resource professionals.

The type of monitoring may vary from reconnaissance-level surveys (drive-by windshield observations), to on-going field investigations, to level of effect findings (for proposed development actions). For resources located on private lands, unless a proposed action requires field work by the Gorge Commission or Forest Service, monitoring will be conducted from public rights-of-way. The frequency of monitoring generally will be two years. Some resources, such as the Historic Columbia River Highway, are actively managed and may have more frequent monitoring events.

Percent of monitored resources in good condition and a narrative about the cause of changing conditions of resources will be reported.

The first complete cycle of monitoring (FY 2010-11) will inform us about any need to adjust the methodology. We hope to continue to incorporate new technologies (e.g. LIDAR) as they become available or affordable to improve the monitoring program and data collection.

#### Data sources

Inventory of significant archaeological resources, 2008, Margaret L. Dryden, Heritage Resources Program Manager, Columbia River Gorge National Scenic Area, USDA Forest Service

Inventory of significant historic resources, 2008, Margaret L. Dryden, Heritage Resources Program Manager, Columbia River Gorge National Scenic Area, USDA Forest Service

Original site forms - author/date vary by resource

Monographs (scientific reports, excavation reports) – author/date vary by resource

National Register evaluations (includes original National Register nominations, National Historic Landmark District nomination) – author/date vary by resource

Past development reviews (includes reconnaissance surveys & historic surveys) – author/date vary by resource

Aerial photographs, various dates

#### **Results**

*Monitoring work began in 2010 and data will be available for analysis at the end of 2011.*

#### **Discussion/Interpretation of results**

*Monitoring work began in 2010 and data will be available for analysis at the end of 2011.*

#### **Summary**

Current work on cultural resources indicators includes annual updates to the archaeological and historic resource inventories, monitoring of select historic and archaeological resources, and data analysis of a public survey conducted in the summer of 2010. The monitoring data will be reported biennially beginning around the end of 2011. The public survey results will be reported in Spring, 2011.

Work on indicators related to the condition of traditional cultural properties is on hold until progress is made on similar work by the Bonneville Power Administration, US Army Corps of Engineers, and Treaty Tribes. Work related to stakeholder awareness measures is on hold pending available funding.

**References**

Oregon State Historic Preservation Office (<http://www.oregon.gov/OPRD/HCD/SHPO/>)

Washington State Department of Archaeology and Historic Preservation (<http://www.dahp.wa.gov/>)

*(Additional references forthcoming.)*

## **Recreation**

### **Introduction**

The goal of the recreation indicators is to protect and enhance recreation resources by addressing the demand for resource-based recreation opportunities in a sustainable manner and enhancing the quality of recreation experiences. This goal is achieved by conducting a provider survey to assess use and conditions of sites and facilities as well as a user survey to assess public perception of the quantity and quality of recreation opportunities.

There are several agencies that manage approximately 180 public recreation sites within the gorge. These include but are not limited to the US Forest Service, Oregon State Parks, Washington State Parks, and US Army Corps of Engineers. Together with the Gorge Commission staff, these agencies routinely collaborate on projects such as the US Forest Service Sustainable Recreation Framework and the Vital Signs Indicators (VSI). The effective partnerships between the agencies help fulfill one of the overarching goals of the VSI project which is to build and strengthen relationships with stakeholders and partners.

The following is a draft report describing the development and status of the recreation indicators. This report will be updated as data are collected and analysis performed. All final reports will be published on the Vital Signs website ([www.gorgevitalsigns.org](http://www.gorgevitalsigns.org)).

### **Indicators**

#### **Conceptual model**

In the simplest terms, recreation management in the Scenic Area is about supply and demand while considering the purposes of the Act. The purposes are to protect and enhance scenic, natural, cultural, and recreation resources and protect and support the Gorge economy consistent with protecting and enhancing these resources. Empirical information has been gathered to assess resources and public perception of those resources through a public recreation provider survey (Appendix I) and a user survey (Appendix II). Additional information is also gleaned from other surveys and public meetings as appropriate. (*Cite.*)

For the VSI, supply and demand are evaluated mostly for “formal” public recreation opportunities available. “Informal” opportunities may include user-created trails or land not yet developed for recreation. These are important aspects of regional recreation management and are considered more fully with recreation plan efforts.

Supply is assessed by surveying the public recreation management agencies in the Scenic Area regarding types of recreation uses including those that meet Americans with Disabilities Act standards, days over capacity, and conditions of surrounding natural resources impacted by human use.

Demand is assessed by looking at some of the provider survey results such as days over capacity and condition of resources due to use but also by gauging public perception through the user survey. Perception of crowding is one topic that directly addresses demand while others include the specific activity and levels of satisfaction for a number of experiences. Extrapolation and correlation between variables in both surveys are used to determine relationships between type of use, condition of resources, and user experience.

The data and analysis are used to inform recreation planning. By coordinating efforts, multiple agencies are able to address demand more efficiently by considering regional supply and each agency's capacity for providing and managing opportunities and mitigating potential impacts.

### **Methods**

*User Survey: Instrument designed, survey conducted, and results tabulated and analyzed by Dr. Robert Burns of West Virginia University. Full report will be available Spring 2011.*

*Provider Survey: Instrument designed in 2008 by Gorge Commission staff in consultation with federal and state recreation providers and revised in 2010. Survey administered through on-line means (Survey Monkey) 2008 and 2011.*

### **Results**

*User Survey: Full report will be available Spring 2011. See Appendix III for preliminary report.*

*Provider Survey: Results of 2008 and 2011 surveys will be tabulated and analyzed 2011.*

### **Discussion/Interpretation of results**

*Will correlate both survey results and include discussion of meta-analysis of other gorge recreation studies.*

### **Summary**

Given the objectives of addressing recreation demand sustainably and enhancing the quality of recreation opportunities, the capacity and protection of the resource must be balanced with the user perceptions of quality and availability. The provider and user surveys as well as other more qualitative sources of information and public discourse are the foundations for future planning.

