

Proposal for National Implementation of Wilderness Character Monitoring

Background

The Wilderness & Wild and Scenic River Staff (WWSR) proposes the nationwide implementation of the wilderness character monitoring protocol, which has been under development since 2002. This protocol was pilot tested in every region in FY 2006, providing a thorough review of the protocol and leading to the details contained in this proposal. Pilot testing validated that the protocol is needed to improve wilderness stewardship, the approach is practical, and that the workload impacts to the field are reasonable.

Proposal

We propose to monitor trends in wilderness character in every wilderness the Forest Service is responsible for managing (which totaled 407 wildernesses at the start of FY 2007). Trends are identified by first applying the protocol to establish a baseline, and then reapplying the protocol five years later to determine if wilderness character has been “preserved” or is “degrading.” Most measures are evaluated every five years, but those which vary considerably from year to year are tallied annually. To even out workload, the protocol will be implemented in 20% of the wildernesses annually, or approximately 80 wildernesses a year, with all wildernesses being included after 5-years. Trends in wilderness character will be evaluated during the second 5-year cycle, with information on trends being generated for all wildernesses by the 10th year after program initiation.

Funding Needs

Several different funding levels have been developed. The “base level” is considered the minimum level of funding needed for the successful implementation of the protocol. Different increments above the base level have also been defined, with the intent of defraying more of costs borne by the forests and regions during protocol implementation. These increments stand alone and do not build on one another. The funding levels are:

- **Base Level** (from \$385,000 in Year 1 to \$431,200 in Year 5). Establishes two positions (one FS employee program manager and one contractor) and funds the minimum necessary workload impact on field staff for reporting on the 5-year monitoring cycle.
- **Increment 1 – Annual Data Entry** (from \$0 in Year 1 to \$118,154 in Year 5). Adds funds to the base level to cover field costs associated with gathering and entering the data to support the yearly measures.
- **Increment 2 – Miscellaneous Field Costs** (from \$45,340 in Year 1 to \$50,781 in Year 5). Adds funds to the base level to cover field costs for preparation, training, and follow-up.

- Increment 3 – Regional Wilderness Character Monitoring Lead (from \$33,120 in Year 1 to \$37,094 in Year 5). Adds funds to the base level to support the Regional Wilderness Character Monitoring Lead, who has responsibility for region-level oversight and coordination.
- Increment 4 – Forest Wilderness Character Monitoring Lead (from \$46,800 in Year 1 to \$52,416 in Year 5). Adds funds to the base level to support the Forest Wilderness Character Monitoring Lead, who has responsibility for forest-level oversight and coordination.

The funding levels above, and the increments, address the first monitoring cycle, which spans five years. At Year 6, costs are estimated to drop by approximately 20% and then remain steady after that time in recognition of the decreased workload needed by field staff after the initial data population and validation.

For all of the funding levels above, refer to [Appendix A](#) for the details related to staffing and [Appendix B](#) for details related to funding.

Funding Options

A proposal of this magnitude and complexity requires a national commitment for funding. We propose an off-the-top commitment of NFIM funds. As precedent, the IMPROVE (air quality) monitoring and National Visitor Use Monitoring have been funded from Washington Office NFIM funds for the past 8 years. This approach is especially suitable for wilderness character monitoring because: (1) a national protocol is in place; (2) the monitoring is “above project”, and (3) the protocol is truly integrated, drawing data from seven different NFS directorates, and will help integrate planning and actions among these directorates.

The Chief said that he created the WWSR Directorate because he “wanted the Forest Service to own wilderness” and the Joel Holtrop, the NFS Deputy Chief, recently challenged the WWSR Staff to look for ways to improve integration in the Forest Service. Wilderness character monitoring will foster this integration in a tangible, visible, and constructive way.

There are two alternative means for funding wilderness character monitoring, but each pose distinct drawbacks. The first option would be an off-the-top, multi-funded commitment from each of the involved program areas. This option would be much more complex to implement and would probably require that funding commitments be revisited every year, decreasing the likelihood of a stable fund source. The second option would be to draw all necessary funds solely from the NFRW. This option poses serious drawbacks because it would significantly reduce funds to the field and force this single BLI to cover costs that are reasonably covered by other program areas such as air quality, vegetation, and engineering. This latter option would also perpetuate the notion that wilderness management is a recreation function, which continues to be a barrier to the integrated stewardship of wilderness.

