

**Wilderness Education Effectiveness Monitoring
for
Wilderness in the National Forests
11/8/06**

A “guide” for developing a wilderness education monitoring program.

Organization

This template document is separated into three sections to describe the Wilderness Education Plan Process, Template, and Examples of forms and data tables. See the Education [Effectiveness Monitoring CHECKLIST](#), Section II.A.2.b., for more information.

PART I. Wilderness Education Monitoring Process

Part I, provides a process for developing a successful monitoring component that can be used to track and evaluate the effectiveness of wilderness education programming and delivery. This five-step process includes:

- (1) Determining what to monitor /Needs Assessment
- (2) Developing goals and objectives
- (3) Identifying what monitoring method(s) to use
- (4) Collecting and analyzing monitoring data
- (5) Reporting monitoring results

PART II. Wilderness Education Monitoring- Program Template

Part II, includes a wilderness education monitoring plan template that can be used as a guide when writing the monitoring section of a wilderness education plan.

PART III. Wilderness Education Monitoring- Plan/Tool Examples

Part II, offers examples of monitoring plan formats, evaluation tools and forms, and data recording information.

PART I Wilderness Education Monitoring Process

Introduction

The length and complexity of monitoring should fit each specific monitoring job. Simple and effective is the best, as monitoring does not have to be lengthy and complex. Using a straightforward monitoring process will not only make monitoring easier, but will also serve to keep overall monitoring cost's down.

Not all wilderness education monitoring systems have an obvious and/or easy to monitor effect. Some monitoring methods could take years to show solid results. An example of this would be Wilderness Ranger observations of trail overcrowding, which would be documented in weekly shift reports and/or Wilderness Ranger year-end reports. One year's data is not enough to identify and draw any solid conclusions pertaining to trail overcrowding so this monitoring effort might be set up with a five-year monitoring cycle.

Other monitoring methods can be tallied and analyzed to show almost immediate results like post-program surveys or tests conducted following a formal education program. Therefore, it is essential to take the time to identify the best monitoring method for each monitoring task, realizing that some techniques will show immediate results while others will be more long-term in nature.

Defining Terminology

It is necessary to define the terms monitoring and evaluation and how these terms will be utilized. Monitoring is documenting information, such as number of programs implemented or the number of program participants, as a means of tracking the overall progress of educational programs in a general sense. Evaluation is systematically measuring the effectiveness of education programs and/or education instruction. The evaluation step asks whether visitor awareness and/or behavior changed as the result of an education program activity.

Although these two components obviously compliment one-another and both should be utilized when assessing wilderness educational programs, the term monitoring will be used throughout this toolbox section to refer to both program topics unless otherwise noted.

Organizing A Monitoring Program

The following five steps are essential in developing the monitoring segment of your wilderness education plan/program:

STEP # 1- DETERMINING WHAT TO MONITOR/NEEDS ASSESSMENT

Before any monitoring can begin, the need for monitoring must be calculated. Therefore, a comprehensive need's assessment should be conducted. Below are a few pointers on how to go through the need's assessment procedure:

- List all of the programs that need to be monitored.
- Prioritize this list from top to bottom.
- Select your number-one top priority for monitoring.
- Run this priority through the four remaining steps outlined below.
- When the top priority programs have been taken through all five steps, repeat the process for all other programs/areas.
- When each monitoring task has been run through the needs assessment process, it is then possible to begin developing monitoring goals and objectives.

STEP #2- DEVELOPING GOALS/OBJECTIVES/ACTIONS

Below, is a format for integrating education monitoring into Wilderness Education Plans. *Refer to the Wilderness Education Plan Section of the Toolbox for more detailed planning guidance.*

<http://www.wilderness.net/index.cfm?fuse=toolboxes&sec=education>

Developing attainable and measurable goals and objectives is essential to effective monitoring. What is the difference between goals and objectives?

A. Goals

1. Good goals describe general outcomes that are not easily measurable and that “do not” include methods or techniques.
2. Goal Example: After participating in the “Forest Looking Glass” wilderness presentation, members of the Happy Trails Hiking Club will better understand the negative impacts of having fires in the Teanna Lakes Wilderness.

B. Objectives

1. Solid objectives define what will actually be measured and carry definable outcomes.
2. Solid objectives should include the following elements
 - a. Conditions- the circumstances in which monitoring will be conducted.

