

Wilderness Education: The Ultimate Commitment to Quality Wilderness Stewardship

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Abstract—The effective planning, implementation, and monitoring of a wilderness education program will ultimately produce measurable results that can be instrumental in achieving wilderness management goals and objectives. This paper will provide a simple step-by-step overview of how to develop and maintain a successful wilderness education program through planning, implementation, and monitoring. It may also serve to help build “consistent wilderness education program standards” for wilderness managers around the globe.

Benefits of Wilderness Education

The obvious benefits of a wilderness education program are typically a reduction in physical impacts to the resource and higher compliance with regulations. But, many other benefits can result from effective education efforts (Hendee and Dawson 2002). Increasing visitor awareness of misunderstood wilderness programs, such as natural fire or non-native invasive species eradication, can be achieved by blending pertinent information on such topics into more general wilderness educational programming. Promoting non-recreational values, like scientific research or maintaining air and watersheds, can be accomplished by integrating education messages related to these values into more typical wilderness education functions such as in-town outreach efforts and backcountry visitor contact programs. In addition, legislation establishing wilderness or protected areas may include special provisions for non-conforming uses like livestock grazing, mining, or water developments and education can be instrumental to help the public understand that under certain circumstances these exceptions are part of the management of wilderness (Hansen and Carlson 2005).

Furthermore, wilderness education can serve to build and maintain lasting partnerships that benefit wilderness as well as other non-wilderness management functions. Educators can extend themselves through outreach efforts in a posi-

tive and professional manner, thus working to establish and build contact with prospective partners or maintain existing relationships with established user groups, nongovernmental organizations, and other cooperative land management agencies. Proactive managers understand the significance of building a foundation for proper land use in future users such as school children, and innovative education programs work well when attempting to plant the seed of environmental awareness in the minds of future wilderness users (Hansen 2003).

The process of utilizing the indirect methodology of education is consistent with the wilderness ideologies of freedom, escape, and discovery. Education can also reduce the need for direct management and resource restoration. It can help to broaden support for wilderness, increase wilderness managing agency credibility and trust, and serve to strengthen the overall image of the managing agency by having positive professional educators out working in the community (Hansen 1989).

Education is invaluable in building a wilderness constituency, as it provides a proactive human approach to solving problems. The indirect method of educating the public often far outweighs direct heavy-handed regulatory approaches when attempting to improve visitor behavior or make the public more aware of the purpose behind legally designating wilderness. When regulations are necessary, education helps gain compliance by explaining the necessity for restricting visitor activities to protect the wilderness resource. Education must be supported by proficient law enforcement, but ultimately, it is unyielding in its efficiency if it is well laid out, implemented appropriately, carefully monitored, and supported by the managing agency leadership.

Wilderness Education Planning

Wilderness education and information is a basic, fundamental, and essential part of an overall wilderness stewardship program. Most administrative actions implemented as part of wilderness stewardship are focused on management of human-caused impacts and providing opportunities for wilderness dependent recreation or solitude. Without an adequate education and information program other types of management actions, like regulations or backcountry restoration, are far less likely to succeed.

Wilderness Education Plans can be prepared for an individual wilderness or for a group of wildernesses with similar issues and audiences. The objective is to comprehensively address all wilderness management issues for a multi-year period.

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New or updated National or Regional Wilderness Education Strategies or Emphasis Items will mandate incorporation of certain items into the wilderness education plan. An annual Wilderness Education *Action or Implementation Plan* may be prepared to determine which portions of the multi-year education plan will be implemented each year and allow for consideration of new or emerging issues. Alternatively, annual wilderness education action items could be incorporated into a Wilderness Implementation Schedule or annual action plan that incorporates all wilderness projects. The Wilderness Education Planning and Implementation Cycle (see fig. 1) portrays how national, regional, and unit wilderness education strategies and needs are incorporated into a planning, implementation, and monitoring process. For more information on creating and implementing a wilderness education plan, see the Existing Agency Guides, Processes, Templates, and Handbooks section in the Education Planning Toolbox at: www.wilderness.net/toolboxes/.