Benefits & Uses

Wilderness character monitoring is a long-term commitment to improve wilderness stewardship, improve accountability, and improve integration across NFS directorates. Though we will receive some information on wilderness trends by the sixth year of monitoring, we will not have nationwide trend information until the end of the tenth year. Many indirect benefits, however, will begin to accrue after just the first year.

Direct benefits & uses:

- Trend data on wilderness character for every wilderness we manage. This information can be used to:
 - Modify current wilderness stewardship practices
 - Improve the accountability of the wilderness program on its ability to “preserve wilderness character” the primary mandate from the Wilderness Act
 - Evaluate the sufficiency of current wilderness policy and it’s application

Indirect benefits & uses:

- Builds internal integration around a shared vision and responsibility for managing wilderness
- Validates data on wilderness currently stored in corporate and external data systems
- Raises visibility of the wilderness program, both internally and externally
- Provides a corporate repository to store wilderness knowledge
- Provides the opportunity for wilderness staff to engage line officers on wilderness stewardship issues

APPENDIX A – STAFFING DETAILS

This proposal is based on using the most efficient mix of centralized staff and field staff. Drawing on the expertise of both staff levels provides maximum efficiency to minimize workload and costs. Use of centralized staff:

1. Reduces workload (time) impact on already overburdened field staff;
2. Takes advantage of efficiencies of scale (for example, pulling data once from national databases that will be used for every wilderness); and
3. Utilizes skills which might not commonly be found in the field, but which the centralized staff will possess (statistical analysis, GIS, etc.)

Certain functions can only be performed by staff with a localized knowledge of each wilderness. Use of local staffing:

1. Increases the validity of the data by involving those familiar with on-the-ground conditions
2. Builds ownership in the monitoring program and increases the likelihood the results will have credibility with local staff and be used to guide stewardship decisions and actions.

Centralized Staffing:

Implementation of wilderness character monitoring will require establishing two, new full-time positions as well as the commitment of existing staff.

New Positions:

1. **Wilderness Character Monitoring Program Manager:**
 - New position - GS-12/13
 - Reports to National Wilderness Program Manager or National Wilderness Information Manager
 - Location - Anywhere

Roles & responsibilities:

- Schedules forests to conduct monitoring
- Develop & maintains training materials
- Conducts training (classroom & remote)
- Develops & maintains online documentation (with wilderness information manager)
- Manages change management process
- Maintains the technical guide

- Develops and delivers communication materials (newsletter, presentations)
- Develops national and regional reports
- Supervises Data Analyst (maintains contract)
- Maintains project budget

2. Wilderness Character Monitoring Data Analyst:

- Contractor
- Reports to Wilderness Character Monitoring Program Manager
- Location – co-located with Wilderness Character Monitoring Program Manager (beneficial but not required)

Roles & responsibilities:

- Acquires & cleans tabular and spatial data sets, such as air quality data (ozone, wet deposition & visibility), mines, dams and range allotments
- Provides overall data quality control
- Contributes to process improvement
- Active participant in change management process
- Suggests analysis products (continually looking to improve analysis)
- Conducts analysis of data (significance of change, trends) – coordinates with I-Web to support module analysis
- Help interpret results
- Prepares data for reporting

Existing Positions:

3. Wilderness Information Manager:

- Existing position – GS-12
- Reports to Director, Wilderness & Wild and Scenic Rivers
- Location – anywhere (currently Burlington, VT)

Roles & responsibilities:

- Responsible for interacting with Infra development staff to maintain Infra-WILD WC module
- Develops & maintains online documentation (with Wilderness Character Monitoring Program Manager)
- Maintains content on Wilderness Character web site (FSWeb)

4. Wilderness Character Technical Guide Development Team:

- Existing team (currently consisting of a lead for each of the four qualities of wilderness character and an application specialist)
- Reports to Wilderness Character Monitoring Program Manager
- Location - various

Roles & responsibilities:

- Provide input to Program Manager for Technical Guide maintenance
- Participates in the yearly change management process

5. Infra Development and User Support Staff:

- Existing staff
- Report to Infra Management staff
- Location - various

Roles & responsibilities:

- Maintains the Infra-WILD Wilderness Character Module, including enhancements, modifications and bug fixes
- Maintains the online documentation and training materials
- Provides help desk support

Field Staffing:

The need for field staff involvement occurs at three different levels. The coordinators at the region and forest level will provide oversight and coordination for implementation of the monitoring protocol on all wildernesses in that region in a particular year. The forest lead, by comparison, will have a much more direct role and will be responsible for ensuring all requirements of the protocol are met by the identified due dates for a particular wilderness.

