



Monitoring and Evaluation Report

Land Between The Lakes National Recreation Area

Fiscal Year 2007



Table of Contents

A. Certification	page 2
B. Introduction	page 3
C. Executive Summary	page 4
D. Monitoring Results and Evaluations	pages 5-39
E. Action Plan	page 39
F. Appendix	page 42

Key Preparers:

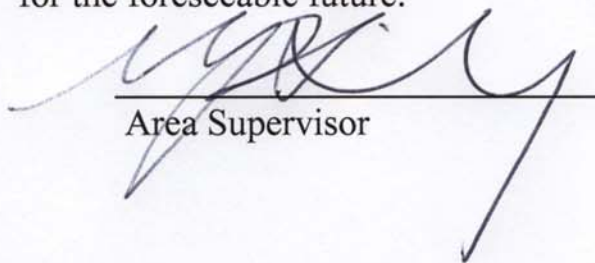
Judy Hallisey – Environmental Stewardship Department Manager
Steve Bloemer – Wildlife Program Manager
Elizabeth Raikes – Wildlife Biologist
Jim McCoy – Fire Management Officer/Wildlife Biologist
Barry Haley – Business Performance Department Manager
Kathy Coursey – Budget Officer
Brian Beisel – Customer Service Department Manager
Gary Hawkins – Recreation Program Manager
Sharon Waltrip – Environmental Education Program Manager
Kathryn Harper – Communications Department Manager
Barbara Wysock – Area Planner
Greg Barnes – Social Scientist/Marketing Specialist
Jason Loos – Lead Forester
Bill Ryan – Natural Resource Specialist-OHV/Trails
Jackie Franklin – Soil Scientist/Hydrologist
Jamie Bennett – Heritage Program Manager

All program areas were consulted in the development of this report.

A. Forest Supervisor's Certification

I have evaluated and endorsed the monitoring and evaluation results presented in this report. I have directed that the Action Plan developed to respond to these results be implemented according to the timeframes indicated, unless new information or changed resource conditions warrant otherwise. I have considered funding requirements in the budget necessary to implement these actions.

I find there are no recommended changes to the Land and Resource Management Plan (Area Plan) at this time, and therefore it is considered sufficient to continue to guide land and resource management of Land Between The Lakes National Recreation Area for the foreseeable future.


Area Supervisor

January 15, 2008
Date



Land Between The Lakes undeveloped shoreline.

B. Introduction

This Monitoring and Evaluation (M&E) report presents a summary and analysis of results accomplished at the Land Between The Lakes (LBL) National Recreation Area (NRA) during Fiscal Year (FY) 2007.

The report emphasizes the findings and conclusions that have been compiled from various monitoring activities and data sources available on the unit. As stated in Section 2 of the Area Plan, the monitoring and evaluation program is designed to serve as an important link between Plan implementation and on-the-ground accomplishments. Evaluations in this report serve as a springboard to any needed changes within the Area Plan or its implementation. The M&E program determines and informs the Area Supervisor on whether:

- Goals and Objectives are being achieved;
- Design Criteria are being followed;
- Implementation effects are occurring as predicted;
- Emerging or unanticipated issues are arising.

Minor changes from the FY2005/2006 report format were made based on feedback we received. The sections of this year's report remain the same and we continued discussion of the relevant pieces from last year's report. We plan to evaluate the report's effectiveness based on feedback we receive over the next year. Section D is broken up into eight pieces, one for each of the Area Plan's goals.

Each goal has a table that combines in one location the desired condition and trend statements, and relevance discussed in the Area Plan. In an effort to make this a meaningful and usable document while still being a manageable size, we have attempted to summarize only the key conclusions within the body of a "monitoring results and evaluations narrative" following each goal's table.

The heart of the report is the narrative in Section D focusing on the significant items that have driven the conclusions presented. It is also important to note that obviously, there is much more information that has been looked at in development of this report. The supporting data is available from the Area Planner.

Citizens have a stake in understanding management effects and effectiveness at LBL. Only by hearing from you, our stakeholders and owners of the public land, can we know whether we are providing the information and program benefits you desire. Comments about LBL can always be provided by mail to the Area Supervisor, 100 Van Morgan Drive, Golden Pond, KY, 42211; by electronic mail to comments-southern-land-between-lakes@fs.fed.us; or by phone to Barbara Wysock, Area Planner, at 270-924-2131. We welcome your thoughts and comments about this report or any aspect of LBL management at any time.