A key component of any wilderness education program is monitoring during and after implementation. Monitoring is necessary to determine if the prescribed education actions are effective and also for reporting, work planning, and budgeting purposes. If it can be shown that an education program is having a direct effect on reducing human caused impacts then support for future emphasis and funding should follow.

Examples of monitoring might include campsite and other resource inventory and re-inventory work done over time to show a trend in physical and/or social conditions, litter, social trails or short-cutting of trail switchbacks. Another example of monitoring might be wilderness ranger reports or journals of observations and public contacts that document visitor contacts and resource conditions to indicate if the education message reached the visitors and what methods were most effective. Formal surveys done by research scientists or university graduate students may also be effective forms of education plan monitoring. For more information, see the Monitoring Template and Monitoring Checklist at: www.wilderness.net/toolboxes/.

There is no size guideline for a wilderness education plan. Examples provided on the Education Planning Toolbox at: www.wilderness.net/toolboxes/ range from a few pages to dozens of pages. The objective is to include the key elements of what is needed for a wilderness education plan (see the Wilderness Education Plan Template) and create a plan that is complete but concise and easy to pull off the shelf and implement (Meyer and Thomas 1989).

An environmental analysis (in the United States, typically a documented analysis and decision making process that involves public input and disclosure of effects required by the National Environmental Policy Act or NEPA) is probably not required to prepare or implement an education plan. Any new ground-disturbing activity that might be connected to the education plan, for example, construction of a new visitor contact station, can be done through a site-specific NEPA analysis for that project. The education plan should be incorporated into an overall wilderness management plan, which may amend a forest plan, as an appendix or addendum if desirable.

The wilderness education plan should be approved by the local agency administrator, or formal decision maker. The approval process not only documents and justifies the

basis for work planning and expenditures, but provides an opportunity for the agency administrator to become involved and increases their understanding of the importance of wilderness education in an overall wilderness stewardship program.

A *Wilderness Education Plan Template* has been prepared as a guide for preparation of a multi-year wilderness education plan. It is available in the Education Planning Toolbox at: www.wilderness.net/toolboxes/. This template was developed by identifying common successful items found in examples of existing wilderness education plans solicited from all agencies. The template is not part of agency policy but can be used as a tool to help identify the key issues, audiences, messages, and monitoring necessary to prepare and implement a successful wilderness education plan. A key part of the implementation and success of a wilderness education plan will be preparation of subsequent annual action plans for wilderness education that describe realistic projects that will be implemented each year.

A sample of current wilderness education plans are provided in the Education Planning Toolbox at: www.wilderness.net/toolboxes/. The example plans provided vary in detail, format, and length but serve to demonstrate various approaches to wilderness education planning and implementation.

Implementing Wilderness Education

The primary goals for implementing wilderness education programs are to:

- Solve problems
- Resolve conflicts
- Improve user behavior
- Reduce physical and social impacts
- Make the public or agency more aware of wilderness values.

A few key concepts should be considered when implementing any type of wilderness education program. When first starting out, it is imperative to focus educational efforts on one or two priority issues. If the top priority issues are successfully resolved, move on to the next set of priorities. Administering wilderness is a never-ending cycle of management challenges. Expect that there will be a crossover of issues to deal with as management of the area proceeds over time.

Managers must continually monitor and evaluate their education success and be able to modify their education program in order to keep up with the inevitable reality of change. Monitoring helps managers focus on one or two priority issues that help meet long-term management objectives while identifying needs for modification and possibly expansion of the education program.

If the primary goal for implementing a wilderness education program is more generic in nature, such as making the public more aware of wilderness benefits, then a more general means of educational messaging should be instituted. Avoid falling into the trap of trying to contact the general public using a shotgun-style approach, unless this technique is truly merited, as it will result in vague and inefficient messaging, and your overall attainments will be limited.