### **References**

*Forthcoming.*

## Scenic

### Introduction

The goal of the scenic indicators is to protect and enhance scenic resources based on the framework and purposes of the National Scenic Area Act. The two objectives of the scenic resource indicators are to protect the quality of the views from select public vantage points and to protect the visual character of the diverse landscapes of the gorge as a whole.

An overarching goal of the Commission, staff, and technical advisory team was to develop high level indicators that were consistent with the purposes and standards of the act and could be used to guide resource management actions. The scenic indicators were evaluated by several criteria including if they would accurately depict conditions in the Scenic Area, if they were appropriate for measuring key conditions, if data could reliably be obtained over time to track changes, and if they were easily understood and well accepted by the community advisory team and public in general.

The following is a draft report describing the development and status of the scenic indicators. This report will be updated as methods are developed, data are collected, and analysis performed. Future reports will include scenic indicators not addressed here at this time. All final reports will be published on the Vital Signs website ([www.gorgevitalsigns.org](http://www.gorgevitalsigns.org)).

### Scenic Indicators: Development impacts from public vantage points and development impacts and landscape quality from other perspectives

#### Conceptual model

The indicators related to the development impacts on the views from select public vantage points differ in what is measured from those related to the development impacts to and visual character of the diverse landscapes of the gorge. The “viewsheds” seen by most scenic observers in the gorge are from public vantage points such as trails or observation areas. The quality of a representative subset of these views will be evaluated through field visits and fixed point photography. The integrity of landscape character based on designated landscape setting for all the Scenic Area will be assessed using aerial imagery.

#### Development Impacts form Public Vantage Points

Scenic resource protection guidelines within the Management Plan contain thresholds for the visibility of new development by means of Visual Quality Objectives (VQOs) established by the Forest Service in the 1970's (*citation*) and adopted by the Management Plan in 1992. The VQO for most areas containing new development is “visually subordinate”. Visually subordinate means that an object does not noticeably contrast with the surrounding landscape and while it may be partially visible, it does not visually dominate the view in relation to its surroundings. For these indicators the objects being evaluated for visual subordination are defined as “developed areas” and include buildings, retaining

walls, driveways, fences, grading, and excavation.

The *Management Plan* ensures that each new development is visually subordinate or in other words, not highly contrasting. There are a handful of reasons for development to fail the test of visual subordination however. These include the fact that some developments pre-date the Act and are exempt from scenic resource protection policies, some have mitigated their visibility with screening vegetation but that vegetation has not fully grown yet, or some developments may simply violate the scenic standards. By tracking highly contrasting developments over time, we will be able to identify development that fails the visual subordination test and focus on the cause and potential mitigation of the impacts to the view as well as identify issues for management plan review.

#### Development Impacts and Landscape Quality from Other Perspectives

The indicators that measure the condition of the landscape and the amount of development in the landscape from an aerial view do so by first identifying all visible structures, assessing their density, foot print, and spatial configuration with other structures, and then evaluating that in the context of the landscape setting by which they are surrounded. The Management Plan provides design guidelines based on the various landscape settings in the scenic area. The condition of the landscape from an aesthetic perspective beyond these guidelines is highly subjective. Therefore, once the multiple spatial attributes of structures is assessed and quantified, a process may be necessary to gauge perceptions of condition.

#### **Methods**

##### Development Impacts from Public Vantage Points

For the indicators, Gorge Commission planning staff and Forest Service landscape architects adapted the visual landscape assessment methodology from the Bureau of Land Management (BLM) Visual Contrast Rating System (citation). The BLM system contains the following key steps: identification of visual resource management objectives (VRM), selection of key observation points, and preparation of visual simulations for data collection calibration. The BLM method assesses conditions before development occurs but we have adapted it to assess existing development.

Our VRM objective is to identify highly contrasting structures in the landscape. We identified 12 key observation points based on the following criteria: a) diversity of views – ranging in levels of development, b) equal representation of all six NSA counties- providing a cross section of the eastern/western and northern/southern gorge views, and c) ability to encompass large panoramic views (Table 1). We are preparing training documents to calibrate data collector rankings of attributes measured in the field and conducted several field tests. We will continue this process until our calibration accuracy meets acceptable standards. (*Define and site source of acceptable standards.*)

Table 1. Public vantage points selected for development impact assessment. *(Expand table to include seen acres by LS and county.)*

1. Steigerwald Lake
2. Crown Point
3. Cape Horn
4. Upper Beacon Rock
5. Dog Mountain
6. Mitchell Point
7. Hood River Jetty
8. Straights Point
9. Memaloose Overlook
10. Rowena Crest Viewpoint
11. Squally Point
12. Avery Boat Launch

While in the field, individual developments are rated for their levels of contrast with the surrounding characteristic landscape for form, line, color and texture. Levels of contrast are rated as strong, moderate, weak or none. Because not all development is visible from the vantage point only the visually evident development is evaluated and reported.

Other methods have been researched and pilot tests conducted. For the 2009 VSI report we presented results of the “glance method”. This method used a time series of fixed point photographs (1988 and 2003) on which the data collector identified those structures that notably contrasted with the surrounding area “at a glance”. The presumption was that if you noticed a structure when only glancing at the photo it was highly contrasting. This method was limited for a number of reasons including the variable quality of the photos and the different conditions under which they were taken. In addition, it is not possible to calibrate data collectors performing this type of task. Another method that was tested used the principles of remote sensing to classify an image based on the hue, value, and texture of pixels and mathematically quantifying high contrast based on measurement of these attributes and human perception. While this method reduces human bias it is also limited by the quality and differences between the time series photographs. An effort by John McCarty of the BLM’s National Visual Resource

Management Program was very similar to this. McCarty has been collaborating with the US military at West Point to use eye motion detectors to identify what features “catch the eye” of soldiers and correlate that to the visual attributes of objects classified using remote sensing technology. Like the BLMs Visual Contrast Rating System, this work focused on design objectives before a structure was built.

