

Daniel Boone National Forest
Interpretation &
Conservation Education Plan



APPENDICES

Contents

Appendix A - Audience Analysis Information 90

Appendix B – Project Development and Tracking Process . 100

Appendix C - Interpretive Services and Conservation Education
National and Regional Direction..... 102

Appendix D – Bulletin Board Components..... 104

Appendix E - Interpretive Panel Design Templates 108

Appendix F – Planning and Presenting Interpretive and CE
Programs 114

Appendix G – MEERA Generalized Logic Model for
Monitoring and Evaluation 120

Appendix H – National Interpretive Services Standards..... 124

Appendix I – Costs for Panel Design, Fabrication, and
Mounting..... 126

Appendices

Notes

Appendix A - Audience Analysis Information

According to the Daniel Boone NF Recreation Business Alignment Strategy (2002), our primary customers are:

- ☞ Nearby residents who live within a 100 mile radius of the forest
- ☞ Urban population centers in Kentucky, southern Ohio, and other adjoining states
- ☞ National and regional visitors seeking unique natural areas and specialized recreation opportunities

Several studies provide more details about these customers, and are summarized below.

National Visitor Use Monitoring Project (2002)

The Daniel Boone NF participated in the National Visitor Use Monitoring (NVUM) project from October 2001 through September 2002. The sampling size was 1,078 survey participants.

Total recreation use on the forest for fiscal year 2002 was 2.4 million national forest visits. A site is a specific place, such as the Twin Knob Campground or XYZ Trailhead. A forest visit is any place on the forest. A visitor may visit many sites within one visit to the forest. There were 2.7 million site visits, an average of 1.14 site visits per national forest visit. Included in the site visit estimate are 25,752 Wilderness visits.

Visitor Characteristics

	National Forest	Wilderness
Gender	Male: 79% Female: 21%	Male: 90% Female: 10%
Ethnicity **		
Black/African American	0.0%	3.3%
Asian	0.0%	3.3%
White	99.9%	92.7%
American Indian/Alaska Native	0.0%	0.0%
Native Hawaiian or Other Pacific Islander	0.0%	0.0%
Spanish, Hispanic, or Latino	0.0	0.0
Other	0.7%	0.7%

Appendix A

	National Forest	Wilderness
Age Group		
Under 16	6%	2.2%
16-20	2.8%	5.1%
21-30	13.3%	52.9%
31-40	27.6%	18.5%
41-50	22.9%	13.3%
51-60	17.2%	8.1%
61-70	6.4%	0.0%
Over 70	3.7%	0.0%

While forest managers may report slightly different visitor profiles from their direct experience, the NVUM survey is recognized as a statistically valid polling device. In summary, according to NVUM results, the typical visitor to the Daniel Boone NF is a 35 year old white male. Visitors in wilderness meet the above profile but are typically younger.

** In general, ethnicity of Daniel Boone NF visitors reflects the general population of the local area, in which Anglo-American residents comprise over 94% of the population (source: U. S. Census Bureau. July 1, 2004 estimate)

Description of Visit

The average length of stay on this Forest was 16.8 hours. The average length of stay in Wilderness on the forest was 12.1 hours. About 26 percent of visitors stayed overnight on the Forest.

During their visit to the Forest, the top five recreation activities of the visitors were viewing wildlife, relaxing, viewing natural features, hiking/walking, and fishing. Each visitor also picked one of these activities as their primary activity for their current recreation visit to the Forest. The top primary activities were motorized water travel, fishing, hunting, hiking, and other nonmotorized activities.

The top activities noted in the NVUM project correlate roughly to the participation rates observed in the “National Survey on Recreation and the Environment - Participation in Outdoor Activities by People Living Near the Daniel Boone NF (2000-2004)” (K. Cordell, C. Betz, G. Green, M. Fly, B. Stephens, Vernon R. Leeworthy). However, differences in methodology and study objectives preclude a direct comparison.

Visitor Activities on the Daniel Boone NF

Activity	Percent participation	Percent who said it was their primary activity
Primitive camping	4.6	0.2
Backpacking, camping in unroaded areas	1.7	1.3
Resorts, cabins and other accommodations on Forest Service managed lands (private or Forest Service run)	6.3	0.0
Picnicking and family day gatherings in developed sites (family or group)	7.2	2.7
**Viewing wildlife, birds, fish, etc on national forest system lands	44.7	0.9
**Viewing natural features such as scenery, flowers, etc on national forest system lands	25.7	2.5
Visiting historic and prehistoric sites/area	2.3	0.2
Visiting a nature center, nature trail or visitor information services	5.7	0.1
Nature Study	3.2	0.0
General/other- relaxing, hanging out, escaping noise and heat, etc,	30.7	6.5
Fishing- all types	23.7	17.2
Hunting- all types	18.0	16.8
Off-highway vehicle travel (4-wheelers, dirt bikes)	7.8	6.3
Driving for pleasure on roads	16.9	5.6
Snowmobile travel	0.0	0.0
Motorized water travel (boats, ski sleds, etc)	22.6	17.3
Other motorized land/air activities (plane, other)	0.3	0.3
Hiking or walking	27.6	11.4
Horseback riding	0.8	0.7
Bicycling, including mountain bikes	2.9	2.5
Non-motorized water travel (canoe, raft, etc.)	1.9	0.3
Downhill skiing or snowboarding	0.0	0.0
Cross-country skiing, snow shoeing	0.2	0.0
Other non-motorized activities (swimming, games and sports)	18.6	10.3
Gathering mushrooms, berries, firewood, or other natural products	2.6	0.2

Visitor Satisfaction

	Satisfaction *	Importance**
Developed Day Use Sites		
Availability of information on recreation	4.2	3.8
Interpretive displays, signs, and exhibits	3.8	3.5
Developed Overnight Sites		
Availability of information on recreation	4.0	4.1
Interpretive displays, signs, and exhibits	3.7	3.6
Wilderness		
Availability of information on recreation	3.8	3.9
Interpretive displays, signs, and exhibits	3.5	3.9

* Scale is: 1= poor; 2= fair; 3= neutral; 4= good; 5=very good

** Scale is: 1= not important; 2= somewhat important; 3=moderately important; 4= important; 5= very important

Wilderness visitors surveyed (n=18) indicated that on a scale of 1-5 (with 1 being not important and 5 being very important), having information available was a 3.4. Their satisfaction level with the information being provided on the Daniel Boone NF was 3.3 (with 1 being poor and 5 being very good).

It would appear that – relative to the importance that visitors place on information and interpretation – they are satisfied overall.

Recreation Realignment Report – Daniel Boone NF (2001)

Authors: Christine Overdevest and H. Ken Cordell; Web series SRS-4901-2001-10

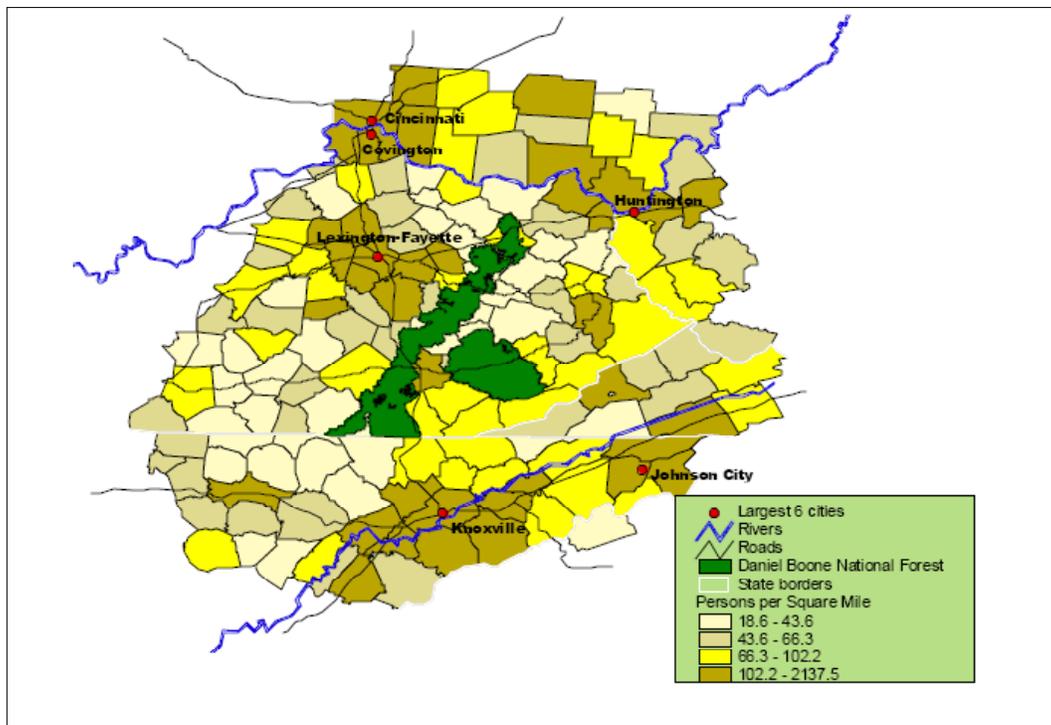
In this study, The Daniel Boone NF “market area” is defined as both public and private land within 75 miles (straight-line distance) of the county or counties within which the national forest land is located. This is different than the “market area” referred to by the Daniel Boone NF Public Affairs Office which is anywhere within a 6 hour drive of anywhere on the Forest.