- b. Criteria- the minimum acceptable quality and quantity of monitoring desired.
 - c. Person(s)- who is expected to benefit from educational programming.
 - d. Measurable Behavior- what will be the outcome as a result of education.
- 3. Objective Example: After participating in the “Reducing Wilderness Impacts” presentation (Condition) 75% (Criteria) of the Happy Trails Hiking Club (Persons) will use stoves instead of fires (Measurable behavior) when visiting the Teanna Lakes Wilderness.
- 4. Objective Example: Wilderness Rangers (Condition) will observe and record how many new switchbacks are being created by visitors (Criteria) in the heavy use corridors of the St. Elizabeth Wilderness after wilderness educational messaging is given to visitors entering the identified high-use corridors (Persons).
- 5. Objective Example: Wilderness Rangers will record results of visitor contacts to determine what percentage of visitors observed and understood (Condition) the informational posters placed at trailheads explaining that cutting through trail shortcuts actually has negative influences (Semi-measurable behavior) on the resource within the St. Elizabeth Wilderness.

C. Actions

- 1. Action items should directly coincide with monitoring goals and objectives.
- 2. Actions describe in detail, exactly how monitoring will be carried out. They should be comprised of- personnel conducting the action, a timeline for accomplishment, and a total cost.
- 3. Monitoring actions should include specific information regarding who will actually conduct monitoring.
 - a. Monitoring can be accomplished by fulltime, part-time and/or seasonal employees, or by a combination of these.
 - b. Volunteers are sources for monitoring duties, but, as is true with employees volunteers must also be trained and closely supervised.
 - c. Monitoring can also be outsourced to non-agency personnel/organizations or can be contracted out to Agency Research Stations, Colleges, or Universities.
 - d. Including education monitoring into another ongoing study can be accomplished by merely adding monitoring components to the existing survey, then drawing out only the wilderness education specific monitoring data that is useful and/or applicable.
 - e. It is best to assign monitoring work to specific individuals according to their availability, skills and abilities. This will take pre-planning and gaining the commitment of the employees charged with monitoring.

4. Monitoring costs will need to be carefully pondered and then developed before assimilating budgets into the planning process.
 - a. Actions should include every possible detail including salaries, materials, and even gas mileage.
 - b. Use the most current funding numbers and formulas available when working-up monitoring budgets, and, always be sure to never under-estimate so as to avoid running out of funding in the middle of any monitoring effort.

5. Completion time frames that are realistic should be assigned to each monitoring job.
 - a. Planning and preparation timeframes will be documented in actions, as well as monitoring start and end-times.
 - b. Planning, reviewing, and analyzing monitoring data must also be scheduled and added to actions as should time be included for preparing end-year reports.

STEP #3- IDENTIFYING WHAT MONITORING METHOD(S) TO USE

A variety of education monitoring methods exist. Managers will need to determine which of these methods fit their specific needs. More than one method, or a combination of monitoring techniques can be incorporated, in order to gain the best end results. Listed below are examples of monitoring methods:

DIRECT OBSERVATION- is when the observer is directly involved with education participants, or, is close enough to participants where they know the observer is present.

INDIRECT OBSERVATION- is where the observer is unknown to participants and is observing from a far.

Direct and indirect observation methods allow the observer to watch, record, and report the behavior of an individual or group, in an attempt to understand what the participants are experiencing and learning.

Advantages of Observation:

- Relatively inexpensive means of monitoring
- Solid documentation of behavior.
- Provides both qualitative and quantitative results.
- Useful when starting a monitoring program as this method is low-cost and simple to implement.

Disadvantages of Observations:

- Hard for observers to remain objective.
- Observers must be trained in what to observe.
- Observer's presence (direct observation only) can affect participant actions.

- Observations only represent a small part of what program participants actually do outside of established observation activities.

Observation Design:

- Determine what specific behaviors you want to understand and observe.
- Define the observer's role, direct or indirect.
- Train observers in what information you are looking for and how to recognize and record it.
- Train observers to observe and document, not judge.
- Train observers to understand they can't notice everything. Begin with broad observations and then progress into more specific detailed observations as deemed necessary.
- Get permission to observe prior to monitoring.
- Create easy-to-follow forms that guide the observer and allow easy and consistent data collection.

SURVEYS- Surveys are a set of written questions used to collect specific information. This information can be used to describe, compare, or explain what participants have gained from educational programming. A post-evaluation test that is given following a classroom wilderness education program is an example of a survey-related monitoring technique.