WILDERNESS EDUCATION PLANNING, IMPLEMENTATION, MONITORING A Proactive Cycle

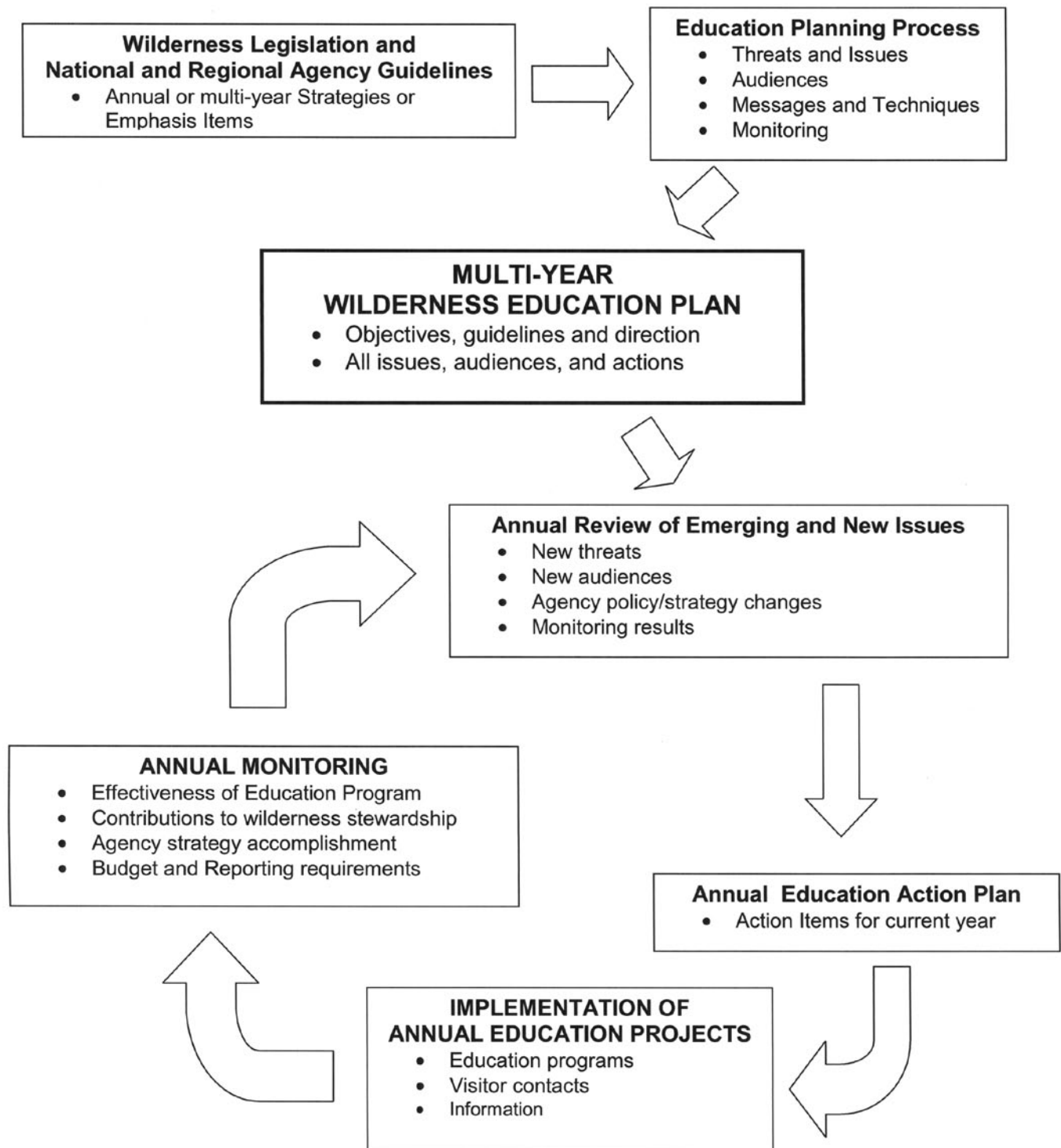


Figure 1—Wilderness education—planning, implementation, monitoring: a proactive cycle.