C. Executive Summary

The FY2007 M&E report demonstrates visibly there are a number of initiatives underway and a good number of accomplishments have been achieved. The full effect and resulting conditions of many projects cannot be measured until a longer period of time has passed; however, and principally because the plan is relatively new, this report has not identified any major deficiencies or significant changes to the Area Plan that are needed at this time.

The weather patterns in Kentucky and Tennessee were unusual this fiscal year. There was an unusually late freeze that followed a warm spell in the spring. Kentucky and Tennessee experienced drought conditions during the latter half of the fiscal year; rainfall was 10-14 inches below normal. Many locations had record setting high temperatures during the summer.

Some of the highlights of this second M&E report include:

- LBL continues to move ahead of the Area Plan objective for acres of fuels reduction/prescribed fire program.
- The Environmental Assessment (EA) for the Prior Creek Project in the Oak-Grassland Restoration Demonstration Area (OGRDA) in the Tennessee portion of LBL was completed. The Continued Maintenance of Open Lands EA was completed and riparian corridor standards have been implemented on open lands.
- Visitation was up 8% over the past year and this should support the lakes area region.
- Partnership efforts have supported several key accomplishments, and the volunteer program has grown steadily over the past two years.
- The public was consulted on a variety of very important areas, including the future of lake access areas, fee increases, heritage program implementation, and deer management.
- Turkey Bay Off-Highway Vehicle (OHV) Area continues to undergo a remarkable transition. Designated trails are signed and restoration projects continue and are supported by grant dollars.



Aerial View of The Homeplace and South Bison Range.

D. Monitoring Results and Evaluations

Goal 1:	Prioritize projects to provide the greatest recreation, Environmental Education (EE), and resource stewardship benefits.
Sub-element NFS Generic Desired Condition	“LBL will play a pivotal role in supplying and supporting the recreational and EE experiences people seek.” “All vegetation management activities will be designed to sustain or improve wildlife habitats, forest health, recreation opportunities, or EE experiences.” [Area Plan, Vision]
Example Area Plan Desired Condition Statement	“The responsibility for meeting this (recreational and environmental education) increasing demand will fall to those areas and entities capable of providing outdoor recreational opportunities while sustaining natural environments.” “Vegetation management activities will incorporate environmental education messages, themes, and information in programs and projects as much as practical.” [Area Plan, Vision]
Desired Trend Statement	“Eighty percent of all special projects will have identified and demonstrated benefits to recreation, EE, and resource stewardship.” [Objective 1a]
Monitoring Questions	1. Has the Forest Service (FS) made progress toward providing satisfactory recreational and EE experiences to visitors while providing for resource stewardship? 2. Have resource management projects been integrated?
Area Plan Performance Measures	1. Trends in segmented visitation in comparison to numbers of related resource stewardship projects completed 2. Number of integrated projects being completed
Data Sources Utilized	--Summary of visitor satisfaction surveys or personal letters and notes received; visitation; and focused area accomplishments --Objective accomplishments, summary of integrated projects completed
Importance	This goal contains key emphases of the LBL Protection Act and reinforces the key purposes described for LBL when created in 1963. Optimizing efficiency and integration of resources are also primary objectives of both LBL and the agency.
What It Tells Us	The results related to this goal will provide key information about whether LBL is meeting its legislated objectives and tiering to national strategic goals.

Goal 1, Monitoring and Evaluation Narrative

LBL has a primary mission to provide recreation and EE. The foundational focus employed to accomplish the objective to provide the “optimum yield” of recreation, EE, and resource stewardship benefits is to provide at least one significant environmental message to each LBL guest during their visit. This tactic engages the citizen in the midst of the recreational event they enjoy, with what we intend to be a positive-impact, environmental message that will translate into life-long resource stewardship benefits.



Students learn about lake ecology and explore aquatic life diversity in LBL EE programs.

While we are proudly tracking progress towards achieving the Area Plan goals and objectives, we are obviously just getting underway. The following items are discussed in later narrative.