### **Results**

*Not available at this time.*

### **Discussion/Interpretation of results**

*Not available at this time.*

### **Summary**

### **References**

US Department of the Interior – Bureau of Land Management, Manual 8431 – Visual Resource Contrast Rating, undated. <http://www.blm.gov/nstc/VRM/8431.html> (Accessed September 2010.)

*(Additional references forthcoming.)*

## **Economic**

### **Introduction**

Economic development in the Scenic Area is complicated by the fact that the Scenic Area Act directs where economic activities can be focused and because the different state land use regulations outside the Scenic Area impact activities within our boundary differently depending on which side of the river they are on (Meece, 2011). Many factors contribute to the gorge economy and none can be described as the sole source of economic impact.

The economic indicators focus on the economic vitality within urban areas and economic development outside of urban areas consistent with the protection and enhancement of the scenic, natural, cultural and recreation resources with an emphasis on the forestry and agricultural sectors. (Forestry and agriculture are part of the traditional economy of the gorge and contribute to the Scenic Area's diverse landscape settings.) While the Gorge Commission has no authority over planning within the urban areas, nor can we necessarily produce empirical evidence of our full impact on the regional economy, we can report on trends and provide information, even if partially speculative, on the impacts of protected area status on the Scenic Area economy.

### **Indicators**

#### **Conceptual model**

Because it is not possible at this time to link policy to the trends of standard economic indicators in a specific, meaningful, and actionable way, we have begun to look at the impact our "special area" designation (USFS, 2011) has on the economy. The two main aspects of impact considered are the tourism/leisure sector and quality of life amenities.

The survey instrument created and deployed by Dr. Robert Burns (see Appendix II) includes questions related to the type of activities people participate in and of what amount and how they spend their recreation dollars. The answers to these questions can be correlated to other answers related to perception of scenic quality and choice of destination so that we can determine the possible relationship between the protected status of the Scenic Area and the tourism and recreation dollars it attracts.

A limited amount of research related to quality of life (QOL) indicators suggests that business location decisions are partially based on the quality of life an area can provide to employees (Salvesen and Renski, 2003; cite other papers reviewed). The degree to which a business uses these indicators depends greatly on the type and size of business. In addition, quality of life is extremely subjective and varies in unquantifiable ways. Some studies have shown that industries that require cheap land, access to raw materials, and a pool of generally skilled labor tend not to value QOL in business location decisions. These studies also show that businesses that are small and depend on highly technical professional labor pools are more likely to value QOL in order to attract and retain talent (Salvesen and Renski, 2003; cite other papers reviewed). While we can certainly reference anecdotal evidence to

support the latter (Brenner, 2009), a thorough survey of gorge businesses is required to accurately assess the degree to which the Scenic Area qualities based on policy are responsible for the presence of certain industries in the gorge. (This is not possible with current staffing and other resources.) Research indicates that studies done in other areas cannot be applied to any other location.

Given the limitations of available data to link policy to economic impact precisely, we are researching the ways we can achieve our indicator objectives through action and policy. These can then be assessed with “performance indicators” and may be the best way to determine what kind of job we’re doing and if we can do better. Additional research is also being conducted to understand the economic drivers of conversion of land to agriculture and forestry uses. We will continue to update the standard economic indicator information as new data become available to provide a picture of conditions overall.

## **Methods**

*Report methods and results of previous analysis of standard economic indicators presented in the 2009 report.*

## **Results**

## **Discussion/Interpretation of results**

## **Summary**

## **References**

K. Brenner, 2009. Venture capital is blowing through the Columbia Gorge, Special to the Oregonian, 10.05.2009

Meece, C., 2011. Business Development Officer, Oregon Business Development Department. Personal communication 01.05.2011.

Salvesen, D. and H. Renski, 2003. The importance of quality of life in the location decisions of new economy firms, Center for Urban and Regional Studies, University of North Carolina at Chapel Hill, January 2003.

US Forest Service, 2011. Congressionally Designated Special Areas, [www.fs.fed.us/recreation/programs/facts/special\\_areas.shtml](http://www.fs.fed.us/recreation/programs/facts/special_areas.shtml). Last accessed 01.10.2011.

## **Natural**

### **Introduction**

Natural resources in the context of the VSI project relate primarily to terrestrial and aquatic habitats and the species dependent upon them. Though a handful of components of habitat are identified by the indicators, the complexity and interconnectedness of ecosystem functions requires a holistic approach of understanding processes, relationships, and impacts or stressors, as well as the metrics useful to describe conditions. It is not practical to measure “life in all its forms” so the “only practical approach... is to use ... a relatively few elements ... that correlate with as many other unmeasured elements as possible” (Hagan and Whitman, 2006).

Scale is especially important to consider with the natural resource indicators. The VSI is a regional assessment and thus appropriate tools and methods must be used to look at the region. High level indicators based on a coarse regional scale can provide a picture of overall conditions and highlight areas where focus is needed. Fine, population scale wildlife data, while not appropriate to assess large area scale conditions, are still useful for model validation, in addition to small project based work. (*Cite Well Read NR paper*).