An endless number of techniques are available to managers who are interested in implementing a wilderness education program (Doucette and Cole 1993). Outreach or in-town education is substantially more efficient than all other wilderness related education methods. Educating users before they visit wilderness can help better prepare them for their trip, as these users will now have a clear understanding of what is expected of them and what to expect from the area they are visiting. This effort results in higher compliance with regulations and can serve to reduce negative effects on the social and biophysical values of wilderness.

Most people visit a managing agency office before entering wilderness and this is an opportune time to educate. Although the majority of office visits do not exceed a total of five minutes, a great deal can be accomplished if front desk personnel understand both wilderness and the information they are asked to share with the public. Training office personnel to communicate the most pertinent information to visitors is well worth the effort, as these front liners can be very influential with the large numbers of people they contact.

Wilderness entry points can be used to promote responsible wilderness use, especially if an area is limited to a few main access portals, as your audience is funneled in and out of semi-controlled locations. But managers should be cautious not to force education contacts on visitors, as this can be interpreted by some as being in conflict with the very philosophy behind the ideal of primitive and unconfined wilderness recreation. If visitors are receptive to having agency personnel at trailheads, or management problems exist that dictate such action, education stations can be set up throughout the year or during high-use times. Although education might be the main objective at wilderness entry points, other management duties, such as visitor use data collection and law enforcement patrol, can be accomplished simultaneously.

Volunteers can be extremely valuable for bringing wilderness educational messaging to their own peer groups. For example, a minimum impact message can be much more easily accepted and understood by a well-seasoned equestrian group if the information is being conveyed by members of that or another equestrian group, as compared to an unfamiliar, uniformed land manager. People relate better to folks they know and trust and for this reason volunteers can truly be an asset when attempting to educate well-established organizations or groups that are more difficult to work with.

Individuals and groups who are willing to volunteer their time and skills towards the quality management of wilderness can make excellent wilderness educators because they truly want to be doing the work or they would not have volunteered their services. Existing partnerships can be a source for recruiting wilderness educators. Volunteer associations, local hiking or equestrian clubs, and other outdoor enthusiast organizations are all excellent resources for acquiring wilderness educators, especially if the organization regularly visits wilderness, as they already have a vested interest in wild places.

Success in using volunteers as wilderness educators can be enhanced if they are selectively recruited, trained, properly managed and supported. Volunteers should be carefully matched up with the particular tasks that they are asked to perform according to their interests, educational and

experiential backgrounds. Often volunteers that have backgrounds as teachers or land management agency employees can become effective wilderness educators if managers can support the program with the necessary amount of time, funding and effort. The volunteer screening process should determine if volunteers who have a long-term or strong interest in an area are territorial or not able to be as unbiased as a land management agency volunteer or educator needs to be.

Information boards and signs can be used to pass educational information along to users at access points. Signs are certainly not as effective as a human presence, as most people are in a hurry to get their trip started and pass by without even stopping. Message boards that include some type of "hook," such as a cartoon or one or two well-designed color pictures, can help to draw the visitor (Cole 1998), but the amount of time actually spent reading text can be less than five minutes, according to some research studies.

Traditionally, much of the education conducted in wilderness occurred along the trail or in backcountry settings, such as campsites. Although not as effective as educating visitors in town before they arrive, backcountry education is useful and should be an integral element of any wilderness management program. Contacts made along trails are typically more successful than speaking with users in their campsites because educators have the opportunity to discuss issues such as proper camp selection and fire restrictions before the user sets up camp and creates impacts that may be completely unintentional. Education duties can be combined with normal backcountry tasks, such as trail maintenance or resource monitoring work, by simply training all field employees to educate and by making it a formal part of their position description.

Visitor contacts in wilderness can be a challenging opportunity for conveying the wilderness education message, particularly if the visitor is exhibiting behavior that is causing impacts or in violation of regulations. Often an approaching ranger in uniform is seen as a "wilderness cop" rather than a wilderness steward. An education technique called *The Authority of the Resource Technique* (ART) (Wallace 1990) is helpful in getting across the need to alter the practice that is causing the impact rather than focusing on the ranger's authority, uniform, badge, etc. The ART utilizes a "shoulder to shoulder" approach where the ranger and visitor view and discuss the impact and identify the adverse effects on the wilderness resource before addressing the behavior of the visitor that is causing the impact. Alternative, less impacting techniques are then identified, explained, and, if necessary, demonstrated using an informative and educational approach, rather than a regulatory, enforcement approach. ART works well for non-uniformed volunteer wilderness stewards also.