- ☞ The Forest’s market area has a much lower projected growth (12.9%) than that of Region 8 (23.8%) from 2000-2020.
- ☞ In the Southern Region, top recreation activities include walking for pleasure, attending family gatherings, visiting nature centers, sightseeing, driving for pleasure, picnicking, viewing or photographing natural scenery, and visiting historic sites.
- ☞ Activities that are most in demand (based on demographics, current participation, and rate of growth) are viewing wildlife; viewing or

photographing wildflowers, trees, or other natural vegetation; and viewing birds.

- ↪ Participation in most outdoor recreation activities has been growing steadily over the last few years. Of forest-based activities, viewing and photographing fish, wildlife, birds, wild flowers, and native trees are among the fastest growing in the South. Other fast growing activities include jet skiing, kayaking, day hiking, and backpacking.
- ↪ Although some counties are expected to grow significantly between 2000-2020 (Boone, KY; Clinton, OH; Clermont, OH; and Cumberland, TN), others are expected to show a decrease in population (Robertson, KY; Owsley, KY; Cabell, WVA; Cumberland, KY; and McDowell, WVA).

Population distribution within the market area



Southern and Eastern Kentucky Tourism Development Association (SEKTDA)

The travel and tourism industry contributed \$1.3 billion to southern and eastern Kentucky's economy in 2006. This represents a 6.8% economic impact increase from 2005 to 2006.

SEKTDA compiles economic data on regions within the state, three of which include counties within the boundaries of the national forest, and all of which showed substantial economic growth from 2003-2006:

- ↪ Kentucky Appalachians Region - 20%
- ↪ Daniel Boone Region - 18%
- ↪ Southern Lakes Region - 24%

Red River Gorge Geological Area: A Study of Relationships and Use Patterns among Recreationists and Local Residents (Baylor University, 2006)

Author: Sara E. Alexander, PhD

A visitor study was conducted in the Red River Gorge during June and October of 2004; 981 visitors participated.

City	Percent
Cincinnati	17.1
Lexington	11.8
Louisville	6.6
Richmond (KY)	2.2
Indianapolis	2.1
Winchester	1.5
Hamilton (OH)	1.0
Columbus (OH)	1.0
Ft. Wayne (IN)	1.0
All others	55.7

According to Tim Eling, Red River Gorge Manager on the Cumberland RD, the percentage of visitors from the Cincinnati area is actually higher than the 17.1% indicated in this table. Cincinnati’s city limits are small, and its location in a tri-state area is in the midst of several other communities (the Greater Cincinnati Area). By looking at the visitation from counties included in the Greater Cincinnati area, statistics indicate that more people come to the Gorge from this area than from the two largest cities in Kentucky combined (Louisville and Lexington).

Other Visitor Characteristics

- ↪ Visitors were 59% male and 41% female; the mean age for all visitors was 34.
- ↪ Fifty-nine percent reported at least some college education while 13% had a graduate degree.
- ↪ Most visitors come in small groups of family or friends and plan to stay 2-4 days.
- ↪ There are a very high percentage of repeat visitors (nearly 60%).
- ↪ The Gorge is most popular during the summer and fall.
- ↪ Approximately 14% of visitors belong to a conservation/outdoor-type group (e.g. Sierra Club, National Wildlife Federation, Access Fund, and Red River

Gorge Climbing Coalition).

- ☞ The most popular activities are hiking (87%), camping (49%); backpacking (30%), and picnicking (27%). Other common choices included swimming, traditional and sport climbing, and “partying.”
- ☞ Only about 36% of visitors knew that the Gorge is managed by the federal government; another 34% thought it was managed by the state.
- ☞ Of the 40 local residents interviewed, 80% said they currently recreate in the Gorge and 12.5% said that they have in the past.

Issues Identified by Visitors

Approximately 35% of the visitors felt that litter was a moderate or significant problem. Roughly 27% felt that tree damage due to humans was also a problem. Another 25% acknowledged that they felt there were problems with damage to archaeological sites.

Issues Identified by Residents

Local residents interviewed as part of the survey noted the following problems within the Red River Gorge: damage to plants and animals (53%); damage to archaeological sites (78%); litter (62%); having drunk and rowdy visitors (56%); and proper disposal of human waste (49%).

Information Sources for the Red River Gorge

Source	Percent
On my own	10.9
Family or friends	74.1
Internet	1.0
Guide book	0.9
Government agencies or official source	0.5
Live or have lived in area	7.9
Advertisement or news	0.3
Conservation or recreation group	1.4
Family/friends and internet	2.9
Family/friends and recreation group	0.1

It is worth noting that local residents reported that they frequently come into contact with visitors and that the main type of communication was “giving out information.”

Survey conducted by FS Personnel at Gladie Learning Center (1989-90), prior to the completion of the existing Center (2004)

Regarding age distribution and the type of information sought, the survey reported the following (Gladie Historic Site Interpretive Plan):

Age Group	Percentage	Average Length of Stay	Type of Information Sought
Under 21	24%	15 minutes	RRG camping, hiking, waterfalls, and rock climbing routes
21-54	46%	30-45 minutes	Maps, trail information, geology, canoeing, camping, rock climbing, bicycling, the cabin and interpretive events
55 and up	30%	30-60 minutes	Antique farm equipment, herbal gardens, sorghum mill, moonshine still, cabin and interpretive events, geology, bird watching, and wildflowers.

Environmental Literacy in Kentucky

In 2004, the Kentucky Environmental Education Council conducted “The Survey of Kentuckians’ Environmental Knowledge, Attitudes and Behaviors” (see <http://keec.ky.gov/> for more information).

Among the most dramatic but not surprising differences on the survey was that those with more education consistently scored higher on the test questions (e.g. correctly identifying the importance of the earth’s ozone layer, or defining biodiversity).

However, on self-reported environmental behaviors, despite their better knowledge of environmental facts, those with more education were not more likely to report engaging in environmentally responsible behaviors. Moreover, attitudes about the environment were not significantly different among the various educational levels.

One conclusion that may be drawn from this is that even though people understand the scientific facts of environmental issues, they do not see a cause and effect relationship between those facts with their own actions and behaviors. This may be why Kentuckians believe that air and water pollution come from factories rather than from the every day actions of all of us. This is an argument for environmental education that focuses on the interrelationships between human and natural systems.

Trends

The Aging Population

According to the US Census Bureau, the 65 and older age group is projected to continue to grow by 147% between 2000 and 2050. The National Survey on Recreation and the Environment (NSRE, 2004) showed that the most popular outdoor activities for people 65 and older are walking, family gatherings, driving for pleasure, picnicking, and viewing/photographing nature. Older Americans will continue to be active outdoors, but require greater accessibility for many of their activities.

Activity Participation

The NSRE showed that participation increased from 1999-2004 in many of the same activities increasingly enjoyed by older Americans: walking, family gatherings, driving for pleasure, and viewing/photographing nature. In addition, visits to nature centers increased. For all of these activities, the percentage of the population participating was greater than 50%.