1. Region Wilderness Character Monitoring Coordinator

- The primary person responsible at the regional level for overall implementation of the protocol on one or multiple forests (typically the regional wilderness program manager or inventory and monitoring coordinator)
- Note: this contribution of time is not funded at the base level of funding.

Roles & responsibilities:

- Participating in Wilderness Character Monitoring Overview training
- Committing forests in their region to monitoring schedule and ensuring timeline, responsibilities are met

- Oversight of funding “reimbursements” at the regional level
- Facilitate the collection of forest level data (forest GIS layers, NVUM apportionment, etc.)

2. Forest Wilderness Character Monitoring Coordinator:

- The primary person responsible on a national forest for overall implementation of the protocol on one or multiple wildernesses (typically the forest recreation staff)
- Note: this contribution of time is not funded at the base level of funding.

Roles & responsibilities:

- Participating in Wilderness Character Monitoring Overview training
- Committing forest to monitoring schedule and ensuring timeline, responsibilities are met
- Oversight of funding “reimbursements” at the forest level
- Facilitate the collection of forest level data (forest GIS layers, NVUM apportionment, etc.)

3. Field Wilderness Character Monitoring Lead:

- The field person responsible for day-to-day implementation of the protocol. He/she may be responsible for a single or multiple wildernesses.

Roles & responsibilities:

- Participating in Wilderness Character Monitoring Detail training
- Working with the Data Analyst to gather needed data sets, such as GIS layers
- Working with resource specialists to gather input
- Validate and / or enter data into the Infra-WILD module

APPENDIX B – FUNDING DETAILS

BASE FUNDING LEVEL:

This level of funding requires \$385,000 annually, which is then inflated 3% a year up to Year 5. Though cost projections beyond Year 5 are not contained in this proposal, costs are estimated to drop 20% at Year 6 after the baseline has been established and field workload decreases.

Centralized staff:

1. Wilderness Character Monitoring Program Manager:

Salary:

- GS-13/5 = \$74,608 / year x 1.3 (CTG) = \$96,990

Travel:

- 10 trips (training, site visits, coordination meetings) x \$1,250 / trip = \$12,500

Miscellaneous:

- Office overhead = \$10,000
- Supplies, training = \$2,000

Total = \$125,000

2. Wilderness Character Monitoring Data Analyst:

Contract:

- Salary: \$27/hour x 1.5 (50% contractor profit/overhead) x 2,096 hours = \$85,936
- Travel: 6 trips (training, site visits, coordination meetings) x \$1,250 = \$7,500 **

** Assumes Data Analyst is collocated with the Program Manager. If not, more travel will be required and costs will be higher

Miscellaneous:

- Office overhead = \$10,000
- Subcontractor administration fee: 5% of contract = \$4,700

Total = \$110,000

3. Wilderness Information Manager:

Salary: None (salary already covered)

Travel: 4 trips (site visits, meeting with Infra staff) x \$1,250 = \$5,000

Miscellaneous: None

Total = \$5,000

4. Wilderness Character Technical Guide Development Team:

Salary:

- 4 "Quality Leads" x \$39 / hour (GS-12/5 x 1.3 CTG) x 80 hours = \$12,480

Travel:

- 4 "Quality Leads" x 1 trip each x \$1,250 / trip = \$5,000
- Extended team (application specialist) x 1 trip x \$1,250 = \$1,250

Miscellaneous: None

Total = \$20,000

Field staff:

1. Forest Wilderness Character Monitoring Coordinator:

Salary: None

Travel: None

Miscellaneous: None

2. Field Wilderness Character Monitoring Lead:

Salary:

- For these calculations, it is assumed the average field wilderness character monitoring lead will be a GS-9/5 (\$27/hour, including a 30% cost-to-government rate).
- Field workload estimates were developed during pilot testing:

COMPLEXITY CLASS	# OF WILDERNESSES IN PILOT TEST	AVERAGE WORKLOAD (HOURS)	# OF WILDERNESSES NATIONALLY	NATIONAL WORKLOAD PER CYCLE (HOURS)	NATIONAL WORKLOAD PER YEAR (HOURS)
A	3	32.83	179	5,877.2	1,175
B	2	54.00	156	8,424.0	1,685
C	2	59.25	50	2,962.5	593
D	2	129.75	22	2,854.5	571
TOTALS			407	20,118.2	4,024

- For implementing the monitoring protocol, the following averages are used:
 - Class A Wildernesses (179/5) x 33 hours = \$31,725
 - Class B Wildernesses (156/5) x 54 hours = \$45,495
 - Class C Wildernesses (50/5) x 59 hours = \$16,011
 - Class D Wildernesses (22/5) x 130 hours = \$15,417
- The base level of funding covers only the costs associated with gathering and entering the data associated with the 5-year measures. This funding level does not cover the costs associated with:
 - Gathering and entering the data to support the yearly measures. These costs are addressed in Increment 1.
 - Salary costs for other than gathering and entering the data. Time spent in coordination sessions or participating in training would not be covered. Efforts would be made to minimize training costs by attempting to tie into existing meetings and other training.