- The EAs for two integrated projects were completed, laying the groundwork for implementation to begin during FY08. These projects are the Continued Maintenance of Open Lands and the Prior Creek Project (<http://www.lbl.org/LRMPPProjects>) in the OGRDA (<http://www.lbl.org/NRMOakGrassland.html>).
- Two landscape burns were accomplished using aerial ignition.
- LBL included the public to assist in planning and decision making in many areas, such as the future of lake access areas, fee increases, heritage program implementation, and deer management.
- Restoration efforts continue in Turkey Bay OHV Area (<http://www.lbl.org/OHVTrails.html>) with EE interwoven.
- A strategic master plan was completed for EE which will provide the framework to integrate EE with recreation and resource stewardship.
- We inventoried back country camping areas, and assessed the lake access areas to lead to decisions about what the public desires and the capability to afford to maintain from a natural and monetary resources perspective. No decisions have been made to date, and the public will be able to comment on our proposed decisions.
- The Nature Watch Demonstration Area implementation is in its early stages. The Nature Station serves as a hub for wildlife viewing and other outdoor experiences. An open land area near the Nature Station is being converted to a native plant community to support wildlife and provide accessible wildlife viewing opportunities. Other areas are being considered for an overall Nature Watch concept at LBL.

[Figure 9](#) found within the narrative for Goal 8 lists the key target accomplishments summary at LBL during FY08. Review of that data indicates LBL is continuing to provide a high level of recreation and environmental activity. Customer feedback from formal surveys, personal letters, comment cards, user feedback to individual program managers, and the general consensus from surrounding communities are predominantly positive and indicative to reasonably conclude the projects we have prioritized and

areas in which we are currently putting significant focus are indeed providing for significant recreation, EE, and resource stewardship benefits.

LBL intends to develop an effective and meaningful heritage program. Since coming to LBL, the heritage program manager has met with many LBL users, community members, former residents, stakeholders, fellow employees, professionals, and other people interested in the heritage of LBL. Before generating program direction that could result in a revision of the Heritage Resource Management Plan (HRMP), which was developed and in place before the Area Plan, there was a need to evaluate and review the existing condition to figure out what was working and what needed to change.

Early this year, meetings were held in community libraries around LBL to answer three basic questions:

1. Did people want a heritage program?
2. If so, what did they want it to look like?
3. Were they interested in being involved in helping to build a program?

The first thing learned by the response to the meetings was many people from varied backgrounds and diverse interests and concerns are interested in the history of LBL, not just former residents. The answers to the questions were:

1. Yes, people want a heritage program.
2. They are not sure what it should look like, but know that the last 200 years of history are very important to them.
3. Yes, most people want to know how they can participate.

LBL's biggest challenge will be finding a way to move the heritage program forward, which is what all agreed they want, allowing everyone who wants to participate to do so, without causing more strife or creating chasms between the different interests.

After listening to all of the input, it was clear methods and approaches need to be tested and lessons learned in order to define what constitutes a meaningful and effective LBL heritage program. An interim plan, the heritage implementation plan, is being drafted that delineates a dynamic and flexible approach to heritage management through an adaptive strategy. This adaptive strategy will afford an iterative process of planning, implementing, monitoring, evaluating, and incorporating new knowledge into heritage management as different methods and approaches are tested. A summary will be in the M&E report.

Components of the draft heritage implementation plan were shared at the library meetings. During another meeting, the entire draft plan was reviewed by those interested. The draft heritage implementation plan will continue to be shared with all of our stakeholders and others who are interested. As LBL works to accomplish the goals and tasks outlined in the heritage implementation plan, the knowledge gained will be incorporated into any future HRMP revisions, ensuring it will be an effective road map that can guide LBL as it defines and builds a meaningful heritage program.

Goal 2:	Emphasize partnerships and cooperation with citizen groups, community businesses, private corporations, tourism organizations, and government agencies.
Sub-element NFS Generic Desired Condition	“LBL will continue to be a destination point for visitors throughout the region and nation, thereby contributing to the local and regional economy.” [Area Plan, Vision]
Example Area Plan Desired Condition Statement	“Maintaining and developing partnerships will be important to keeping LBL positioned as a premiere recreation/EE destination.” “The public will continue to play an important role in project-level actions and decisions.” [Area Plan, Vision]
Desired Trend Statement	“Establish at least one local partnership for tourism, economic development, or EE; and at least one new cooperative with a regional, state, and federal agency or organization annually in support of the LBL mission.” [Objective 2a] “Increase visitation to more than 2 million visitors per year by the end of 2015 to support local and regional economies. [Objective 2b]
Monitoring Questions	3. Has the FS made progress toward supporting vitality of gateway communities and maintaining/enhancing relationships with its neighbors and regional organizations?
Area Plan Performance Measures	3. Trends in visitation, levels of community participation
Data Sources Utilized	--Summary of visitation results, community participation in meetings, programs provided, grants sponsored, cooperative gateway projects, feedback from elected officials and business leaders, and visitation --Number of MOUs, partnership agreements, and challenge cost share agreements with local, regional, and state agencies
Importance	This goal contains important strategies for the collaborative delivery of goods and services at LBL. It also reinforces several of the key purposes described for LBL when created in 1963, namely to work cooperatively with the gateway communities in support of their strategic direction.
What It Tells Us	The results related to this goal will provide key information about whether LBL is meeting its stated objectives to work closely with partners and communities and developing strong relationships with local, state, and regional organizations and publics.