Changes on the Daniel Boone NF

Four (long-term) district staff on the Forest were queried about their perception of trends and behavioral changes that they have witnessed during their long tenures here. Among their responses:

The biggest changes in Forest visitation within the last 15-20 years include:

- ☞ The increased demand for motorized trails of OHV and ATV use,
- ☞ More motorized use of Forest which is illegal and not in compliance with travel management plan
- ☞ The increase in size and desired amenities in RVs
- ☞ Perception of diminished etiquette among users, and diminished outdoor skills
- ☞ More visitors from urban areas
- ☞ The increase in the amount of dispersed recreation, particularly trail use. In particular, the increase in horseback riding and mountain biking on the same trails has led to conflicts (horses creating undesirable trail conditions for bikers)
- ☞ There is a larger Hispanic use of the Forest, many of whom come in large family groups needing larger day use facilities.

Visitor behavior problems and/or attitudes that could be addressed through I&CE include:

- ☞ The belief that it is “the other guy” that is creating an impact, not them.
- ☞ User conflicts among OHV users, user conflicts between OHV users and horseback riders, and user conflicts between horseback riders and mountain bikers.
- ☞ Convincing OHV users to stay on designated trails
- ☞ Creating an understanding that the resource has limits and that visitors should use them in a way that promotes sustainability.
- ☞ Getting people to pick up their trash, not cut switchbacks, and stay off motorized and horse trails when they are wet.
- ☞ Improvements in food storage (from bears) particularly on the Stearns RD.

Forest program managers focus a significant amount of more time on the following visitor groups”)

- ☞ OHV users
- ☞ Large RV-ers
- ☞ Large groups in picnic areas

- ↪ Trail users, especially horseback riders and their impacts
- ↪ Inappropriate use in the Red River Gorge (partying)

Trends in visitor group decline include:

- ↪ Young families with less disposable income are seen less frequently at the campgrounds with amenities
- ↪ Grouse and deer hunters are reducing in number due to reduced habitat.
- ↪ Mountain bikers who feel that they are being displaced by horseback riders.
- ↪ Horseback riders who are looking for more amenities than typically provided in national forest horse camps, and less structure to the camping area.

Comment received from one staff: “Seems like we need CE now more than ever, during a time when our staffing is smaller than ever.”

What We Don't Know

A great deal of data exists that describes Forest visitors demographically. There is far less information however, that describes:

- ↪ What expectations visitors have
- ↪ What interests, opinions, knowledge they have
- ↪ What they learn from their visit
- ↪ Who doesn't come, and why?

Appendix B – Project Development and Tracking Process

Project Tracking Form for Visual Informational Products (not interpretive signs)		
	Task	Date Completed
1	District ⇒ Myra (if recreation related)* District Ranger submits edits to Myra	
2	Myra ⇒ District Myra reviews and consults with districts on edits	
3	Myra ⇒ Charlotte ⇒ Kim ⇒ Kim Kipp ⇒ Myra <ul style="list-style-type: none"> Charlotte logs project into project list Kim reviews for grammar and returns to Myra Kim Kipp reviews for compliance 	
4	Myra ⇒ District Myra reviews and consults with district on edits	
5	Myra ⇒ Charlotte ⇒ Gwen Charlotte logs and retains files until Gwen ready to draft layout as discussed at weekly planning meeting with Marie, Myra and Gwen	
6	Gwen ⇒ Myra <ul style="list-style-type: none"> Draft layout should look as much like intended final as possible. Need to include options for paper, illustrations/photo suggestions, size, etc... in this round of review. 	
7	Myra ⇒ District Myra reviews and consults with district on edits.	
8	Myra ⇒ Charlotte ⇒ Gwen Charlotte logs and retains files until Gwen ready to complete final layout as discussed at weekly planning meeting.	
9	Gwen ⇒ Myra Myra last review of final layout. Consults with district if needed.	
10	Myra ⇒ Charlotte <ul style="list-style-type: none"> Charlotte logs project Charlotte send to printer. Consults with Gwen as needed on specs. Charlotte distributes and maintains inventory of completed project 	
11	Charlotte <ul style="list-style-type: none"> Tracks printing/procurement to ensure it is making it through the process. Distributes product to district and maintains inventory 	

*If the project is not recreation related; district should work with appropriate program manager. In this case, replace Myra's name in this form with the name of the program manager.

Appendix B

Project Tracking Form for Interpretive Signs		
	Task <i>Skip to step 4 for revision of existing signs</i>	Date Completed
1	District or SO Need for interp signs identified as projects during outyear workplanning.	
2	District ⇔ Myra-- Planning Meeting <ul style="list-style-type: none"> District contacts Myra to schedule planning meeting Myra coordinates meeting date with Kim, Gwen or others in the SO as needed. 	
3	Planning Meeting Identify Themes, Key Messages, Format, Draft Content, Suggestions for Illustrations/Photos, etc....	
4	District ⇔ Myra District Ranger submits recommended content or edits to Myra	
5	Myra ⇔ District-- Myra reviews and consults with districts on edits	
6a or	Myra ⇔ Greg Lussier or Contractor <ul style="list-style-type: none"> Under this scenario Myra will work through Greg or Contractor to accomplish work. Myra will keep Charlotte informed of status for project list. 	
6b	Myra ⇔ Charlotte ⇔ Kim Charlotte logs project into project list Kim reviews for grammar	
7	Kim ⇔ Myra ⇔ District Myra reviews and consults with district on edits	
8	Myra ⇔ Charlotte ⇔ Gwen Charlotte logs and retains files until Gwen ready to draft layout as discussed at weekly planning meeting with Marie, Myra and Gwen	
10	Gwen ⇔ Myra Draft layout should look as much like intended final as possible.	
11	Myra ⇔ District- Myra reviews and consults with district on edits.	
12	Myra ⇔ Charlotte ⇔ Gwen Charlotte logs and retains files until Gwen ready to complete final layout as discussed at weekly planning meeting	
13	Gwen ⇔ Myra Myra last review of final layout. Consults with district if needed.	
14	Myra ⇔ Charlotte ⇔ Gwen <ul style="list-style-type: none"> Charlotte logs project Gwen orders sign 	

Appendix C - Interpretive Services and Conservation Education National and Regional Direction

Interpretive Services Objectives (FSM 2390.2)

The objectives of interpretive services are:

1. To assist those visitors to the National Forests, research projects, and State and Private Forestry locations in gaining a greater appreciation of the role of conservation in the development of the Nation's heritage and culture.
2. To promote visitor understanding of the Forest Service, the National Forest System, Forestry Research, and State and Private Forestry programs.
3. To inform visitors of recreation opportunities and facilities on the National Forests.
4. To help visitors know and experience the natural environment.
5. To implement an interpretive program that helps solve management problems and aids in the development of public understanding of Forest Service management.
6. To expand the number of interpretive associations which contribute to public understanding of Forest Service practices, support interpretive services objectives, increase public awareness, and aid in management of National Forest resources.
7. To increase visitor understanding of natural and cultural history principles and their relation to land management techniques

Conservation Education Objectives and Policy (FSM 1623)

FSM 1623.02 – Objectives

1. To promote public awareness and understanding of the importance of natural resources and call attention to particular issues related to forest productivity, protection, and use.
2. To provide leadership in conservation education.
3. To enlist the cooperation of institutions and organizations in developing broad public understanding of and support for the wise management and use of forest, range, and prairie resources.
4. To assist agency employees in better understanding natural resource issues.
5. To assist resource managers in meeting resource management goals.

FSM 1623.03 – Policy

1. Use the Conservation Education Program to help agency employees better understand and communicate information about natural resource issues to the public. Whenever appropriate, link presentations to global resource problems and potential solutions.
2. Cooperate with and encourage educators, Federal, State, and local agencies, tribal governments, underserved communities, and private organizations to develop educational concepts, methods, and materials to teach ecological, environmental,

Appendix C

- and conservation principles, focusing on pre-kindergarten through 12th grade students and their educators, formal and nonformal.
3. Provide information about relevant natural resource issues to the public, using appropriate education techniques and methods.
 4. Use volunteers to conduct Conservation Education Program activities.
 5. Encourage the use of National Forest System lands for conservation education.
 6. Conduct educational activities jointly with other agencies and groups interested in fostering improvement in the understanding of ecological and environmental interrelationships and the related human effects.
 7. Ensure that the Conservation Education Program reaches nontraditional audiences, such as urban groups, minorities, underserved communities, and American Indians and Alaska Natives.
 8. Encourage Forest Service involvement in education programs and activities and in education councils and organizations at the national, State, and local levels.

