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**Date:** February 26, 2010  
**To:** The Columbia River Gorge Commissioners  
**From:** Michele Dailey, Analyst  
**Subject:** Staff Report for March 9, 2010 - The Relationship between the Management Plan, Vital Signs Indicators, and Cumulative Effects Analysis

### **Introduction**

This report is intended to demonstrate how the Management Plan (MP), Vital Signs Indicators (VSI), Agency Performance Measures (APMs), and cumulative effects analysis (CEA) are related and how they can inform plan review. The VSI analysis is still in a nascent stage and thus trends and causal relationships between actions and impacts are not yet fully known or understood. Therefore, this report will very generally touch upon a few theoretical examples of how the Commission system of adaptive monitoring and management can lead to continuing cumulative effects analysis and plan review input. These are examples of possibilities only and should not be mistaken for actual trends, causes, or action plans.

The structure of this report is essentially:

1. What are the general resource goals in the MP
2. What is measured and monitored by the VSI and APMs
3. How are the goals and monitoring combined to determine cumulative impacts
4. How can the information garnered through this process inform plan review

### **Scenic Resources**

#### **Resource goals in MP:**

1. Protect scenic quality on lands seen from Key Viewing Areas (KVAs).
2. Maintain existing landscape settings or "type."

### **Monitored by the VSI:**

1. Is the public perception of the quality of the scenery getting better, worse, stable?
2. How much highly contrasting development can be seen from KVAs?
3. Is the character of the landscape settings maintained?

### **Monitored by the APMs:**

Percent and number of approved and built developments under the MP that are visually subordinate, where required, from key viewing areas.

### **How does it all fit together?**

Generally fitting it all together includes the following steps:

1. Identify trends.
2. Do trends correlate to each other?
3. Can causal relationships be determined?
4. Are resource goals being met?

If we find the trends of the amount of development seen from KVAs to be increasing at X percent, does it correlate to a change in public perception, trends in development per landscape setting, or trends in visual subordination implementation and compliance?

If public perception is trending towards the scenery being in poor condition (in other words, the resource goal is not being met), we will need to determine why. This can be asked generally in the public survey but landscape setting specific trends may need to be correlated with public views of those specific landscape settings. For example, are buildings perceived to be too spread out in a pastoral setting?

Determining causal relationships can be very difficult but it is integral to adapting management.

### **Informing Plan Review:**

If resource goals are not being met, we can explore how and why through the plan review process. We may need to adapt monitoring or analyze information in a different way to find causal relationships.

### **Natural Resources**

#### **Resource goals in MP:**

Ensure new uses do not adversely affect sensitive wildlife areas and sites.

**Monitored by the VSI:**

1. Habitat quality – a big umbrella for multiple factors specific to habitat types
2. Species health – can only be tracked for specific populations already monitored

**Monitored by the APMs:**

Percent and number of applications submitted in the vicinity of sensitive natural resources where plans were modified to avoid sensitive areas.

**How does it all fit together?**

If a species' numbers are declining, there are many factors to consider including climate change, impacts from outside the Scenic Area, predation by other wildlife, and allowed land use. However, the process in determining the cause may start with determining if road density is negatively impacting the species.

**Informing Plan Review:**

If a causal relationship between new uses and the decline of a federally listed species is determined, the information can be brought to plan review for further analysis, research and consideration.

**Cultural Resources****Resource goals in MP:**

Ensure proposed uses do not adversely affect significant cultural resources.

**Monitored by the VSI:**

1. Condition of archaeological and historic resources
2. Public and stakeholder perceptions and understanding of the importance of these resources and the protection process

**Monitored by the APMs:**

Percent and number of applications submitted on sites with identified cultural resources where plans were modified to avoid significant cultural resources.

**How does it all fit together?**

If the monitored resources are found to be declining in condition due to vandalism and the public survey determines that most people recreating in the Scenic Area don't really understand the importance of

the resources, we would need to determine if a better understanding would prevent damage or more protection was needed.

#### **Informing Plan Review:**

Even if a causal relationship can not be verified, consultation with the stakeholders would undoubtedly be part of the plan review process to explore options for improved protection from man-made impacts.

#### **Recreation Resources**

##### **Resource goals in MP:**

Identify suitable levels of resource-based, public-use facilities to meet recreation goals while protecting scenic, natural, and cultural resources.

##### **Monitored by the VSI:**

1. Public perception of recreation quality
2. Condition of recreation sites
3. Scenic, cultural, and natural conditions

##### **Monitored by the APMs:**

The APMs that address the quality of scenic, natural, and cultural resources can be applied here because recreation depends on these resources to a large degree.

##### **How does it all fit together?**

As a manager of recreation facilities, the Forest Service regularly assesses cumulative impacts to resources through the NEPA process. The NEPA process involves creating “action alternatives” which is a specific cumulative effects approach. The Commission and Forest Service apply the planning approach by designating recreation intensity classes that enumerate the suitability of Scenic Area land for different types of resource-based public recreation. The trends of the conditions of the scenic, natural, cultural, and recreations resource conditions and public perception of them can all be compared and analyzed to potentially determine if an action is impacting a resource.

##### **Informing Plan Review:**

If a causal relationship is found between the significant decline of cultural resources and new recreation uses, plan review will most likely have to consider a number of factors including but not limited to adequate public education of the importance of cultural resources and the level of recreation intensity zoned near cultural resources.

## **Summary**

The examples presented here are theoretical and meant only to demonstrate how information can be used to incorporate the MP goals and VSI and APM monitoring in a cumulative effects management system. Through the process of adaptive management, what is learned through this management system will inform plan review and enable the Commission to continue making policies and decisions based on empirical data.