Advantages of Surveys:

- Can reach large audiences.
- Short surveys can be easily assessed.
- Can be completed in a relatively short amount of time.
- Surveys can be tailored to specific audiences.

Disadvantages of Surveys:

- Questions can be misinterpreted.
- Questions can be misunderstood and answered incorrectly so survey analysis can be swayed.
- Low response rates are not uncommon and results depend solely on the quality of the questions.

Survey Design:

- Start with easy-to-answer questions.
- Clarify any technical or confusing terms (such as backcountry or switchback).
- Group related questions into easy-to-follow themes or categories.
- Locate the most important questions in the middle of the survey.
- Ask the most personal questions at the end of the survey.
- Include direction on how to complete items throughout entire survey.

INTERVIEWS- Interviews can be achieved through informal conversations or formal conversations, or, can be done in a more structured manner such as developing a set of questions to be asked of someone applying for a job.

Interview Advantages:

- Interview questions can be easily modified if difficulties arise.
- Can provide more direct information than people are willing to write.
- Participants use their own wording.
- Information is easy to understand and analyze.
- Interviewer can ask questions to clarify misunderstood responses.

Interview Disadvantages:

- Takes time to interview any number of participants.
- Variations can occur with multiple interviewers.
- Difficult to analyze general responses.
- Responses should be taped, which can make participants feel uneasy and taping does cost money.

Interview Format:

- Break the ice so participant feels comfortable.
- Introductory statement.
- Questions should start general and then move to specific.
- Ask if there is anything else participant would like to add.
- Summarize and check all responses for validity.

Interview Tips:

- Remain neutral about question content.
- Pretest all questions.
- Give participants continual positive feedback in regards to their responses.
- Use probing questions to clarify unclear responses.
- Keep control of the interview at all times.
- Record pauses, facial expressions and body language.
- Transcribe data within 2-3 days while interview is still fresh.

Note – Official, formal surveys of workshop or presentation participants or wilderness visitors require a clearance from the Office of management and Budget. A formal survey and interview process could also be accomplished in partnership with a university or research institution.

A post-workshop test given to workshop or presentation participants to determine what has been learned can be considered a learning evaluation and not a formal survey. Similarly wilderness rangers can have a conversation with wilderness visitors that includes informal queries about how visitors received informational or educational messages about wilderness as part of their normal duties. The results of these

conversations can be recorded in wilderness ranger trip reports (after the conversation with the visitor has ended) and summarized for a monitoring report.

Below, is a list of issues that a Wilderness education program may be used to solve or manage, and, examples of the monitoring methods that could be used to measure the effectiveness of such educational programming:

ISSUE DRIVEN- MONITORING METHODS

Issue	Method-Resource Monitoring	Method- Field Observation	Method- Trailhead Interviews	Method- Trailhead Surveys	Method- Field Surveys
Campsite Vegetation Impacts					
	X	X	X	X	X
Stock Use Impacts					
	X	X			X
Impacts to Threatened and Endangered Species					
	X			X	X
Campfire Impacts					
	X	X	X	X	X
Improper Human Waste Disposal					
	X		X	X	X
Litter					
	X	X	X	X	X
Overcrowding /Noise Impacts					
		X	X	X	X

STEP #4- COLLECTING AND ANALYZING MONITORING DATA

Einstein once stated- “Not everything that counts, can be counted. Not everything that can be counted, counts.” Wilderness education monitoring falls into this thinking in that it is imperative to know what you want to monitor- and how?

The goal of collecting and analyzing data is to transfer that data into meaningful information that allows for the revision and improvement of wilderness education programming and program delivery. Refer to the types of data, and the data analysis system offered below to determine which fit best for specific monitoring needs:

A. Quantitative Data:

1. Data is expressed in numbers or in quantity.
2. Data can be derived from observations, surveys, interviews or other monitoring methodology.

B. Qualitative Data:

1. Data is expressed in words and/or written comments.
2. Also expressed in notes, stories, or quotations.
3. Data can be taken from observations, surveys, interviews or other monitoring sources.

C. Category Data Analysis System:

1. Gather all monitoring data into one place.
2. Create categories for each monitoring theme, such as all Fourth Grade Woodsy Owl presentations or all High School Wilderness Skills Trail presentations.
3. Incorporate all data into one all-encompassing document and organize data by themes or issues.
4. Carefully analyze data and look for patterns.
5. Develop hypothesis as a result of such patterns and document how these ideas coincide with goals and objectives for each category.
6. Develop conclusions from the patterns and ideas that have been identified.