National and Regional CE Strategies

National Conservation Education Program - Vision to Action Strategy (1998)
According to this Strategy, Forest Service conservation education programs will support two key themes:

1. Sustainability of natural and cultural resources in forest, grassland, and aquatic ecosystems.
2. Awareness and understanding of interrelationships in natural systems and between people and the land.

Southern Region's Conservation Education Strategy (Draft 2000)

Among the six objectives found in this Strategy, the following two are most applicable at the forest level:

Objective 1:

Ensure conservation education materials and programs are accurate, balanced, and science-based, and meet established USDA Forest Service Conservation Education standards, the "EE Guidelines for Learning" established by the North American Association for Environmental Education (NAAEE), and applicable state educational standards and guidelines.

Objective 4:

Increase diversity of partners and audiences participating in conservation education efforts.

Action 1: Develop targeted, innovative strategies to reach landowners and motivate them to manage their resources.

Action 2: Develop cooperative efforts to target urban and other non-traditional audiences.

Appendix D – Bulletin Board Components

The following bulletin boards do not meet R8 standards and need new contents:

RD	Site	Issues to be Addressed	Notes
CMB	Archaic	5, 8, 11	
CMB	Auxier Ridge Parking Lot	5, 7, 8, 11	
CMB	Ft. Ancient	5, 8, 11	
CMB	Grays Arch Picnic Area	5, 7, 8	
CMB	Paleo	5, 8, 11	
CMB	Pinch-em-Tight Parking Lot	5, 8, 11	
CMB	Pioneer Trailhead	5, 8, 11	
CMB	Sandstone Trailhead	5, 8, 11	
CMB	Tarr Kiln Parking Lot	7, 8	
CMB	Woodland Trailhead	5, 8, 11	
CMB	Bangor Boating Site	5	
CMB	Bison Way Parking Lot	5, 8, 11	
CMB	Boat Gunnel Branch Group CG	5	
CMB	Chimney Top Observation Site	5, 8, 11	
CMB	Clear Creek CG	5	
CMB	Clear Creek Picnic Area	5, 8	
CMB	Clear Creek Target Range	5	
CMB	Copperas Creek Boating Site	1	
CMB	Corner Ridge Trailhead	5, 9, 10, 11	accesses wilderness
CMB	Indian Creek Trailhead	5, 8	
CMB	Koomer Ridge Trailhead	5, 8	
CMB	Longbow Marina	5	Have permittee provide
CMB	Martin's Fork Trailhead	5, 8, 11	2 existing; remove 1 at parking lot
CMB	Paragon CG	5	
CMB	Rock Bridge Trailhead	5, 11	Accesses wilderness
CMB	Rough Trail Trailhead	5, 8, 11	
CMB	Scott Creek Marina	1, 4	Have permittee provide
CMB	Sheltowee Trace North Terminus	5	
CMB	Sky Bridge Picnic Area	5	
CMB	Stanton Sheltowee Trailhead	5, 8, 11	
CMB	Swift Camp/Rough Trail TH	5, 8, 11	
CMB	Tater Knob CG	5	17 boards
CMB	Whistling Arch Trailhead	5, 8, 11	

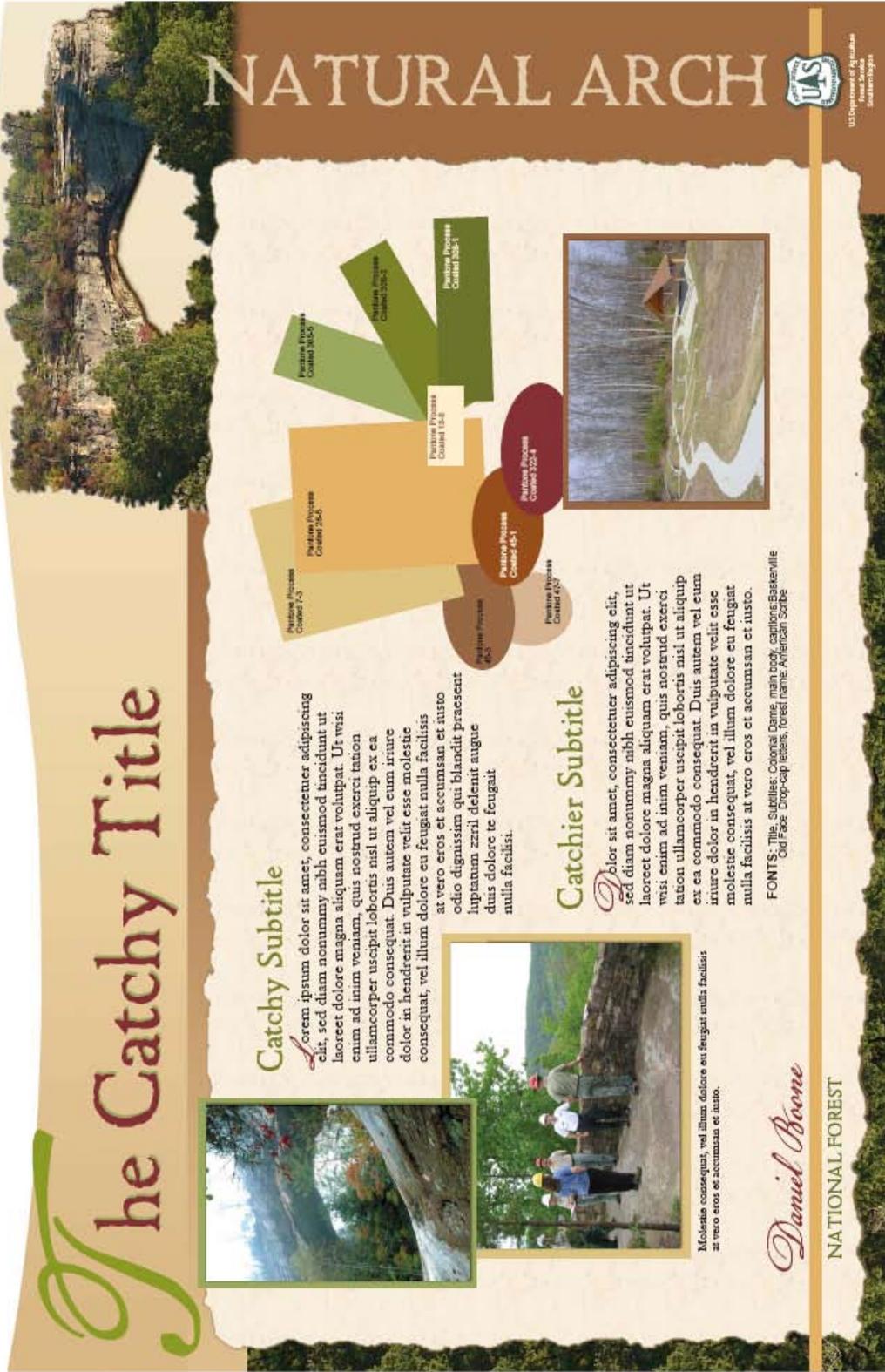
Appendix D

RD	Site	Issues to be Addressed	Notes
CMB	White Sulphur Horse Camp	5	
CMB	White Sulphur OHV Trailhead	5, 9	
CMB	Wildcat Trailhead	5, 11	
CMB	Windy Bay Fishing Site	5	
CMB	Zilpo CG	5	
LON	Bald Rock Picnic Site	8	
LON	Bee Rock Boating Site		
LON	Fishing Point - Road N		no structure yet
LON	Flatwoods Picnic Site	5	2 boards
LON	Goodwater Pond	5	
LON	Grove Boat-in CG	5	5 boards
LON	Grove Marina		lamine lake map
LON	Grove CG	5	
LON	Holly Bay CG	5	6 boards
LON	Laurel Bridge Picnic Site	5	
LON	Little Lick Horse Camp	4, 5	
LON	Mouth of Laurel Boating Site		
LON	Rockcastle CG	5	
LON	Rockcastle Boating Site	5	
LON	Sheltowee Trace 192 11193	5	
LON	Sheltowee Trace - S-Tree Road	5	no structure yet
LON	S-Tree Recreation Area CG	5	
LON	Turkey Foot Rec Area CG	5	2 boards
LON	White Oak Boat-in CG	5	7 boards
LON	Whitman Branch Shooting Range		
LON	132 Trailhead	5	
STE	Alpine Picnic Site	5	
STE	Bell Farm Horse Camp	5	
STE	Great Meadows CG	5	2 boards
STE	Hemlock Grove Picnic Site	5	1 board
STE	Sheltowee Trace - Hwy 27	5	1 board
STE	Jellico Creek Camping Areas 1-4	5	
STE	Natural Arch Picnic Site	1, 4, 5, 8	1 2-sided board; 1 8-panel kiosk
STE	Rock Creek Camping Areas 1-3	5	
RED	Big Double Creek Picnic Site	4, 5	
RED	Cawood Rec Area Picnic Site	4, 5, 8	