Goal 2, Monitoring and Evaluation Narrative

Community Participation

LBL continues to focus efforts towards supporting the vitality of gateway communities and maintaining relationships with neighbors and regional organizations. LBL’s gateway communities have come to depend on tourism as a primary industry. The region looks to LBL as the centerpiece for this tourism industry. The importance of tourism partnerships is recognized by the FS as critical in order for LBL to continue to be a destination of choice for visitors throughout the region and nation.

Kentucky and Tennessee statistics for 2006-2007 indicate that LBL is now the center of a \$650 million industry, up nearly 10% in recent years.

LBL continues to be a member and active partner with regional tourism organizations such as Kentucky Western Waterland (KWW) (<http://www.kentuckylakebarkley.org>), the Kentucky Federal Agency Tourism Council (KFATC) (<http://federal.tourism.ky.gov/>) and the newly formed Lakes Region Tourism Coalition. This year, LBL provided staff support for KWW's marketing booth at the Kentucky State Fair. In addition, LBL works actively with KWW on cross promotions through website links, electronic publications, and distribution of printed materials. In 2007 LBL hosted a KFATC meeting and attended the KFATC session at the Kentucky Tourism Council Conference. LBL staff assisted the Lakes Tourism Coalition by attending three group tour marketplace conferences and developing marketing products.

LBL's gateway state resort parks (<http://state.tn.us/environment/parks/index.shtml>, <http://parks.ky.gov/>), are another key partner. LBL works closely with each of the four resorts to provide visitors and potential visitors, information for trip planning, including in-room promotional items, updated maps, and information sources. Another level of tourism promotion efforts are facilitated on the state level, including all major visitor centers in the region. LBL has periodically hosted tours for state visitor centers' staff to increase awareness of the recreational opportunities available. LBL works with both the state of Kentucky and Tennessee tourism programs to provide accurate and timely representation of the recreation and EE opportunities available at LBL.

A new tourism partnership initiative was tested last year and continued this year to provide promotion benefits for LBL and surrounding communities. The partnership was established with the regional radio station, WKDZ (<http://www.wkdzradio.com/home.php>) in the Murray, Cadiz, Hopkinsville, and Ft. Campbell area. This model for media coverage is a more collaborative effort in support of regional tourism. Initial results, though only rough estimates by conversations with elected officials, tourism partners, and through increase in visitation, do indicate the partnership is resulting in increased community awareness and involvement in LBL's recreation and EE facilities. LBL will also continue participating in the support of WKMS (<http://www.wkms.org/>) public radio, a key source of information on activities in the region.

In regards to maintaining and enhancing relationships with neighboring communities, LBL continued traditional avenues and implemented new links with community members and business leaders. LBL currently holds a membership with each of 10 surrounding community Chambers of Commerce and frequently provides speakers for Chamber and local organizational meetings. In addition, LBL staff spoke at other community and business organizational meetings. During FY07, approximately 100 presentations and contacts were made with local, state, federal, and other organized groups. Two new direct mail co-op promotion initiatives were accomplished in FY07 with the Grand Rivers community. We will continue to explore additional co-op opportunities for promoting regional tourism.

The FS continues to maintain a high priority on keeping surrounding communities informed on and engaged with LBL planning and projects. The initiative of a "Business Leaders Focus Group," has continued and benefits develop from this group. One benefit of the focus group is it provides valuable input and perspective on needs within the community and feedback on how LBL business decisions affect their communities. The FS diligently seeks input from the public on projects by holding public meetings, comment period, meeting with local officials, and talking with visitors. The Proposal for Fee Increase for camping and day-use admission fees is an example of a project with an extensive public involvement process. Besides the summer-long comment period, the FS held several public

meetings at facilities to gather feedback. Another wide variety of constituencies, the 17-person LBL Advisory Board (<http://www.bl.org/LRMPAdvisoryBoard.html>), is now in its seventh year and continues to provide tremendous assistance to the FS. This past year, they embarked on development of an important recommendation that provides their view of key elements, goals, and proposed action items that should be contained within the LBL EE Master Plan.