### **Indicators**

#### **Conceptual model**

One approach is to look at natural resources based on a sub-watershed scale. The strategy is to identify and measure if possible the conditions that are essential to ecological processes as well as gather consistent high quality data that are a reflection of these processes and other contributing factors. (*Cite OWEB WS Assessment manual etc*)

For example, to understand the quality of in-stream habitat, one would need to determine if the upland processes that contribute to stream quality are intact. Source of large woody debris contribution, impervious surface area, and road density are just a few examples of upland conditions useful to measure. In-stream monitoring of water quality attributes such as turbidity, dissolved oxygen, etc provide valuable snapshot information. However, natural systems are dynamic and these measures may not reflect long-term health. For example, one might expect high turbidity in a stream after a heavy rainfall event. That does not mean the stream is in poor health overall.

Assessing the entire watershed and comparing its condition to in-stream conditions also helps to identify the potential cause of impacted habitat quality. Stream shading and water temperature are factors that when compared may provide additional information regarding upstream activities. Political boundaries rarely coincide with natural boundaries and external stressors undoubtedly have an effect on Scenic Area habitat health. Evaluation of zoning, ownership, land cover, land use, etc. for land inside

and outside the Scenic Area within a sub-watershed, is a valuable method to address causal relationships and evaluate policies.

Though a watershed scale is useful for in-stream habitat, terrestrial wildlife habitat boundaries do not necessarily coincide with watershed boundaries. Using a similar approach of identifying physical and biological processes and components of wildlife habitat and using those as the basis for analysis, we will address the conditions that impact wildlife habitat. While sub-watersheds are a feasible study area based on size, terrestrial habitat range will be much more difficult to assess based on the larger extent of many endemic gorge species. However, a great deal of literature is devoted to creating species/habitat matrices which will guide our assessment of conditions within the Scenic Area.

## **Methods**

*AREMP*

*PHS Wildlife matrices*

## **Results**

## **Discussion/Interpretation of results**

## **Summary**

## **References**

Hagan, J.M. and A.A. Whitman, 2006. Biodiversity Indicators for Sustainable Forestry: Simplifying Complexity, *Journal of Forest Ecology*, June 2006.

Appendix I: Recreation Provider Survey

# 2011 VSI Recreation Provider Survey

Thank you for taking the 2011 Columbia River Gorge Vital Signs Indicators Recreation Provider Survey. This information will assist all of us in our recreation planning efforts by identifying regional trends and new information. The information will help assess the health of Gorge recreation resources as well as provide a complete inventory of recreation resources available to the public. Please complete this survey for EACH of your managed sites.

## 1. Please select the site you are evaluating in this survey:

Sites to choose from:

Other (please specify)

## 2. Please identify the primary recreation use that occurs at this site.

- Beach use and river access by wind surfers
- Beach use and river access by kite boarders
- Beach use and river access for recreational boaters
- Beach use and river access for fishing
- Trail use by hikers only
- Trail use by hikers and bicyclists
- Nature/wildlife observation
- Visiting cultural resources
- Camping
- Hunting

Other (please specify)

# 2011 VSI Recreation Provider Survey

## 3. Please identify all other forms of recreation that occur at this site:

- Beach use and river access by wind surfers
- Beach use and river access by kite boarders
- Beach use and river access for recreational boaters
- Beach use and river access for fishing
- Trail use by hikers only
- Trail use by hikers and bicyclists
- Nature/wildlife observation
- Visiting cultural resources
- Camping
- Hunting

Other (please specify)

## 4. What percentage of high-season days is this site at or over capacity?

- 0%
- 1-25%
- 26-50%
- 51-75%
- 76-100%

Other (please specify)

## 5. Does this site contain any known unmanaged, user-created, or informal recreation uses (e.g. user created trails or camping areas)? If yes, please describe below:

- Yes
- No

Please describe (number and type):

# 2011 VSI Recreation Provider Survey

**6. If user-created or unmanaged recreation occurs at this site, please describe any impacts that it has caused.**

  

**7. Please select which amenities present at this site meet the standards of the Americans with Disabilities Act:**

- None
- Parking
- Restroom
- Picnic area
- Trail
- Overlook
- Other ADA amenities (please specify)

**8. Does access exist between ADA amenities that meets the standards of the American with disabilities Act?**

- Yes
- No
- N/A

Comments to clarify:

**9. Have natural resources been degraded outside of the intended site as a result of recreation use?**

- Yes
- No
- N/A

# 2011 VSI Recreation Provider Survey

## 10. Please identify whether natural resources at or surrounding the site are:

- Not changing
- Degrading slightly
- Degrading significantly
- Improving
- N/A

Other (please specify)

## 11. Please select all types of human-caused environmental degradation found at this site:

- Wildlife disturbance
- Soil compaction
- De-vegetation
- Trail erosion
- Shoreline erosion
- Litter
- Graffiti
- None
- N/A

Other (please specify)

# 2011 VSI Recreation Provider Survey

Thank you very much for taking our survey!

## 1. Please choose which agency you represent:

Agency

Other (please specify)

  

## 2. Please provide your contact information in case we need to follow-up with you:

Name:

Email Address:

Phone Number:

## 3. Additional comments or feedback:

  

Please take a survey for EACH of your sites. Clicking the "Done" button below will take you to a new blank survey. Once you have completed all of your surveys, click "Done" and simply close the page that appears.