RD	Site	Issues to be Addressed	Notes
Bulletin Boards that meet standard:			
CMB	Claylick Boating Site	5	
CMB	Claylick Boat-in CG	5	
CMB	Clear Creek Boating Site		
CMB	Clear Creek Market	5	
CMB	Koomer Ridge CG	5	2 boards
CMB	Longbow Boating Site	5	
CMB	Morehead Office VC	1, 2, 4, 8, 9	
CMB	Poppin Rock Boating Site	5	
CMB	Scott Creek Boating Site	5	
CMB	Warix Run Boating Site	5	
LON	Bee Rock CG - East	5, 8	
LON	Bee Rock CG - West	5, 8	
LON	Craigs Creek Boating Site		
LON	Craigs Creek Group CG	8	
LON	Flatwoods Boating Site		
LON	Grove Recreation Area		
LON	High Top Boating Site		
LON	Holly Bay Boating Site		
LON	Holly Bay Marina	4	
LON	Laurel Bridge Boating Site		2 boards
LON	London Boat Dock		
LON	Marsh Branch Boating Site		
LON	Laurel Country Commission Office		exhibit is in good condition
STE	Appletree Shooting Range		2 boards - in good condition
STE	Barren Fork Horse Camp		3 boards - in good condition
STE	Ridge Trailhead - BCW	5, 10	needs updated once trails are GPS-ed
STE	Keno Shooting Area		2 boards
STE	Middle Ridge Trailhead	5	needs updated once trails are GPS-ed
STE	Swain Ridge Trailhead - BCW		needs updated once trails are GPS-ed
STE	3 Forks of Beaver (BCW) Observation Site	4, 5, 10	needs updated once trails are GPS-ed
RED	Bear Creek OHV Trailhead	4, 5, 9	
RED	Peabody OHV Trailhead	4, 5	3 boards
RED	Sugar Creek OHV Trailhead	4, 5	

Notes

Appendix E - Interpretive Panel Design Templates



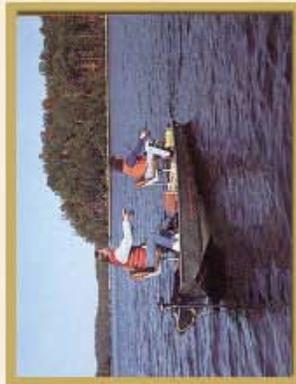
Appendix E

The Catchy Title

Catchy Subtitle

Lorum ipsum dolor sit amet, consectetur adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat. Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper uscipit lobortis nisl ut aliquip ex ea commodo consequat.

Duis autem vel eum irure dolor in hendrerit in vulputate velit esse molestie consequat, vel illum dolore eu feugiat nulla facilisis at vero eros et accumsan et iusto odio dignissim qui blandit praesent luptatum zzril delenit augue duis dolore te feugiat nulla facilisis.



Catchier Subtitle

Dolor sit amet, consectetur adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat. Ut wisi enim ad inum veniam, quis nostrud exerci tation ullamcorper uscipit lobortis nisl ut aliquip ex ea commodo consequat. Duis autem vel eum irure dolor in hendrerit in vulputate velit esse molestie consequat, vel illum dolore eu feugiat nulla facilisis at vero eros et accumsan et iusto odio dignissim qui blandit praesent luptatum zzril delenit augue duis dolore te feugiat nulla facilisis.

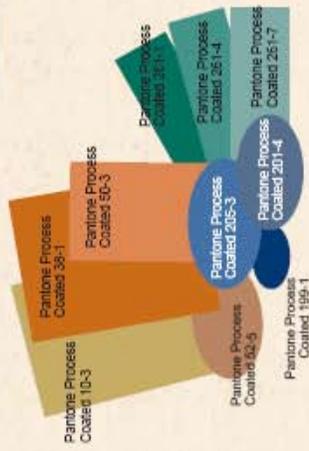
FONTS: Title, Subtitle: Colonial Dame, main body, captions: Basler/He Old Face, Drop-cap letters, forest name: American Scribe

Daniel Boone
NATIONAL FOREST

LAUREL RIVER LAKE



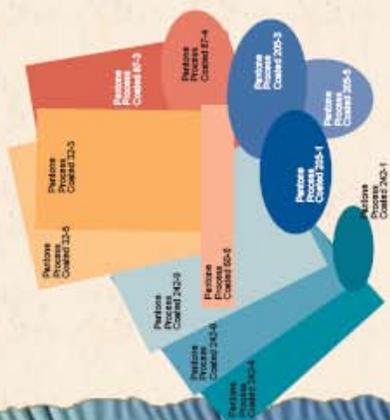
U.S. Department of Agriculture
Forest Service
Washington



The Catchy Title

Catchy Subtitle

orem ipsum dolor sit amet, consectetur adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat. Ut wisi enim ad inim veniam, quis nostrud exerci tation ullamcorper uscipit lobortis nisl ut aliquip ex ea commodo consequat.



Daniel Boone
NATIONAL FOREST



FONTS: Title, Subtitles: Colonial Dime; main body, captions: Baskerville Old Face; Drop-cap letters, forest name: American Slab

Catchier Subtitle

uis autem vel eum irure dolor in hendrerit in vulputate velit esse molestie consequat, vel illum dolore eu feugiat nulla facilisis at vero eros et accumsan et justo odio dignissim qui blandit praesent luptatum zzril delenit augue duis dolor te feugiat nulla facilisis.



Ipsum qui blandit praesent luptatum zzril delenit augue duis dolore te feugiat nulla facilisis.

Ipsum qui blandit praesent luptatum zzril delenit augue duis dolore te feugiat nulla facilisis.



Catchiest Subtitle

olor sit amet, consectetur adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat. Ut wisi enim ad inim veniam, quis nostrud exerci tation ullamcorper uscipit lobortis nisl ut aliquip ex ea commodo consequat.

uis autem vel eum irure dolor in hendrerit in vulputate velit esse molestie consequat, vel illum dolore eu feugiat nulla facilisis at vero eros et accumsan et justo odio dignissim qui blandit praesent luptatum zzril delenit augue duis dolore te feugiat nulla facilisis.



Ipsum qui blandit praesent luptatum zzril delenit augue duis dolore te feugiat nulla facilisis.

CAVE RUN LAKE



U.S. Department of Agriculture
Forest Service
Washington

Notes

Appendix F – Planning and Presenting Interpretive and CE Programs

(Portions adapted from the Begich, Boggs Visitor Center Training Manual, 2007)

How to Plan a Program

The possibilities are endless! How do you figure out where to start? Your first point of reference should be this I&CE Plan, to which all interpretive and conservation education programs must tier. While pure “entertainment” can be a component of both interpretation and conservation education, we will fall short of achieving our I&CE objectives if it is the ONLY component. Interpretation and conservation education programs on the Daniel Boone NF provide a perfect setting to:

- ☞ Forge emotional and intellectual connections between the interests of the audience and the meanings inherent in the resource
- ☞ Increase visitors’ appreciation for, and sensitivity to, the natural and cultural resources of the area
- ☞ Foster an informed and engaged citizenry able to participate effectively in the actions and decisions needed to sustain the values of our natural and cultural resources for present and future generations

Always keep in mind the mission of the USDA Forest Service:

“The mission of the USDA Forest Service is to sustain the health, diversity, and productivity of the Nation’s forests and grasslands to meet the needs of present and future generations. This mission includes – among other things - advocating a conservation ethic in promoting the health, productivity, diversity, and beauty of forests and associated lands.”