Written materials are another means of disseminating educational information. Text can be added on the back of a wilderness map, covering topics such as group size limits and other pertinent land ethic information. Brochures that cover a few specific problem areas are most efficient, but more general pamphlets can also be developed and disseminated. The general messages may not be as effective in causing a change in visitor behavior as issue-specific leaflets.

Today, electronic communication is an extremely useful mechanism for disseminating wilderness educational

materials to a very large audience. Online wilderness education websites can take the viewer on a computerized wilderness education experience that is fun and interactive. Many wilderness areas provide education information via their agency-based website. To access these sites, go to <http://www.wilderness.net/nwps/> and click on the state and wilderness area of interest. To view a quality wilderness education website, visit the National Park Service's Wilderness Views website at: <http://www2.nature.nps.gov/synthesis/views/#>. The *Celebrate Wilderness Education and Interpretation Handbook* can be found at: <http://www.wilderness.nps.gov/toolbox21.cfm>. Another example is the Central Sierra Wilderness Education website at: <http://wildlink.wilderness.net/>.

Credibility with the public is essential to any manager's success; therefore, all education efforts must be consistent. For example, if office personnel are informing the public that campfires are not allowed due to high fire danger, and field personnel are giving citations for campfires justified by a lack of down and dead material, the message is inconsistent and could be lost in the visitor's frustration. Therefore, it is vital that managers make every effort to ensure that all education information is consistent across the board, and must be diligent in their efforts to update educational messaging as issues and management actions change or are modified.

Wilderness education can and should be integrated into all aspects of wilderness management and involve all resource specialties. This is a progressive process that takes time, commitment, money, and support at various levels of the organization. It may be useful to engage interdisciplinary specialists by beginning with a simple plan that focuses on priority issues, and expand only when these issues are resolved or can be managed at an acceptable level. Many wilderness education implementation techniques exist, and managers must take the most desirable and integrate these into a program that best meets the specific needs of each component of the wilderness resource.

Funding Wilderness Education _____

Funding wilderness education out of the managing agency's annual budget will always be a challenge. Typically there is no hard target for accomplishment of wilderness education, little accountability for not doing it, and difficulty in attracting funds or gaining support within the agencies. The case must be made that wilderness education sets the foundation for nearly all other types of wilderness stewardship activities and can be far more cost efficient, visitor friendly, and effective at addressing many issues than other techniques. Building on this philosophy, every opportunity must be sought to develop partnerships internally within the management agencies and to share scarce education resources with other departments, and externally, to identify and expand upon partnership opportunities.

Compensation of some type is almost always necessary for people involved in any type of wilderness education and/or management work. Even volunteers are not free. It will take a manager a considerable amount of time and effort to recruit, screen, and train prospective educators and then manage and monitor their work and recognize their efforts on a regular basis.

Grants can be an excellent source for procuring wilderness education funding. Internal agency, NGO, State or Provincial agency grant programs and Universities are all good grant resources. Although many grants will not pay actual salaries, funds can be used to fund a variety of other educational program components such as curriculum development and testing, program evaluation, development of educational materials, copying, and distribution of information, and volunteer expenses. See the Volunteers and Partnerships Toolbox at: www.wilderness.net/toolboxes/ for more information.

Monitoring Wilderness Education _____

Monitoring is documenting and keeping track of information such as number of programs implemented or number of program participants. Monitoring is the overall tracking of how an education program is running in a general sense.

Evaluation is systematically measuring the effectiveness of educational programming and/or program delivery. These two components obviously complement one another and both can be conducted independently or simultaneously, when assessing wilderness educational programming.

Although monitoring and evaluation are separate processes, the term monitoring will be used throughout this paper to refer to both program topics, unless otherwise noted.