Appendix II: Recreation User Survey

Columbia River Gorge Vital Indicators Recreation Use Survey (Cultural)

Survey Number: \_\_\_\_\_ Site: \_\_\_\_\_

Interviewer Name: \_\_\_\_\_ Date: \_\_\_\_\_ Time of Interview: \_\_\_\_\_

1. The Columbia River Gorge (CRG) is a designated National Scenic Area. Were you aware of this prior to being asked this question?  Yes  No

2. Is this your first visit to the CRG?  Yes  No  
 [If no] In what year did you make your first visit to the CRG? \_\_\_\_\_ year  
 In a typical year, how many days do you spend visiting the CRG? \_\_\_\_\_ days

3. What route did you travel to get to the CRG today?

WA State Route 14 (from east/west)       I-84 (from east/west)       OR Columbia River Historic Hwy (from east/west)  
 Columbia River       other (please list)

4. Which of the following best describes the composition of your group? [check only one]

Alone  Family  Friends  Family & friends  
 Commercial group (group of people who paid a fee to participate in this trip)  
 Organized group (club or other organization)  
 Other [please specify] \_\_\_\_\_

5. Overall, how would you rate the quality of each of the following at the CRG:

	Awful	Fair	Good	Very Good	Excellent	Not applicable
Sanitation and cleanliness	1	2	3	4	5	NA
Condition of facilities	1	2	3	4	5	NA
Responsiveness of staff	1	2	3	4	5	NA
Condition of the natural environment	1	2	3	4	5	NA
Safety and security	1	2	3	4	5	NA
Attractiveness of the CRG landscape	1	2	3	4	5	NA
Amenities in local communities (lodging, gas, food, etc.)	1	2	3	4	5	NA

6. We would like to know how satisfied you were with your overall experience in the CRG. On a scale of 1-10, with 10 being most satisfied, how satisfied were you with this trip? \_\_\_\_\_

7. Which of the following was the most important reason for this visit to the CRG? [Please check only one]

I went there because I enjoy the place itself  
 I went there because it's a good place to do the outdoor activities I enjoy  
 I went there because I wanted to spend more time with my companions  
 I went there because it was close to home

8. Here is a list of possible reasons why people recreate at outdoor recreation sites. Please tell me how important each of the following benefits is to you when you visit the CRG.

[One is not at all important and five is extremely important] [N/A does not apply to this question. Should be an answer for each]

REASON	Not at all Important	Somewhat Important	Moderately Important	Very Important	Extremely Important
To be outdoors	1	2	3	4	5
For relaxation	1	2	3	4	5
To get away from the regular routine	1	2	3	4	5
For the challenge or sport	1	2	3	4	5
For family recreation	1	2	3	4	5
For physical exercise	1	2	3	4	5
To be with my friends	1	2	3	4	5
To experience natural surroundings	1	2	3	4	5
To develop my skills	1	2	3	4	5

9. How did the number of people you saw during your visit to the CRG compare with what you expected to see?

- |  |   |
|--|---|
| <input type="checkbox"/> A lot less than you expected    | <input type="checkbox"/> A little more than you expected  |
| <input type="checkbox"/> A little less than you expected | <input type="checkbox"/> A lot more than you expected     |
| <input type="checkbox"/> About what you expected         | <input type="checkbox"/> You didn't have any expectations |

10. How crowded did you feel during your visit to the CRG [Circle one number]

1	2	3	4	5	6	7	8	9
Not at all Crowded		Slightly Crowded		Moderately Crowded			Extremely Crowded	

11. How did the number of people at the CRG today affect your overall enjoyment of your visit?

- |  |   |
|--|---|
| <input type="checkbox"/> Added a lot to my enjoyment       | <input type="checkbox"/> Added a little to my enjoyment       |
| <input type="checkbox"/> No effect on my enjoyment         | <input type="checkbox"/> Detracted a little from my enjoyment |
| <input type="checkbox"/> Detracted a lot from my enjoyment |   |

12. If you could ask resource managers to improve some things about the management of the CRG, what would you ask them to do? \_\_\_\_\_

13. CRG managers want to understand your perceptions about what contributes most and detracts most from the scenic quality of CRG views.

Please list the top three things that **contribute** most to the scenic quality of CRG views:

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

Please list the top three things that **detract** most from the scenic quality of CRG views:

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

14. In what activities on this list did you participate during this visit to the CRG?		15. Which of those is your primary activity for this visit to the CRG?
Question 14 answers		Question 15 answers
	Camping in developed sites (horseback, RV/Trailer, car camping with tent) (circle all that apply)	
	Primitive camping	
	Backpacking	
	Resorts, cabins, organization camp use, and other accommodations	
	Picnicking and family gatherings in developed sites	
	Hang gliding	
	Viewing natural features such as scenery, wildlife, birds, flowers, fish, etc. (circle all that apply)	
	Visiting historic sites, cultural sites, or museums (circle all that apply)	
	Viewing a nature center, nature trail, or visitor center (circle all that apply)	
	Nature study	
	General viewing activities, sightseeing	
	Fishing—all types	
	Hunting—all types	
	Driving for pleasure on roads	
	Motorized water travel	
	Other motorized activities (please list)	
	Hiking or walking	
	Horseback riding	
	Bicycling, including mountain bikes (circle all that apply)	
	Nonmotorized water travel (sailboarding, kiteboarding, kayaking, rafting, etc.) (circle all that apply)	
	Cross-country skiing, snowshoeing (circle all that apply)	
	Other nonmotorized activities (please list)	
	Gathering mushrooms, berries, firewood, or other natural products (circle all that apply)	
	Beach use	
	Rock climbing	

16. What is your zip/postal code? \_\_\_\_\_ Visitor not from US/Canada (Location) \_\_\_\_\_

17. What is your age? \_\_\_\_\_

18. Are you of Hispanic/Latino ethnicity? \_\_\_\_\_ Yes \_\_\_\_\_ No

19. Which of the following best describes your racial makeup?

\_\_\_\_\_ White \_\_\_\_\_ Asian \_\_\_\_\_ Native American/Alaskan Native \_\_\_\_\_ Native Hawaiian/Pacific Islander

\_\_\_\_\_ African-American \_\_\_\_\_ Other (please list) \_\_\_\_\_

**Cultural Addition**

(Intro: The Columbia River Gorge is home to many archaeological sites and artifacts, historic buildings and other structures such as roads, and places of cultural significance to Tribes.