7. Take the time to go back and review and re-evaluate conclusions and how these mesh with wilderness education and wilderness management goals and objectives.
8. Polish conclusions and ready them for insertion into a final monitoring analysis report.
9. Take conclusions and carefully infuse them into wilderness education and wilderness management programs- in the forms of improvements, revisions and/or modifications.

D. Data Analysis Tips:

1. Frequently revisit monitoring goals and objectives to ensure that analysis conclusions are consistent and useable.
2. Analyze data with an open eye, always focusing on program and delivery improvement.
3. Compare the data that is collected by differing monitoring methods to gain a broader picture of the effectiveness of education programming.
4. Summarize and present findings in a simple but accurate way so that overhead can understand proposed changes or modifications in wilderness education and/or wilderness management actions.

STEP #5- REPORTING MONITORING RESULTS:

Reporting monitoring results is an integral step in the process of maintaining and expanding any wilderness education program.

By making the revisions and improvements that monitoring generates it is possible to justify wilderness education by showing solid results in: (1) Improving Visitor Behavior, (2) Reducing Social and Physical Degradation of the wilderness resource, and (3) Building Constituency for wilderness stewardship...through wilderness education. See monitoring report outline below:

A. Monitoring Report Outline:

1. Introduction- introduce program and purpose of monitoring.
2. Methods- describe the methods of monitoring.
3. Findings- display the data.
4. Conclusions- explain what the findings mean, what questions were

answered as a result of monitoring, and what the findings indicate in regards to wilderness education and management program revisions or modifications.

5. Recommendations- suggest the next steps in program development and justify these with monitoring-related rationale.

Part II Wilderness Education Monitoring- Program Template

This monitoring template can be filled in and/or used as a guide for writing the monitoring section of a Wilderness Education Plan:

Wilderness Education Effectiveness Monitoring Plan

Template

I. Introduction/Background:

- A. Summary of how the education program addresses management issues.
- B. Description of the role of effectiveness monitoring
(why the education program and/or delivery needs to be monitored)

II. Goals and Objectives for monitoring the education program

- A. Goals
- B. Objectives
(Utilize the results of a needs assessment (see Part I) to describe monitoring objectives for each education program issue.)

III. Monitoring Tasks

(Identify monitoring and effectiveness evaluation tasks for each category of education program issue)

- A. Education program issue (i.e. LNT, weeds, awareness, etc.)
 - 1. Monitoring actions
 - a. Responsibility
 - b. Timeline
 - c. Costs
 - d. Monitoring results
 - e. Evaluation results

(Repeat for each monitoring task)

Note – The sample Monitoring Tasks table found in the Sample Monitoring Task table found in the Education Toolbox at: <http://www.wilderness.net/Toolboxes> may be useful to compile and display the information needed for this section.)

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PART III Wilderness Education Monitoring- Examples

For additional information, please see: [Designing Your Wilderness Education Action Plan](#), pages 23-24, by Kristen Meyer and Susan Thomas, in Section IV.A.2. of this toolbox.

Appendix A- Education Program- Evaluation Tool Examples

Example 1:

Wilderness Presentation Critique

School:

Grade Level”

Teacher:

Number of students:

1. Was the presentation appropriate to your grade level?
2. Did the presentation hold the interest of your students?
3. Was the content unique or new to your students?
4. Did the speaker present ideas in a clear, organized manner?
5. How well did the program facilitate learning?
6. Was the campsite demonstration an appropriate learning tool for your students?
7. If you were supplied with a teaching packet, would you be interested in extending or incorporating these ideas into your classroom curriculum?

Other comments/suggestions:

Please respond to the above questions and return this sheet to:

Tonto National Forest
Mesa Ranger District
P.O. Box 5800
Mesa, AZ 85211-5800

Thank you for your time and effort in helping us to improve our program.