The table below explains the steps of developing a program, along with examples of how to complete each step:

Appendix F

Steps in Planning a Program	Example
Determine who your audience is and what their expectations are.	“My audience members are campers, many of whom are college-aged groups here to climb in the Red River Gorge. They expect to hear something that will enhance their camping and climbing experience.”
Choose an issue that is pertinent to the location and setting (see Section 7 of the I&CE Plan).	“I will address Issue 11: Red River Gorge is experiencing significant impacts to its natural and cultural resources, due to a lack of use ethics and overuse. This issue is pertinent to this location and audience, because DBNF managers are concerned that climbers are largely responsible for impacts to rockshelters in the Gorge. “
Decide what storylines are appropriate for this audience in this location that will address the identified (also found in Section 7)	“I will use Subtheme 11: The Red River Gorge is a National Natural Landmark. All users are stewards of its water, wildlife, primitive character, spectacular geology, and archaeological resources. I will then expand on that Subtheme with Storyline B: Users can help protect irreplaceable archaeological resources by camping, hiking, climbing, and building fires in appropriate areas. Camping, climbing, rappelling, burning, and digging in rockshelters can impact or even destroy these non-renewable resources. When rockshelter soils are mixed, compacted, or heated by these activities, the historic and prehistoric remains (especially the botanical remains) can be destroyed. Once destroyed, this valuable evidence is gone forever.
Establish knowledge, emotional, and behavioral objectives for your program. That is, what do you want your audience to know, feel, and do as a result of participating in your program?	“After hearing my presentation, I want my audience to 1. KNOW what they might find in a rockshelter, and how fragile the soils, plants, pictographs, and other prehistoric remains are, and that they are non-renewable. 2. FEEL that they have a responsibility as a user of this resource to preserve it. 3. DO stop building fires and digging in rockshelters, and DO start camping in more durable areas.
Put it together in an organized manner	(Use the 2-3-1 Rule below to stay organized.)

Putting It All Together Using the 2-3-1 Rule

After you have chosen a general topic, narrowed it down to a specific topic and chosen a theme based on the desired outcome of your talk you are ready to start your preparation. A common mistake is attempting to first prepare the introduction. The introduction is used to create interest in the talk and to tell your audience your theme and how your talk will be organized. You will find it difficult to do this without knowing what your talk will include and how it will be organized. So even though the body is the second part of your talk (#2), you should develop it first. Likewise,

since your introductions are designed to prepare the audience for the conclusion it makes the most sense to prepare the conclusion 2nd and the introduction last.

Body

Your theme serves as the skeleton to which you attach your ideas. The body is made up of facts and for instances that flesh out your theme. Without a theme, the body of your talk will be flabby and shapeless with little appeal to your audience. Limit the number of ideas presented in the body to three to five points. **People best understand and remember new information when it is presented in five points or less.** Remember we are not here to tell people everything we know, but instead create a sense of excitement and wonder!

With your main points outlined, you must decide how to illustrate them. To be effective, every major idea presented should be illustrated in some way. Use visual aids, such as props, slides, or other audio-visual devices. Create mental images through metaphor and analogy, guided imagery, or story telling. Involve the audience physically. Make sure you breathe life into cold dead abstractions. People learn in different ways—a good interpreters program addresses several different learning styles.

- ☞ Select three to five points that you want to discuss to support your theme.
- ☞ Build on these points to support your theme.
- ☞ Use visual aids, such as large maps or posters, props, slides, experiments or other tools to help illustrate your points.
- ☞ Ask yourself these questions:
 - o Is the information relevant to the listener?
 - o Is the theme supported and enhanced?
 - o Did I have only 3-5 main points?
 - o Did I tell them what I told them I'd tell them?
 - o Did I use visual aids to enhance their understanding?

Conclusion

Your conclusion should tell the listener you are done. It can be a call to action or can summarize you main points. It might be a thought provoking quote or a dramatic ending for emotional impact.

- ☞ Restate your theme and how it supports your topic.
- ☞ Tell them what you told them.
- ☞ Provide closure.
- ☞ Ask if there are any questions
- ☞ Ask yourself these questions:
 - o Did I lead them back to where we started?
 - o Did I restate the theme?

- o Did I bring closure to the talk and has everything been brought together?
- o Did I repeat my 3-5 points?

Introduction

Naturally every time you get up to give a presentation you need to introduce yourself in some fashion to the audience. You may try experimenting with several different introductions, listen to how other interpreters do their introductions; you might come upon a good idea.

In your introduction you will need to include that you work for the Forest Service (or are a permittee/concessionaire for the Forest Service). An introduction does two things; it promises your listeners a rewarding experience and it introduces your theme. Your introduction can be startling or humorous, a rhetorical question or a quotation. Your goal is provocation. You need to grab your audience with your first words. Aside from catching the group's attention, an introduction presents the theme and sets the groups expectations of what they will learn.

- ☞ Introduce yourself and the Forest Service.
- ☞ Get their attention.
- ☞ Introduce your theme.
- ☞ Ask yourself these questions:
 - o Does my introduction have a hook?
 - o Does it bridge the unfamiliar with the familiar?
 - o Do the listeners know what to expect?
 - o Do the listeners see how this affects their lives or why it is important to them?

More Planning Tips

Once you have developed your program, using these steps, you need to ask yourself a few more questions.

- ☞ Did I meet the goals and objectives – Both overall and talk specific?
- ☞ If asked the “so what” of the talk would the listeners be able to state my theme?
- ☞ Is there a smooth flow to the talk, no abrupt transitions?
- ☞ Does it leave the listeners curious to learn or discover more?
- ☞ Is the talk entertaining and enjoyable for your audience? to Keep in Mind:
- ☞ Focus on your audience. Different groups will not experience programs the same way. Use the nonverbal feedback from the group to hone your programs.
- ☞ Programs should be interesting, informative and of a 20-30 minute duration. Think about your own attention span... how long you can listen to someone else

- ☞ Use props and visual aids that are appropriate to your presentation.
- ☞ Do not feel you need to share everything you know. Invoke a desire to learn more.
- ☞ Utilize the scene, and take advantage of “teachable moments.” If you’re at a rockshelter and a skunk walks by, take time to watch, discuss, and teach.
- ☞ Be creative! Be flexible!! Have Fun!!!

Public Speaking Tips

- ☞ Chewing gum is very distracting and looks unprofessional. A glass of water kept nearby is okay and would be recommended if you get a dry throat from talking.
- ☞ Try to speak slowly. Nervousness that everyone experiences when speaking to the public will make you want to rush.
- ☞ Also, remember it may be the one-hundredth time you said something, but it may be the first time the visitors are hearing it.
- ☞ Do not be afraid to repeat yourself. It is fine to reiterate important ideas, and the audience will be able to follow you better. Repeating ideas works even better if you can rephrase it the second time.
- ☞ Practice with friends explaining the concepts you find most difficult to explain.
- ☞ BE ENTHUSIASTIC!! Smile when you speak and make eye contact with all of the audience.
- ☞ Never narrate something you can’t see because of weather.
- ☞ A good presentation or narration gives the audience a quick preview of what is going to be discussed.
- ☞ Always use your best grammar, pronunciation, and never use profanity. Slang terms are inappropriate since many of our visitors will not know their meaning.
- ☞ Be approachable. Your attitude makes a big difference.
- ☞ Your appearance must be professional. If you are a uniformed employee, follow the uniform handbook guidelines. If you’re not in uniform, make sure that your clothes are clean, hair is neat, and jewelry is kept to a minimum.

Notes

Appendix G – MEERA Generalized Logic Model for Monitoring and Evaluation

Summarized by Dr. Jessica Santangelo, Director, Gladie Cultural-Environmental Learning Center

When tracking accomplishments in each year's Action Plan, it is important to ask: "What are we considering an accomplishment? How are we tracking and evaluating events to determine if we accomplished them? Assessment and evaluation are often shortchanged, but it is important that we consider the details before we start implementing any activities. Who will prepare the assessment and evaluation materials? How will we assess programs (pre- and post-knowledge; staff evaluation; participant evaluation; teacher evaluation, etc)? Who will analyze the data? How will the data be used to improve programs?"

An excellent resource to use in developing a monitoring and evaluation plan is **MEERA** (My Environmental Education Evaluation Resource Assistant; <http://meera.snre.umich.edu/>). This website walks the user through goal identification, evaluation design and implementation, data collection and analysis, and steps to use evaluation results to improve programs.

While this site is geared toward environmental education programs, the underlying themes and resources apply to all programs, including the I&CE Plan. The National Interpretive Services Standards (NISS; Appendix H) provide a guide for assessment and evaluation; however, they do not provide an explicit protocol to effectively evaluate our success at reaching objectives.