Factors to Consider When Developing Wilderness Education Monitoring

1. Has a wilderness education plan been completed?
2. If a wilderness education plan exists, does it closely coincide with larger Forest or Park Plans, and do both carry consistent management goals and objectives?
3. Is education effectiveness monitoring included in the wilderness education plan?
4. Why does education programming or educational delivery need to be monitored?
5. What aspect(s) of the wilderness education program need(s) to be monitored?
6. What monitoring method(s) will be used?
7. Are there prospective partnering opportunities to assist in the development, implementation, and funding of education monitoring?
8. Is there a need to secure external-agency technical assistance due to the complexity of the monitoring?
9. Who will accomplish the monitoring?
10. What is a realistic timeline for completing the monitoring?
11. How much will it cost to conduct monitoring?
12. How will monitoring results be recorded and reported?

Short- and long-term monitoring goals, measurable objectives, and detailed implementation actions should all be included as a part of any Wilderness Education Plan. The planning process of designing goals, objectives, and actions should be followed when developing a monitoring program. These will then parallel the larger Wilderness Education Plan format as shown below:

1. Goals—Goals describe general outcomes that are not easily measured and do not include methods or techniques.
2. Objectives—Objectives define what will actually be measured and carry definable outcomes. Solid objectives consist of conditions, criteria, persons and measurable behavior.
3. Actions—Actions drive the achievement of objectives and include details such as whom will do the monitoring, how long it will take, and how much monitoring will cost. Action items should directly coincide with monitoring goals and objectives and 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.

Not all wilderness education monitoring systems have an obvious and/or easy to monitor effect. 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 costs down. 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.

Accomplishing Monitoring

- Look for opportunities to incorporate wilderness education monitoring into new and/or on-going monitoring of social, biological, and physical components of the wilderness resource to gain efficiency.
- Make a strong effort to match personnel skills, interests, and availability with monitoring needs, as this will provide higher quality, more consistent results.
- Assign individuals to specific monitoring programs and tasks, as this will keep folks engaged and motivated, and will ultimately produce more consistent accomplishments.
- Empower people involved with monitoring to be creative, just as creativity is expected in program development or implementation.
- Identify outside sources such as Agency Research Stations or Universities that are looking for projects relating to education monitoring.
- Seek outside expertise if monitoring cannot be technically accomplished by existing staff and/or other agency personnel.

Recognize the limitations of people and the limitations of the program itself. Make a solid attempt not to over-plan. It is much better to set attainable goals and over-achieve, than to over-estimate and underachieve. Divide monitoring tasks by identifying those that carry easy measurable steps, and those that will take more time, effort, and financial support. Envision unplanned situations and conditions, as they will most certainly occur. Developing a successful monitoring program is challenging but the rewards are well worth the effort.

Summary and Conclusion

Over the past 40 years, wilderness has become a place where solitude and primitive recreation opportunities can be found and a place that allows for the natural healing to offset today's relentlessly fast-paced society. Wilderness education and information is a basic, fundamental, and essential part of managing wilderness for future generations. Most administrative actions implemented as part of wilderness stewardship are focused on management of human-caused impacts and providing opportunities for wilderness-dependent recreation or solitude. Without adequate education, these types of management actions are far less likely to succeed.

A complete wilderness education program should include a realistic plan, attainable implementation projects, and effective monitoring. The successful wilderness education program will be an integral part of a comprehensive wilderness stewardship program that incorporates indicators of change in natural conditions and wilderness character, resource inventory, monitoring of program results, visitor information and contact programs, law enforcement, and partnerships with other wilderness stewardship organizations. By incorporating field-tested concepts and techniques, managers can realistically improve and correct user behavior, increase regulation compliance, and foster strong public support for designated wildlands; all resulting in a more pristine resource and a higher quality wilderness experience for the visiting public.

Wilderness education is the ultimate commitment to quality wilderness stewardship. The future of protected wildlands will depend upon managers' abilities to educate the public on how to responsibly enjoy these unique areas, thus understanding the natural integrity and value that the enduring resource of wilderness provides to all people...for seven generations...and beyond.

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