Sincerely,

Jenifer R. Mueller
In-Town Education Coordinator

Example 2:

Illustrated Talk Evaluation Form

Interpreter _____

Title: _____

	Very Strong Point	Strong Point	Ok	Weak Point	Very Weak	Point
<u>Introduction</u>						
1. The interpreter made it clear what the talk was going to be about. Comments _____	_____	_____	_____	_____	_____	_____
2. The introduction aroused my interest and curiosity (made me <u>want</u> to hear more). Comments _____	_____	_____	_____	_____	_____	_____
<u>Body</u>						
1. There was continuity throughout the talk. (i.e. good use of transitions) Comments _____	_____	_____	_____	_____	_____	_____
2. There was definitely a single (unified) theme on which the whole talk hinged. (i.e. not scattered or choppy). Comments _____	_____	_____	_____	_____	_____	_____
<u>Conclusion</u>						
1. There was a definite ending (i.e.the talk did not linger; there were no awkward false endings). Comments _____	_____	_____	_____	_____	_____	_____
<u>Props</u>						
1. Props were used appropriately (i.e. selection was appropriate and handling of props was smooth). Comments _____	_____	_____	_____	_____	_____	_____
<u>Other</u>						
1. Speech quality was acceptable (volume, speed, not an abundance of “ah’s, uh’s, and’s or but’s”). Comments _____	_____	_____	_____	_____	_____	_____
2. No annoying personal mannerisms Detectable (i.e. looking down, pacing, hands in pockets, constant staring at screen, etc.). Comments _____	_____	_____	_____	_____	_____	_____
3. Interpreter was enthusiastic (i.e. Wanted to be there talking). Comments _____	_____	_____	_____	_____	_____	_____

Example 3:

Example Program Evaluation Forms
Sawtooth National Recreation Area
Leave No Trace Workshop Evaluation

Date:

Group:

Workshop Location:

Workshop instructor(s):

Do you feel that your expectations for this workshop were met?

How satisfied were you with the workshop?

Very Satisfied	satisfied	moderately satisfied	dissatisfied	very dissatisfied
1	2	3	4	5

Was this your first exposure to Leave No Trace?

Do you feel the information learned in this workshop will change the way you recreate?

If yes, what will you do differently?

How do you feel about the human sanitation methods discussed in the program? Will you use the "When Nature Calls" Kits?

Are you interested in learning more about Leave No Trace?

What compliments or criticisms can you give the program presenter?

Any additional Comments:

Example 4:

Critique Sheet for Presentations

Presenter/Group Presentation: _____ Your
 Name _____ (optional)

Theme and Message	Excellent(Eyes wide open) <i>Java Jolt</i>	Average (Eyes open, awake and listening)	Weak (Falling asleep) <i>Needs a cup of coffee or ice cream cone</i>	Poor (Eyes Closed and asleep)
Were the goals clear from the beginning?				
Did the presenter do their homework? Did they know their topic?				
Were the presenter's persuasive to encourage action or change in perception, opinion, attitude?				
Did the presenter achieve his her goals and objectives by the end of the presentation?				
Target Audience				
Was the presentation suitable for the target audience?				
Were the materials designed for the audience grade level or knowledge level?				
Was the audience engaged and receptive to the messages presented?				
Presentation Skills				
Oral Skills (for team or individual)				
Eye contact?				
Good transition through presentation?				
Were slides, written materials easy to read, follow and in a good format (clear, concise)				
Body Language (comfortable, stiff, distracting)				
Did the presenter(s) get the audience involved?				

Adapted from an instrument developed by University of Montana, CE, Technical Assistance and Training Center

Any additional comments or ideas?

Example 5:

LEAVE NO TRACE PROGRAM SURVEY

Sawtooth National Recreation Area

Please complete all questions. Your answers will remain anonymous. *Thank you*, in advance!!

1. After the program, did you practice any of the low impact techniques that you learned (or were reminded of) in the program? (Please check YES or NO and explain).

_____ **NO** I did not practice any of the techniques (please explain why you did not practice the techniques). _____

_____ **YES** I practiced some of the low impact techniques (Please circle the low impact techniques you practiced after the program).

hiked in smaller groups leashed dog built a low impact fire did not build a fire picked up trash

picked campsites away from water used catholes packed out toilet paper buried toilet paper

yielded to other hikers obtained permit set up tents on durable surfaces did not feed wildlife

hung bear bag or stored food properly
others _____

2. After the program, did you observe your group practicing any of the low impact techniques that they learned or were reminded of in the program? (please check YES or NO and explain).

_____ **NO**-I did not observe my group practicing the techniques (please explain why you think they did not practice them).