20. Did you visit any of the following places on this trip? (please check all that you visited)

- Discovery Center/Wasco County Historical Museum (The Dalles)
- Columbia Gorge Interpretive Center (Stevenson)
- Multnomah Falls Lodge
- Vista House
- The Dalles Mountain Ranch (at Columbia Hills State Park)
- Historic Columbia River Highway (any segment)
- Indian rock art at Horsethief Lake in the Columbia Hills State Park
- History Museum of Hood River County
- Cascade Locks Historical Museum
- Troutdale Historical Society
- Visitors Center at Mark O. Hatfield Trailhead for the Historic Columbia River Highway (Hood River, OR)
- Visitors Center at Bonneville Dam
- Visitors Center at The Dalles Dam
- Confluence Project at Sandy River Delta
- Interpretive programs at USFS, Oregon or Washington State Parks campgrounds
- Interpretive Signs and Markers on Historic Columbia River Highway (in Oregon)
- Historical Markers on Washington State Route 14
- Other \_\_\_\_\_

21. (If respondent checked any of the above, ask this question) During your visits to these cultural places, please indicate the extent to which you:

	Not at All				A Lot
	1	2	3	4	5
Learned something new.	1	2	3	4	5
Understood something better.	1	2	3	4	5
Thought about something differently.	1	2	3	4	5
Formed an intellectual connection to the significance of cultural resources.	1	2	3	4	5
Formed a connection to the history of the CRG.	1	2	3	4	5

22. Did you obtain any information about the history of the Gorge during this trip or in preparation for it?

Yes  No [If yes, continue with follow-up questions in box]

22a. Please tell us where you obtained the information?

- Internet  Interpretive signs
- Brochures  Books
- Television  Radio
- Other (please list) \_\_\_\_\_

19b. Was the information you received adequate in helping you plan your trip?  Yes  No

(If no, what would have made the information more useful?) \_\_\_\_\_

23. Is understanding the history and cultural resources of the CRG important to you?  Yes  No

24. Please feel free to tell us more about your understanding and interest in CRG cultural resources. (Open-ended response)

Columbia River Gorge Vital Indicators Recreation Use Survey (Economic)

Survey Number: \_\_\_\_\_ Site: \_\_\_\_\_

Interviewer Name: \_\_\_\_\_ Date: \_\_\_\_\_ Time of Interview: \_\_\_\_\_

1. The Columbia River Gorge (CRG) is a designated National Scenic Area. Were you aware of this prior to being asked this question?  Yes  No

2. Is this your first visit to the CRG?  Yes  No  
 [If no] In what year did you make your first visit to the CRG? \_\_\_\_\_ year  
 In a typical year, how many days do you spend visiting the CRG? \_\_\_\_\_ days

3. What route did you travel to get to the CRG today?

WA State Route 14 (from east/west)       I-84 (from east/west)       OR Columbia River Historic Hwy (from east/west)  
 Columbia River       other (please list)

4. Which of the following best describes the composition of your group? [check only one]

Alone  Family  Friends  Family & friends  
 Commercial group (group of people who paid a fee to participate in this trip)  
 Organized group (club or other organization)  
 Other [please specify] \_\_\_\_\_

5. Overall, how would you rate the quality of each of the following at the CRG:

	Awful	Fair	Good	Very Good	Excellent	Not applicable
Sanitation and cleanliness	1	2	3	4	5	NA
Condition of facilities	1	2	3	4	5	NA
Responsiveness of staff	1	2	3	4	5	NA
Condition of the natural environment	1	2	3	4	5	NA
Safety and security	1	2	3	4	5	NA
Attractiveness of the CRG landscape	1	2	3	4	5	NA
Amenities in local communities (lodging, gas, food, etc.)	1	2	3	4	5	NA

6. We would like to know how satisfied you were with your overall experience in the CRG. On a scale of 1-10, with 10 being most satisfied, how satisfied were you with this trip? \_\_\_\_\_

7. Which of the following was the most important reason for this visit to the CRG? [Please check only one]

I went there because I enjoy the place itself  
 I went there because it's a good place to do the outdoor activities I enjoy  
 I went there because I wanted to spend more time with my companions  
 I went there because it was close to home

8. Here is a list of possible reasons why people recreate at outdoor recreation sites. Please tell me how important each of the following benefits is to you when you visit the CRG.

[One is not at all important and five is extremely important] [N/A does not apply to this question. Should be an answer for each]

REASON	Not at all Important	Somewhat Important	Moderately Important	Very Important	Extremely Important
To be outdoors	1	2	3	4	5
For relaxation	1	2	3	4	5
To get away from the regular routine	1	2	3	4	5
For the challenge or sport	1	2	3	4	5
For family recreation	1	2	3	4	5
For physical exercise	1	2	3	4	5
To be with my friends	1	2	3	4	5
To experience natural surroundings	1	2	3	4	5
To develop my skills	1	2	3	4	5

9. How did the number of people you saw during your visit to the CRG compare with what you expected to see?

- |  |   |
|--|---|
| <input type="checkbox"/> A lot less than you expected    | <input type="checkbox"/> A little more than you expected  |
| <input type="checkbox"/> A little less than you expected | <input type="checkbox"/> A lot more than you expected     |
| <input type="checkbox"/> About what you expected         | <input type="checkbox"/> You didn't have any expectations |

10. How crowded did you feel during your visit to the CRG [Circle one number]

1	2	3	4	5	6	7	8	9
Not at all Crowded		Slightly Crowded		Moderately Crowded			Extremely Crowded	

11. How did the number of people at the CRG today affect your overall enjoyment of your visit?

- |  |   |
|--|---|
| <input type="checkbox"/> Added a lot to my enjoyment       | <input type="checkbox"/> Added a little to my enjoyment       |
| <input type="checkbox"/> No effect on my enjoyment         | <input type="checkbox"/> Detracted a little from my enjoyment |
| <input type="checkbox"/> Detracted a lot from my enjoyment |   |

12. If you could ask resource managers to improve some things about the management of the CRG, what would you ask them to do? \_\_\_\_\_

13. CRG managers want to understand your perceptions about what contributes most and detracts most from the scenic quality of CRG views.