Using a logic model, as presented on the MEERA site, allows us to specifically identify **inputs**, **outputs**, and **outcomes** for different objectives. For example, we could address the safety and security aspect discussed in the NISS more thoroughly and with a logic model approach.

A generalized logic model (Figure 1) and a logic model with examples of evaluation questions (Figure 2) are provided as a guide.

In the case of the safety and security messages/measures our **inputs** for brochures/informational materials could be: staff, funding, time, materials.

Outputs could be: brochures, informational materials, products. The audience we are trying to reach is: people using the Gorge for hiking and camping (we can take data on how old, number of people reached, etc).

Outcomes: What are we looking to do/accomplish with our brochures/materials? Short-term could be: increase knowledge and awareness; Intermediate: change

Appendix G

attitudes; Long-term: change behaviors. Impacts could include: decrease the number of rescues, fires, etc (whatever we are targeting with our information)

Within each of these major headings (inputs, outputs, outcomes) we can then formulate specific questions to see if we are meeting our goals. Of example, in outputs: Were brochures made in a timely manner? Were brochures cost-effective? Were brochures informative/adequate? Did they contain all desired safety information? Were brochures well-designed (we would need to define what we mean by well-designed)?

We can further ask within outputs: Did all parties receive the information in a timely fashion? Did any parties decline information? Why?

We can then assess outcomes by asking: To what extent did the brochures help increase knowledge and awareness? To what extent did parties learn new skills? How receptive were parties to the information? Assessing attitudes and behavior changes is a bit more difficult, but definitely possible. Attitudes can be assessed by asking people questions (this can be difficult because people will sometimes give you the answer they know you want to hear rather than their true thoughts). We can assess behaviors indirectly by asking: Has there been a decrease in rescues? Were people who were involved with rescues informed by our brochures?

Finally, once the evaluation questions are developed, we can use a set of criteria to help us decide if each question is likely to be useful to us (Figure 3).

This example is only to illustrate one possible use of the logic model assessment/evaluation process. It is a very user-friendly process that can yield excellent insights in to our objectives, the specific measures we are taking to reach the objectives, whether those objectives were reached, and what can be done to improve our programs, brochures, activities, etc.

Figure 1 - Generalized Logic Model (Modified from: Taylor-Powell et al, 2002)

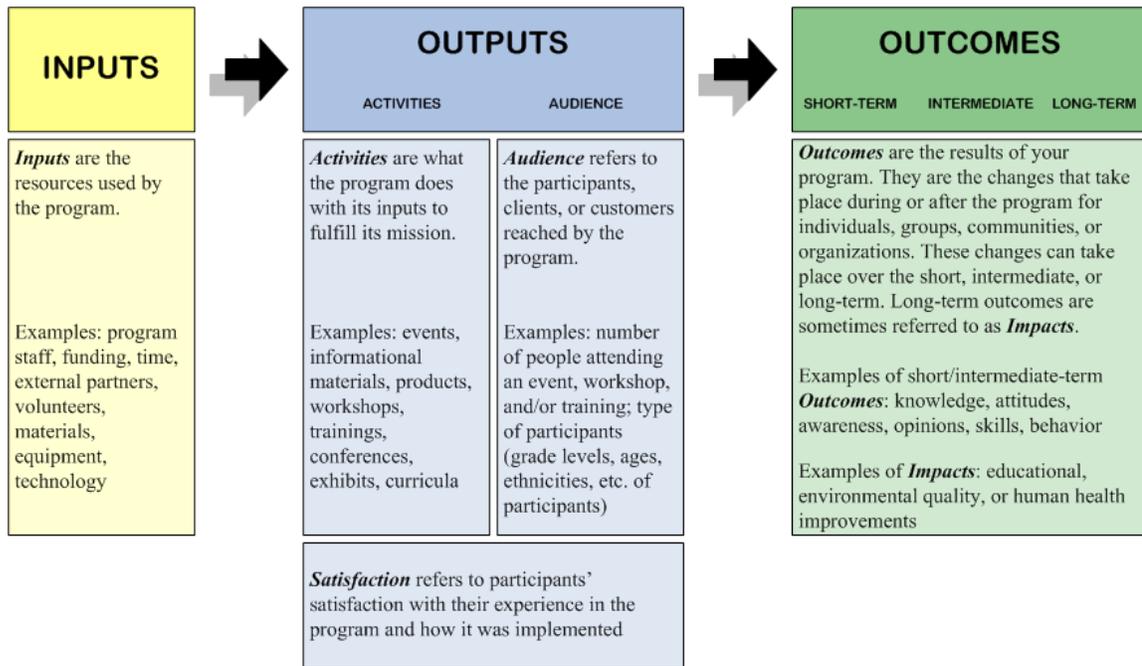
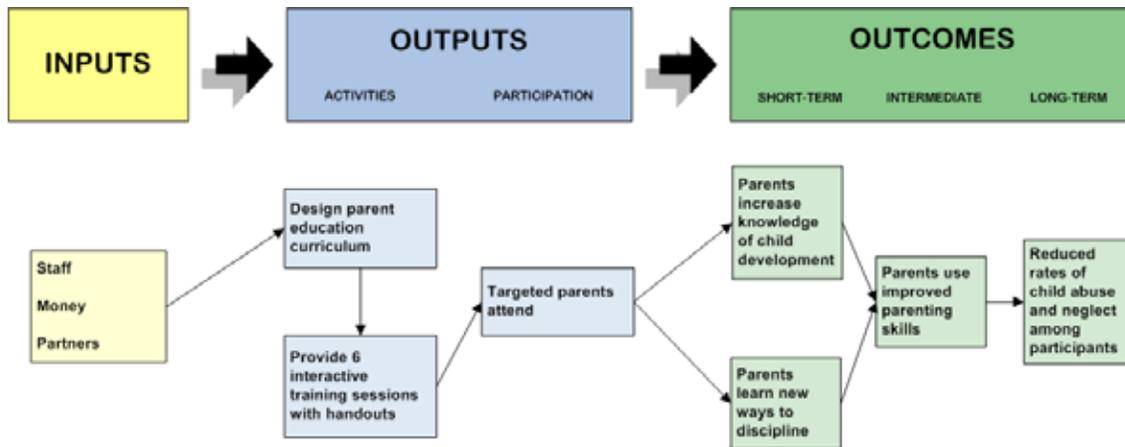


Figure 2 - Logic Model with Key Evaluation Questions (Modified from: Taylor-Powell et al, 2002)



Key Evaluation Questions

- Were the inputs sufficient, timely?
- Was curriculum developed? Were all 6 sessions delivered?
- Did all parents attend that we intended? Who did/ did not attend? Did they attend all 6 sessions? Why/ why not?
- To what extent did knowledge increase? Did they learn new approaches? What else happened?
- Are parents actually using improved skills? What difference do these skills make?
- Has there been a decrease in rates among participants? Were goals met?

Figure 3 - Criteria to determine if each evaluation question is useful (modified from Worthen et al, 1997)

Answers to this evaluation question are likely to . . .					
	Not at all likely		Somewhat likely		Very likely
Help us improve our program	1	2	3	4	5
Help us show the success of our program – or – reduce uncertainty about the program's effectiveness	1	2	3	4	5
Be of interest to stakeholders and have leverage to influence deliberation and action	1	2	3	4	5
Be of interest to program managers and have leverage to influence deliberation and action	1	2	3	4	5
Be of interest to program staff and have leverage to influence deliberation and action	1	2	3	4	5
Be answerable given our timeframe	1	2	3	4	5
Be answerable given our financial resources	1	2	3	4	5
Be answerable given our evaluation expertise	1	2	3	4	5
<i>Adapted from: Worthen, et al. (1997).</i>					

References

Taylor-Powell, E., Jones, L., & Henert, E. (2002). "Section 7: Using Logic Models in Evaluation: Indicators and Measures," in *Enhancing Program Performance with Logic Models*. Retrieved July 30, 2007, from the University of Wisconsin-Extension web site: <http://www1.uwex.edu/ces/lmcourse/>

Worthen, B.R., Sanders, J.R., & Fitzpatrick, J.L. (1997). *Program Evaluation: Alternative Approaches and Practical Guidelines*. New York: Longman Publishers, USA.