_____ **YES** I observed my group practicing some of the low impact techniques (Please circle the low impact techniques you observed).

hiked in smaller groups leashed dog built a low impact fire did not build a fire picked up trash

picked campsites away from water used catholes packed out toilet paper buried
toilet paper

yielded to other hikers obtained permit set up tents on durable surfaces did not
feed wildlife hung bear bag or stored food properly

others _____

3. Did the program change your understanding of Forest Service regulations?

_____ **YES**-my understanding of Forest Service regulations changed. **I understood regulations better.**

_____ **YES**- my understanding of Forest Service regulations changed. **I understood regulations less.**

_____ **NO**-my understanding of Forest Service regulations did not change.

Explain/comments _____

_____ (OVER)→

4. Did the program (or your Forest Service contact) *change* your willingness to comply with Forest Service regulations? (please check YES or NO below).

_____ **YES**-after the program, I was more willing to comply with regulations

_____ **NO**-after the program, I was not more willing to comply with regulations.

Explain/comments _____

5. Did the program change your perception of the Forest Service? (please check one answer below)

_____ **YES**-my perception of the Forest Service changed. **I perceive the FS more positively.**

_____ **YES**-my perception of the Forest Service changed. **I perceive the Forest Service more negatively.**

_____ **NO**- I did not change my perception of the Forest Service.

What is your perception of the Forest Service, or how did it change?

Thank you!!

Please feel free to use the space below to comment on your answers or the program in general.

Example 6:

Information Board Effectiveness Survey

EFFECTIVENESS SURVEY

Hello, my name is _____ from Vermillion Community College. We are doing a study on education effectiveness, may I have about 3 minutes of your time?

The only personal information I need is your zip code _____

Y N 1. In the Sawtooth Wilderness, where fires are allowed, they must be built on a fire pan or fire blanket. Were you aware of these regulations? (or, if surveyors are at a trailhead where fires are not allowed, *the surveyor can ask if they were aware of the fire closure*).

On this scale from 1-5, how strongly do you agree with this regulation (*Surveyors hand the visitor a scale, printed large*)? 1(strongly disagree) 2(disagree) 3(no opinion) 4(agree) 5(strongly agree)

From what source did you hear about this regulation?

_____ Bulletin Board	_____ Ranger Station/Visitor Center
_____ Friend	_____ Permit
_____ Newspaper	_____ Internet
_____ Previous experience	_____ Other _____

Y N 2. There is a regulation in effect that states all dogs must be leashed from July 1st through Labor Day while on the trail. Were you aware of that regulation?

On this scale from 1-5, how strongly do you agree with this regulation? 1 2 3 4 5

From what source did you hear about this regulation?

_____ Bulletin Board	_____ Ranger Station/Visitor Center
_____ Friend	_____ Permit
_____ Newspaper	_____ Internet
_____ Previous experience	_____ Other _____

Y N 3. There is a 12 person group size limit here in the Wilderness. Were you aware of this regulation?

On this scale from 1-5, how strongly do you agree with this regulation? 1 2 3 4 5

From what source did you hear about this regulation?

_____ Bulletin Board	_____ Ranger Station/Visitor Center
_____ Friend	_____ Permit
_____ Newspaper	_____ Internet
_____ Previous experience	_____ Other _____

Appendix B - Recording and Reporting Results- Format Example

FORMAL PRESENTATIONS BY TOPIC

<i>Presentation Topic</i>	<i>Number of Presentations</i>	<i>Number in Audience</i>
Bear Aware	79	5331
Leave No Trace	61	2344
Fire Ecology/Fireworks	28	1314
Outdoor Survival	27	634
Wildlife/Lions	18	2177
Wilderness/WSA Values	15	400
Maps/Orienteering	14	672
Smokey Bear	12	538
Trails/Primitive Tools	9	185
Watershed/Fisheries	5	160
Weeds	4	50
Others	6	
TOTAL	278	13,805

ABSAROKA BEARTOOTH ADMINISTRATIVE UNITS

Administrative Unit	# of Presentations	% of Total Presentations	Avr. Length of Presentation	Audience	% of Total Audience
Custer N. F. volunteers	182	65%	.75 hrs. ?	10,924	79%
Livingston	71	26%	2.3 hrs	1853	13.4 %
Big Timber	12	4%	1.2 hrs	600	4.3%
Gardiner	13	5%	1.7 hrs	486	3.5%
TOTAL	278	100%	1.5 hrs	13,805	100%