The LBL EE staff was heavily involved in the Stewart County Earth Camp in 2007 held at Cross Creeks National Wildlife Refuge. In the future, the US Fish & Wildlife Service will play less of a role at this event, and the interagency group, PEPL (Partners for Education on Public Lands) may take the lead with LBL doing even more. The EE staff established over ten partners to help or contribute to EE special events and programs at LBL. The partnerships are necessary to enrich audiences, programs and funding in relation to EE, which is one of the three main goals of the EE Master Plan.

After listening to many LBL users, community members, former residents, stakeholders, and other people, the heritage program manager confirmed the need to develop a meaningful heritage program. Six meetings were held during FY08, in addition to many discussions between individuals and the heritage program manager. See the outcomes discussed in the Goal 1 narrative.

Groundwork for the Highway 68/80 improvement project just got underway and will greatly impact LBL (<http://www.us68bl.com/>). This design/build project, managed by the Kentucky Transportation Cabinet, is viewed by the FS as a critical priority to ensure it will meet the needs of regional commerce and tourism while protecting resources and blending with the natural environment. The Transportation Cabinet supported and the Federal Highway Administration selected the alternative that addresses these concerns. Impacts to tourism during the construction phases will be mitigated as much as possible. Some reduced visitation and travel delays can be expected at times.

This past year the forest management staff strengthened relationships with the forestry and logging industry. They personally met with industry professionals to obtain input on how LBL can make timber sales more attractive and timber contracts more appealing. LBL Foresters attended the Kentucky Forestry Industry annual meeting in Louisville in order to build relationships with private forestry industry within Kentucky.

Partnerships, Agreements and MOUs

Partnerships, agreements, and MOUs provide critical resources that augment LBL facilities and services provided for recreation, natural resource management, and EE. While they have always been a part of how LBL operates, the Area Plan places added emphasis on the value they bring to LBL and the surrounding region.

Our partnership with Friends of LBL (www.friendofbl.org) continues to secure grants and provide priceless services in cooperation with the FS to help accomplish the LBL mission. A few of Friends of LBL FY07 accomplishments include:

- Governor's Office for Local Development Matching Grant of \$50,000 for Turkey Bay OHV Area trail maintenance, restoration, and reconstruction.
- National Forest Foundation Matching Grant of \$30,000 for LBL recreation trails.
- Organized data and collaborated with the Customer Service Department for a grant application from the FS for "More Kids in the Woods" initiative. Awarded \$10,000 from the FS.

- Conducted numerous presentations to groups within 60 miles of LBL to present the mission, educational and recreational opportunities found at LBL.
- Organized and administered the Field Trip Grant program for LBL. The program supported 1,715 children from schools in five states. These children will experience nature first hand and learn important EE, earth science education, and cultural education lessons from LBL facilities and interpreters.

The National Wild Turkey Federation (NWTF) partnered with LBL again this past year. The NWTF continues to provide support funding for the development of the OGRDA (<http://www.lbl.org/NRMOakGrassland.html>) which continues to be extremely successful. The NWTF has expressed interest in the OGRDA project in the future.

Between the Rivers, Inc. extended their cooperative maintenance agreement with the FS for St. Stephen's Church.

Murray State University continues to provide valuable Geographical Information System (GIS) services under a cost reimbursement agreement. The work they produce under this agreement enhances LBL productivity throughout all departments and provides valuable experience to their GIS department.

2007 was the final year in the agreement with USDA Natural Resources Conservation Service (NRCS). The Tennessee NRCS soil science staff has delivered 63,600 acres of updated soils information for the Stewart County Tennessee portion of LBL. NRCS soils staff combined the updated Stewart County information with existing soils information on Trigg and Lyon Counties in Kentucky. This combination of information has provided seamless GIS soils coverage for the entire LBL.

LBL Visitation

LBL still continues to host a significant number of "regional events" and weekend programs (<http://www.lbl.org/CALGate.html>) that contribute greatly to area visitation. Visitation to these events and programs continues to grow annually and contribute economically to the local area.

Overall visitation for LBL is up by 8% in FY07 compared to FY06, while campground visitation is holding steady. Visitation losses from last year were regained this year with an overall visitation totaling approximately 1.85 million visits. This compares with many public lands' visitation decreasing. No effect from the driest summer in years was seen in overall LBL annual visitation totals. While not an apple to apple comparison, regional and state visitation has shown very little growth in recent years.