Please list the top three things that **contribute** most to the scenic quality of CRG views:

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

Please list the top three things that **detract** most from the scenic quality of CRG views:

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

14. In what activities on this list did you participate during this visit to the CRG?		15. Which of those is your primary activity for this visit to the CRG?
Question 14 answers		Question 15 answers
	Camping in developed sites (horseback, RV/Trailer, car camping with tent) (circle all that apply)	
	Primitive camping	
	Backpacking	
	Resorts, cabins, organization camp use, and other accommodations	
	Picnicking and family gatherings in developed sites	
	Hang gliding	
	Viewing natural features such as scenery, wildlife, birds, flowers, fish, etc. (circle all that apply)	
	Visiting historic sites, cultural sites, or museums (circle all that apply)	
	Viewing a nature center, nature trail, or visitor center (circle all that apply)	
	Nature study	
	General viewing activities, sightseeing	
	Fishing—all types	
	Hunting—all types	
	Driving for pleasure on roads	
	Motorized water travel	
	Other motorized activities (please list)	
	Hiking or walking	
	Horseback riding	
	Bicycling, including mountain bikes (circle all that apply)	
	Nonmotorized water travel (sailboarding, kiteboarding, kayaking, rafting, etc.) (circle all that apply)	
	Cross-country skiing, snowshoeing (circle all that apply)	
	Other nonmotorized activities (please list)	
	Gathering mushrooms, berries, firewood, or other natural products (circle all that apply)	
	Beach use	
	Rock climbing	

16. What is your zip/postal code? \_\_\_\_\_ Visitor not from US/Canada (Location) \_\_\_\_\_

17. What is your age? \_\_\_\_\_

18. Are you of Hispanic/Latino ethnicity? \_\_\_\_\_ Yes \_\_\_\_\_ No

19. Which of the following best describes your racial makeup?

\_\_\_\_\_ White \_\_\_\_\_ Asian \_\_\_\_\_ Native American/Alaskan Native \_\_\_\_\_ Native Hawaiian/Pacific Islander

\_\_\_\_\_ African-American \_\_\_\_\_ Other (please list) \_\_\_\_\_

**Economics Addition**

20. If for some reason you had been unable to go to the CRG for this visit what you would you have done instead:

- Gone elsewhere for the same activity
- Gone elsewhere for a different activity
- Come back another time
- Stayed home
- Gone to work at your regular job
- None of these: \_\_\_\_\_

21. About how much time, in total, will you be away from home on this trip?

Days \_\_\_\_\_ or  
Hours \_\_\_\_\_

22. On this trip, did you recreate at just the CRG, or did you go to other parks, recreation areas, or other National Forests?

- Just the CRG
- Other places

23. Was the CRG your primary destination for this trip?

- Yes
- No

24. How many times in the last year have you visited the CRG specifically to participate in the primary activity that you mentioned previously? Number \_\_\_\_\_

25. About how much money (to the nearest \$100.00) do you spend each year on all outdoor recreation activities, including equipment, recreation trips, memberships, and licenses? Dollar Amount \$ \_\_\_\_\_

26. For this trip are you:

- Sharing expenses with other people (report just what you spent \$ \_\_\_\_\_)
- Paying just for your expenses (report just what you spent \$ \_\_\_\_\_)
- Paying for yourself and others: How many others (report what you spent for all these people \$ \_\_\_\_\_)
- Someone else is paying for you (report your portion of the total that person spent \$ \_\_\_\_\_)

27. For the following categories, please report the amount spent within 50 miles of here on this trip.

Government-owned lodging	Food/drink at restaurants and bars	Gasoline and oil	Activities (including guide fees and equipment rental)	Souvenirs and clothing
\$	\$	\$	\$	\$
Privately-owned lodging	Other food and beverages	Other transportation (plane, bus, etc.)	Entry, parking or recreation use fees	Any other expenditures
\$	\$	\$	\$	\$

Appendix III: Preliminary User Survey Results

**Presentation**

to the

**Columbia River Gorge Commission**

**Vital Indicator Signs Project**

**Contract # 2009-09**

by

Dr. Robert C. Burns

January 11, 2011

**Background.** The Columbia River Gorge Commission (CRGC) desired to understand the use patterns and perceptions of various stakeholders who recreate in the Columbia River Gorge (CRG). This study was conducted as part of the larger CRGC Vital Signs Indicator Project. In essence, this study provides a “snapshot” of visitors as they were recreating in the CRG in 2010. The survey was administered to allow the results of this study to be compared to previous studies in the CRG where possible. These and further findings will be a part of the CRGC Vital Indicator Signs Project final report to be provided on June 30, 2011, as part of Contract #2009-09.

**Survey Methodology.** The visitor surveys were conducted at high-use recreation sites managed by the Corps of Engineers, US Forest Service, Oregon State Parks, and Washington State Parks. All surveys were conducted on-site, using face-to-face interviews. A total of 850 surveys were collected from May—September, 2010, at various recreation sites in the CRG.

The CRGC Vital Indicator Signs Project survey replicated and extended survey methods and survey instruments used in the CRG over the past 13 years (1997—2010). This allows the data collected in 2010 to be benchmarked across agencies (USFS and Corps of Engineers) and across the 13-year period (various data points between 1997—2010).

Two versions of the survey instrument were used in the study. There was a *core set* of approximately 20 questions that were asked of all respondents. These questions focused on demographics, trip characteristics, service quality ratings, reasons for visiting, crowding/conflict, and a listing of the best and worst items impacting the scenic quality of the CRG.