Appendix H – National Interpretive Services Standards

COMMUNICATION EFFECTIVENESS

1. Interpretation and education is accurate and based upon current scholarship and research data.
 - ☞ (for an interpretation/education planning effort) Attend training to assure that sufficient subject-matter expertise is available for the planning effort.
 - ☞ (for a personal services field interpretive program) Audit and evaluate at least two interpretive programs presented by each field interpreter during the season.
 - ☞ (for maintenance of non-personal interpretive media) Review all interpretive signs for content accuracy and relevance once per year.
2. Interpretation and education conveys clear messages and is organized around explicitly defined themes.
 - ☞ (for a personal services field interpretive program, or interpretive planning effort) Prepare, review, and approve a written interpretive program outline which includes clearly-stated thematic focus, instructional objectives, and organizational intent, prior to program implementation.
 - ☞ (for personal or non-personal interpretive services) Evaluate each interpretation and education activity annually using feedback from visitors to ascertain if desired messages are being effectively communicated.

RESPONSIVENESS

1. Interpretation and education activities convey management goals and support the agency's mission.
 - ☞ (for all interpretation and education activities) Annually identify the site-specific and national-level management goals that will be addressed by the unit's interpretation and education program.
2. Interpretation and education activities meet the expectations of the visitor.
 - ☞ (for personal services programs) Once per year, solicit informal audience feedback for each personal services program offered at the site.
 - ☞ (for a non-personal services planning effort) Consult with local and regional tourism industry providers to assure that planned efforts are consistent with their current needs and future development initiatives.
 - ☞ (for an ongoing environmental education program) Conduct annual review to determine if education programs support established state curricula for environmental education.
3. On-site interpretation and education messages relate to site-specific resources and resource issues.
 - ☞ (for all interpretation and education programs) Annually review and update inventory of site-specific resources and resource issues that are unique to the site and/or express the "essence" of the site.

Appendix H

4. Interpretation and education is accessible (i.e. meets the requirements of ADAAG, accommodates a variety of learning styles, and meets the needs of those from other cultures, non-English speakers, and children, as appropriate).

☞ (for personal services programs) Provide initial, or refresher, training in field techniques for making interpretation and education universally accessible to diverse audiences for all first line interpreters.

☞ (for all interpretation and education programs) Annually evaluate each interpretation and education program to assure that programs are universally accessible, or that mechanisms are in place to provide "reasonable accommodation" to all program participants.

5. Interpretation delivery systems are maintained at a level that meets industry and professional standards* of quality and appropriateness. [*These professional standards include: US Army Corps of Engineers Interpretive Graphics Standard (for interpretive signs); NPS interpretive competency standards (for personal services); USDA/FS exhibit design standards; principles of interpretive communication outlined in Freeman Tilden's *Interpreting Our Heritage*; costumed interpretation/ living history standards]

☞ (for all interpretation and education programs) Annually evaluate each interpretation and education program for compliance with appropriate standards.

SAFETY AND SECURITY

1. Safety messages are consistently included in interpretation and education programs.

☞ (for personal services interpretive programs) Annually review and update safety messages conveyed by interpreters to visitors during guided walks and talks.

2. Safety measures are taken for visitors participating in interpretation and education activities.

☞ (for a guided interpretive cave tour program) Inspect and repair or replace, as needed, lanterns and hard hats prior to the start of cave tour season.

☞ (for all personal services programs) Provide annual safety and first aid training, or refresher training, for all first-line interpreters.

Appendix I – Costs for Panel Design, Fabrication, and Mounting



Rocky Mountain Region
Center for Design & Interpretation



INTERPRETIVE PLANNING - TOOL #6

Costs for Panel Design, Fabrication, and Mounting

Planning and Design Costs

The cost of designing your sign can vary greatly. Factors that affect the cost include the following:

- Do you have a theme established for your sign(s)? Can you articulate the objectives that you hope to accomplish?
- How much time can forest staff devote to providing reference materials for the text?
- How many photographs, illustrations, and/or graphics are currently available? How many will CDI need to hunt down, create, or purchase?
- Do you have a forest “corporate image” already established for your signs, or will our designers be starting from ground zero? Will there be multiple signs done from the same “template”? Is there a “template” already established?
- Are you going to need a map?
- Who will be the reviewers? Will their comments be compiled and approved prior to submittal?

Given these variables, **design costs can range from \$2,000 – 3,500 per sign**. Costs include:

- ✓ Salary time for text development
- ✓ Image acquisition (finding photos, illustrations, etc. If images need to be purchased, plan on another \$50-100/image).
- ✓ Graphic layout and design
- ✓ File preparation for fabrication
- ✓ Project management
- ✓

Costs do NOT include:

- ✓ Contract preparation and administration (7% of total)
- ✓ Compilation of map data into a format useable by graphic designers.
- ✓ Panel fabrication
- ✓ Mounting structure

Appendix I



Sign Materials

There are a wide variety of sign materials available for both indoor and outdoor interpretive sign panels. Choosing the right one is a matter of matching your needs and desires with your setting and available budget. (And don't forget to consider how the sign will be mounted!) These are some of the most common; technology will continue to rapidly change and new materials may become available.

Type	Advantages	Disadvantages	Cost of a 2" x 3' **
Foam Board (Gatorfoam or Fome-cor)	Good for temporary, indoor displays. Can be constructed in-house.	Not very durable – has a short (1-season) lifespan.	\$50
Vinyl (usually 3M products)	Can be made very large (up to 52" x over 100 feet long). Is thin and lightweight, so can be laminated in plastic, and then mounted on plywood, metal, acrylic, or other substrates.	Not very durable. Best for temporary displays (2-3 years, although some warranties are for 5). May bubble in very hot climates.	\$165-200 (1/8" thick)
Fiberglass Embedment (digital output encapsulated in clear fiberglass)	Resistant to shattering, weathering, fading, and graffiti. Excellent colors and resolution. Warranties are generally for 10 years.	May need to occasionally buff with sandpaper or car polish. Edges not as attractive as high pressure laminate.	\$200-300 (1/8" thick)
High Pressure Laminate (digital output encapsulated in clear plastic resin)	Resistant to shattering, weathering, fading, and graffiti. Excellent colors and resolution. Warranties come anywhere from 10-20 years.	Can be scratched or damaged, but takes a lot of effort. Panels .5" thick can be mounted without frames.	\$300-400 (1/8" thick)
Anodized Aluminum (gold, bronze, or silver-toned etched metal)	Very durable, low maintenance, impervious to harsh weather. Attractive for recognition plaques, and designs with line drawings.	Can be scratched. Colors are very limited (can't easily do photographs or illustrations.) Can't do really large signs.	\$450-600 (1/8" thick, color)
Engraved Stone	Very durable, impervious to harsh weather. Can be very compatible with outdoor settings. Can incorporate color and photographs.	Can be broken with heavy objects. Engraved details can collect dirt and debris so require periodic washing.	\$900 - \$1,500 (\$125 - \$250 per sq. ft.)
Porcelain Enamel (ceramic coating on metal.)	Outstanding color and resolution. Often guaranteed for 25 years. Extremely weather and vandal resistant. Requires very little maintenance.	Can be chipped or shattered by bullets, tire irons, or other heavy objects. Blowing sand can mar the surface.	\$1,500 for black and white; \$2,500 for 4-color; \$3700 for full color.

DISCLAIMER: Costs are shown as fabrication estimates only. Actual costs can vary widely depending on the quantity of signs ordered, freight charges, size and thickness of signs, industry innovations, and market competition. Cost estimates are as of 1/05. (Costs do not include design, mounting structures, and installation.)



Rocky Mountain Region
Center for Design & Interpretation



Mounting Structures and Exhibit Bases

Mounting structures and exhibit bases vary widely, depending on site characteristics, the ROS class, maintenance level desired, budget, accessibility, and other factors. Costs can range from several thousand dollars for a custom design, to a few hundred for a simple frame base.



As an example of a simple exhibit base, the style shown at the left is a simple "Hopewell" base that is easy to install (CDI can provide instructions) and relatively inexpensive. A standard 3' x 2' frame costs approximately \$400 – \$600.

Cost Estimate Worksheet

Item	Material	Size & Quantity	Cost
Planning and Design			
Fabrication			
Installation			
Exhibit Base/ Mounting Structure			
TOTAL			

Notes