Figure 1. LBL Visitation

Year	Total Visits
FY07	1,847,420
FY06	1,705,409

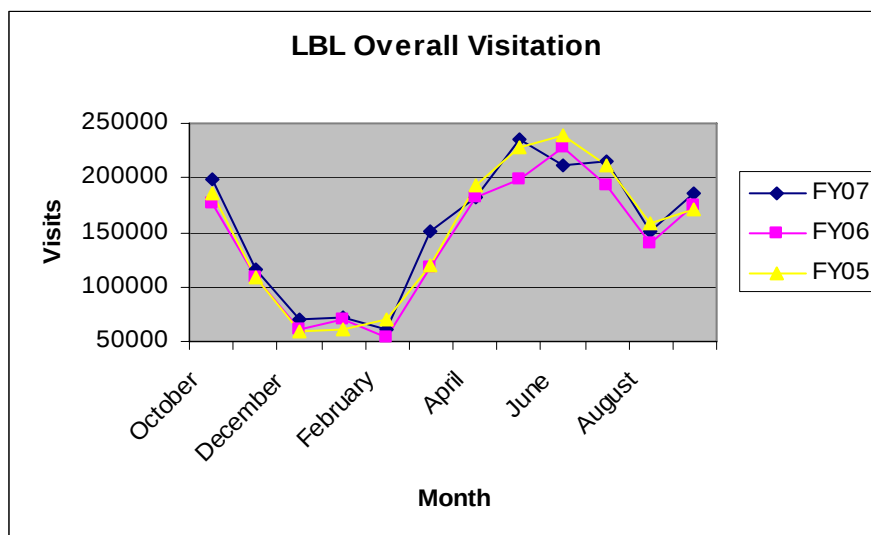
While some progress has been made, it is too early in the process to quantify any significant market segment visitation trends in comparison to numbers of related resource stewardship projects completed. Early signs indicate initial efforts are being met with reasonable success. In targeted LBL

recreational facilities where EE is deeply rooted, as in the case of the day-use facilities, participation has increased by 7-10% each fiscal year since our Area Plan-inspired focus (Figure 2).

Figure 2. Facility Participation in Programs¹

Participation/Visitation	Change from Previous Fiscal Year	
	FY06 (% change)	FY07 (% change)
The Homeplace (Admissions)	+7	+9
Woodlands Nature Station (Admissions)	+8	+10
Brandon Spring Group Center (Overnights)	+9	+2
Overall Visitation	-6	+8

Figure 3. LBL Overall Visitation²



Through partnering with the Friends of LBL (LBL Association), we have continued the effort to target inner city and ethnically diverse school groups, enticing them to visit LBL and actively participate in our various EE programs. For the 2007/2008 school year students from five states were awarded \$14,250 from LBL and Friends of LBL making it possible for these school groups to visit LBL and enjoy EE opportunities at Woodlands Nature Station, The Homeplace, Golden Pond Planetarium, and Brandon Spring Group Center. More than 51% of the students that benefited from these grants are full or partial free lunch program recipients. LBL's Field Trip Grant Program was awarded \$10,000 from the "More Kids in the Woods" national initiative to bring these children out to connect with nature.

¹ Visitation for The Homeplace and Nature Station are based on the point-of-sale or retail management system. Brandon Springs Group Center visitation is provided by the Center's housing reports.

² Overall visitation is derived from traffic counts.

Goal 3:	Utilize a variety of methods and opportunities to provide an EE message to every visitor.
Sub-element NFS Generic Desired Condition	“EE messages, information and principles will be incorporated into all projects on LBL through diverse cooperative, interdisciplinary efforts designed to potentially reach every visitor to LBL.” [Area Plan, Vision]
Example Area Plan Desired Condition Statement	“EE will emphasize more non-facility-based messages, programs, and projects. The current EE facilities will remain hubs for expansion of the reach and effect of the EE programs and projects. EE programs will be integrated with recreation activities and will provide messages and information to recreational visitors that make them more aware of the importance of sustaining their environmental surroundings while participating in their desired activity.” “Self-guided loop trails, road pull-offs, viewing blinds, and EE messages in these areas (Nature Watch Demonstration Areas) will engage visitors with the natural environment. “EE will be an integral component of activities in the Oak-Grassland Demonstration Areas. Visitors will be able to watch and learn about the application of various vegetation management practices used to restore native ecological communities.” [Area Plan, Vision]
Desired Trend Statement	“Insure that 80% of LBL communications, programs, and activities have an interwoven EE message.” [Objective 3a] “An average of one to two user impact challenges will be addressed annually through EE.” [Objective 3b]
Monitoring Questions	4. Has the FS made progress toward successfully changing behaviors as a result of EE experiences to visitors?
Area Plan Performance Measures	4. Trends in onsite visitor behaviors and visitor comment surveys
Data Sources Utilized	--Summary of visitor information surveys or personal letters and notes received, project accomplishments, annual monitoring results, programs, and communication products completed
Importance	This goal contains one of the key emphases of the LBL Protection Act and reinforces the key purposes described for LBL when created in 1963. Effective delivery of conservation education messages is also a primary objective of both LBL and the agency.
What It Tells Us	The results related to this goal will provide key information about whether LBL is meeting its legislated objectives.