The *Economic* version included the same set of core questions and a series of questions concerning the respondents' expenditures on the trip. One half of the respondents were given the opportunity to ask the economic version questions. This set of questions was replicated and extended from previous studies conducted in the CRG, and many of the questions will be benchmarked against previous USFS and Corps of Engineers study reports.

The *Cultural* version asked the core questions and a set of questions related to the many archaeological sites and artifacts, historical buildings and other structures such as roads and places of cultural significance to Tribes. One half of the respondents were given the opportunity to ask the cultural version questions. These questions had not been asked previously in the CRG and cannot be benchmarked against previous study reports.

**Analysis Strategy.** The quantitative data set will be examined in its entirety to understand the overall frequency distribution and mean or modal distribution (as appropriate). The data will then be tabulated within the context of the CRG, and comparisons will be made to previous CRG study reports. Critical variables will emerge as the data are analyzed and the data will be segmented by these variables. For example, the data may be segmented by primary activity, first time visitor vs. repeat visitor, distance traveled, etc. The Statistical Package for Social Sciences (SPSS, Version 18) will be used to analyze all data. The open-ended responses will be tabulated and interpreted.

**Preliminary Results.** The findings presented are a snapshot of 2010 visitors to various recreation sites in the CRG. The preliminary results show the following:

## Core Questions

### Demographics and Trip Characteristics.

- Most visitors (83%) were repeat visitors, and a similar proportion (80%) was aware the CRG is a designated National Scenic Area.
- The average respondent first visited the CRG in 1989, and spent about 45 days per year recreating in the CRG.
- Nearly half of respondents (46%) visited with family and 26% visited with friends. A notable proportion of visitors (15%) were alone in the CRG when interviewed.
- Respondents were predominately White, with a notable proportion of Asian and Hispanic visitors.

### Service Quality and Trip Experience.

- A series of service quality indicators were measured using a 5-point Likert scale.
  - The highest rated item was *attractiveness of the CRG landscape* (4.80), while the lowest rated item was *amenities in local communities* (3.95). These rankings will be benchmarked against previous studies in the analysis and results will be presented in the final report.
- A battery of questions about *why respondents visited the CRG* was asked, and the importance the visitors placed on selected reasons.
  - Respondents placed the greatest level of importance on *experiencing natural surroundings, being outdoors, and getting away*, and the least degree of importance on *developing skills, and challenge/sport*.
  - Nearly half of the respondents (46%) said the most important reason was *it's a good place to do my outdoor activities*, and about one-third (33%) said *to enjoy the place itself*.
- Overall experience was rated highly (9 out of 10) by CRG visitors, similar to results of previous CRG studies.

## Core Questions (Cont.)

### Crowding and Conflict.

- The greatest proportion of respondents (42%) said they *saw about the number of people they expected to see* on the day they were interviewed.
- Overall, respondents were *slightly crowded* (3.5 out of 9) while visiting the CRG, similar to the results of previous CRG studies.
- Nearly two-thirds of respondents (65%) said the number of other people they saw *had no effect on their enjoyment*.

### Primary Activity and Activity Participation.

- Half of the respondents reported two primary activities, *hiking/walking* (30%) or *general viewing/sightseeing* (20%). A notable proportion (12%) reported *fishing* as their primary activity.
- Many respondents were participating in more than one activity. The most popular of these activities included *viewing natural features* (84%), *hiking/walking* (62%), and *enjoying the view/sightseeing* (60%).

## Economic Version

### Demographics and Trip Characteristics.

- Respondents were asked *what they would have done if they would have been unable to visit the CRG on their current trip.*
  - Nearly half (45%) of respondents would have *gone elsewhere for the same activity* and 18% would have *gone elsewhere for a different activity.*
  - About one-quarter of respondents said they would have *come back another time* (14%) or simply *stayed home* (10.3%).
- The respondents had visited the CRG an average of *25 times over the past year.*
- The average length away from home (on this trip) was *10 days* for overnight visitors and *eight hours* for day users.
- The vast majority of visitors (80%) said *the CRG was their primary destination* on this trip.
- Nearly three quarters (72%) *recreated just in the CRG* on this trip.

### Trip expenditures.

- On average, respondents spent \$2200 on recreation activities each year. The median was also reported (\$800) as some respondents included the cost of their *seasonal lodging* in their calculation.
  - Nearly half of respondents (44%) were *paying only for themselves*, and spent an average of *\$191* on their trip.
  - About one-third of respondents were *sharing expenses with others*, and spent about *\$138* on their trip.
  - Just under one-fifth (18%) of respondents were *paying for themselves and others*, totaling *\$381* on this trip.
- Respondents reported the amount of money they spent on various expenses for their trip (within 50 miles of the CRG):

○ Government lodging:	\$61
○ Private lodging:	\$332
○ Restaurants/Bars:	\$124
○ Other food/beverages:	\$57
○ Fuel:	\$63
○ Transportation (plane, etc.)	\$441
○ Activities (guide fees, equipment rental)	\$126
○ Recreation use/parking/entry fees:	\$16
○ Souvenirs and clothing	\$103

## Cultural Version

The cultural version focuses on the many archaeological sites and artifacts, historical buildings and other structures such as roads and places of cultural significance to Tribes. About one half of the respondents were given the opportunity to respond to this section of the survey.

- The vast majority (85%) agreed that *understanding the history and cultural resources of the CRG was important to them.*
- About one-quarter of the respondents had *obtained information about the history of the CRG before or during their trip.*
- The most visited cultural sites were the *Historic Columbia River Highway, Multnomah Falls Lodge, and the Vista House and the Bonneville Dam Visitors Center.*
- A battery of questions asked respondents to express how they felt about the cultural aspects of cultural sites in the CRG. Half of the respondents said they *learned something new* and 40% reported they *formed a connection to the history of the CRG.*