INCREMENT 1 FUNDING LEVEL - Annual Data Entry

This incremental funding would cover the field costs associated with data gathering and data entry for the measures that are updated yearly. The yearly measures include: actions that trammel wilderness, lakes stocked with fish, natural fires that are suppressed, motorized equipment / mechanical transport use authorizations, visitor use permits and wilderness regulations. These costs would not begin until a wilderness had completed their base monitoring year. Costs are estimated at 12 hours per wilderness per year.

Salary:

- For these calculations, it is assumed the average field wilderness character monitoring lead will be a GS-9/5 (\$27/hour, including a 30% cost-to-government rate).

Year 1 – no incremental costs

Year 2 – 20% of wildernesses:

- $407 \times 1/5 \times \$27/\text{hour} \times 12 \text{ hours} = \$26,374$

Year 3 – 40% of wildernesses

- $407 \times 2/5 \times \$27/\text{hour} \times 12 \text{ hours} = \$52,747$

Year 4 – 60% of wildernesses

- $407 \times 3/5 \times \$27/\text{hour} \times 12 \text{ hours} = \$79,121$

Year 5 – 80% of wildernesses

- $407 \times 4/5 \times \$27/\text{hour} \times 12 \text{ hours} = \$131,868$

INCREMENT 2 FUNDING LEVEL - Miscellaneous Field Costs

This incremental funding would cover the costs associated with the participation of the Field Wilderness Character Monitoring Lead, other than the costs already covered for gathering and

entering data. Each Lead will receive 32 hours salary to cover training, preparation for implementation of the protocol, and any follow-up questions which might arise. This estimate assumes half the Leads would attend classroom training, while the other half would receive training remotely at their home units. This estimate also assumes that the typical Field Wilderness Character Monitoring Lead will be responsible for two wildernesses and that one-fifth of all Leads will require training in a particular year.

Salary:

- For these calculations, it is assumed the average field wilderness character monitoring lead will be a GS-9/5 (\$27/hour, including a 30% cost-to-government rate).
 - $(407 \times 1/5) / 2 \times \$27/\text{hour} \times 32 \text{ hours} = \$35,165$

Travel:

- For these calculations, it is assumed average travel costs would equal \$500 / person.
 - $((407 \times 1/5)/2)/2 \times \$500 \text{ per trip} = \$10,175$

INCREMENT 3 FUNDING LEVEL - Regional Wilderness Character Monitoring Lead

This incremental funding would cover the costs associated with a Regional Wilderness Character Monitoring Coordinator. These funds would supplement existing staff that would provide an oversight and coordination role for implementation of the protocol in a region. Typically this role would be filled by either the regional wilderness program manager or regional inventory and monitoring coordinator. This role would alleviate some of the logistical and planning workload from the Wilderness Character Monitoring Program Manager and would provide additional assistance to the field to ensure the monitoring is conducted efficiently and impacts are minimized to normal field operations. This role is estimated to take 80 hours per year per region.

Salary:

- For these calculations, it is assumed the average regional wilderness character monitoring coordinator will be a GS-13/5 (\$46/hour, including a 30% cost-to-government rate).
 - $9 \text{ regions} \times (\$46/\text{hour} \times 80 \text{ hours}) = \$33,120$

INCREMENT 4 FUNDING LEVEL - Forest Wilderness Character Monitoring Lead

This incremental funding would cover the costs associated with the tasks conducted by the Forest Wilderness Character Monitoring Coordinator. This contribution of time is unfunded in the base level funding proposal, but is included in this increment. Costs are estimated at an average of 10 hours per forest per year. This estimate may be low for those forests in the active monitoring cycle, and high for those forests entering only annual data.

Salary:

- For these calculations, it is assumed the average forest wilderness character monitoring coordinator will be a GS-12/5 (\$39/hour, including a 30% cost-to-government rate).
 - 120 forests x (\$39/hour x 10 hours) = \$46,800