Goal 3, Monitoring and Evaluation Narrative

An EE Master Plan was developed in FY07. The plan provides a framework to deliver EE messages using a variety of methods. The EE Master Plan lays out goals and objectives that will lead to effective education at LBL.

We have completed the designation of legal, motorized trails at Turkey Bay OHV Area. The new Turkey Bay OHV Area map included educational messages concerning responsible riding. This is an important step to educating and actualizing the sustainability of trails. Another accomplishment that

will open opportunities in 2008 is the completion of the Backcountry Site Inventory. Determining the location, conditions of each site, impacts, and access provide a foundation for decisions and a baseline for measuring improvements if we focus on education for behavior in the backcountry.

LBL started a recycling program in 2007 as another phase to “Respect the Resource” program. One benefit of recycling should be less littering along LBL roads. Look for results in the 2008 report as recycling containers are installed and we seek cooperation from our visitors and employees. The goal is to present recycling and its concepts to every visitor to LBL facilities. The relationship between an individual’s choices and the stewardship of the natural resources will be emphasized.

The EE staff has continued to provide diverse and regularly updated and new programs at the developed campgrounds, Brandon Spring Group Center, and the day-use facilities. Of course, the most popular programs like The Homeplace Wedding and the Hummingbird Festival are offered each year, but staff works hard to add variety to their programs. In the past year, the public was invited to take night hikes, participate in bird counts, iron furnace tours that tied with those in the surrounding areas, and a variety of eagle tours. Almost 300,000 visitors participated in these programs during FY2007. Interpreters provided programs to approximately 3,600 people at off-site locations (See Figure 4).

Special events at Woodlands Nature Station occur nearly once a month including Campfire Tales, Wolf Awareness Week, Fall Frolic, Junior Explorer Days, Spring Wildflower Weekend, Migration Celebration, Nature Arts Day, and Cool & Crawly Critters Day (<http://www.lbl.org/CAL97TDNatureStation.html>).

The Homeplace 1850 Farm received the FS Region 8 award for Interpretive Program/Project of the Year. Special events (also, nearly once a month) include Homeplace 1850 Wedding, Christmas in 1850, River Days, Pickin’ Party, Children’s Festival, and 1850’s Agricultural Fair (<http://www.lbl.org/CAL97TDHomeplace.html>). Opportunities to interpret organic farming and current forest resource management projects are seized and expanded upon. Visitors are able to participate in many hands-on activities.

North and South Welcome Stations are an important contact with first time visitors as well as explaining the why’s of many regulations to repeat visitors. Orientation information is their primary function while delivery of educational messages is common as well.



*Nature Arts Day at
Woodlands Nature
Station*

More than 68,000 visitors to Turkey Bay OHV Area (<http://www.lbl.org/OHVTrails.html>) receive educational messages through “Respect the Resource” and Ride for Keeps program materials and signs. Another important form of education is in the quarterly Turkey Bay OHV Area newsletter. This has been a vital and effective way of communicating with user groups to emphasize stewardship and ethical behavior. Campground visitors have the opportunity to attend educational programs presented by summer interns, mostly on weekends.



Independence Day provides children opportunities to learn and play 1850's games.

A diverse array of interpretive panels exists in LBL at remote and dispersed locations for the visitor to less developed sites (Iron Furnaces, St. Stephen's Church, South Bison Range, etc.). Over 100 educational brochures and hand outs are available on such subjects as ticks, deer, elk, and other favorite topics. The website, www.lbl.org, contains educational messages throughout. We cannot say we reach 100% of the visitors here at LBL, but these diverse methods and media show we are reaching out.

Figure 4. Day Use Facility Environmental Education Program Attendance

<u>EE Facility</u>	<u># Attended</u>	<u>Groups</u>	<u>Students</u>	<u>Programs</u>	<u>Topics</u>
Brandon Spring Group Center http://www.lbl.org/EEBrandonSpring.html	7,972	124		470	Pond study, stream stroll, challenge course, wildlife programs, orienteering, outdoor survival, and night hikes.
Woodlands Nature Station http://www.lbl.org/NSOutdoorAdventure.html	46,241 (includes 2,117 at off-site programs)		6,739 students		Focus on wildlife native to Kentucky and Tennessee, their role in the ecosystem, and how people affect their environment.
Golden Pond Planetarium and Visitor Center http://www.lbl.org/CAL97TDPlanetarium.html	114,613				Astronomy & earth science themes that connect us to nature. Local cultural heritage interpreted through exhibits.
Homeplace 1850 Farm http://www.lbl.org/HPStory.html	45,204 (Includes 1,457 at off-site programs)		6,710 students		Daily programs demonstrate life on a local farm in 1850, our ties to the land, and how we are still dependent upon nature.
Elk & Bison Prairie http://www.lbl.org/EBStory.html	123,129				Interpretive panels and a brochure are available.
North Welcome Station	39,469				Orientation information and regulations.
South Welcome Station	35,975				Orientation information and regulations.

Goal 4:	Manage natural and physical resources, and authorized FS activities, to reduce erosion or deterioration of riparian areas and watershed conditions.
Sub-element NFS Generic Desired Condition	“Restoration of riparian area functioning and improvements of priority watersheds will be another focus of the resource improvements.” [Area Plan, Vision]
Example Area Plan Desired Condition Statement	“Damage to natural resources caused by unmanaged recreation activities will be reduced...” “Roads will continue to be integral to many activities at LBL, but will be kept to the minimum number needed to meet the needs of multiple use management. The road system and its road segment maintenance levels will continue to be evaluated and modified, as appropriate. Evaluations will result in reconstruction or decommissioning of roads, when necessary, to improve watershed condition, facility and activity access, and wildlife habitat.” [Area Plan, Vision]
Desired Trend Statement	“Within a 10-year period, improve two watersheds by one condition class (see definition of watershed condition class in glossary).” [Objective 4a] “The 10-year trend will be to reconstruct 10 to 15 miles of trail annually.” [Objective 4b] “Unneeded roads will be decommissioned to improve watershed condition and wildlife habitat. The 10-year trend will be one to three miles per year.” [Objective 4c] “Maintain to objective maintenance level, 75% of system roads and 75% of trails annually.” [Objective 4d]
Monitoring Questions	5. Has the FS made progress in reducing erosion and improving watershed conditions and how was this accomplished? 6. Has the FS established baseline data for channel classification of its major intermittent and perennial streams?
Area Plan Performance Measures	5. Sediment transport, stream bank stability, water quality parameters, properly functioning riparian areas, watershed condition class 6. Completion of stream classification and determination of channel function process
Data Sources Utilized	Watershed Watch program, stream and riparian surveys, number of improved or relocated roads, and trails summary of watershed improvement projects; sample projects during program reviews to determine and document where riparian values, and soil and water resource considerations were implemented through BMP's and design criteria. --Stream inventory of substrate, Level II Rosgen channel type, average water flow (discharge), and stream bank vegetation.
Importance	This goal emphasizes LBL legislated multiple use mission and the need to direct resources and policies to sustain critical soil and water resources.
What It Tells Us	The results related to this goal will provide key information about whether LBL is meeting its legislated objectives and tiering to national strategic goals.

Goal 4, Monitoring and Evaluation Narrative

The FS is making steady progress in reducing erosion and sediment transport in order to improve watershed conditions. Across LBL, 210 miles of passenger car roads and 20 miles of high clearance vehicle roads, which equates to 49 % of LBL roads, were maintained to standard, down 1% from 2006. As in past years, not yet reaching the Area Plan objective of 75% of roads maintained to standard is due to prioritization of road maintenance focusing on high use roads needs, within budget constraints. For instance, high use roads are maintained at higher standards than regional standards, grading 8 times per year versus 4 times, due to heavy recreational vehicle use. A secondary, but important consideration is there have been some items addressed for maintaining cemetery access. Therefore, less money is available for more remote and less-used roads. Slowly, but surely, we expect to make progress toward our Area Plan objective. For example, by completing needed improvements to high use roads less annual maintenance will be required on them. The state was able to provide for some maintenance during FY07, thus freeing some funds for secondary roads.

In accordance with the Area Plan, over 250 campsites and access to them were inventoried, evaluated, and documented using GPS. The campsites were evaluated for high, medium, and low use and monitored for baseline levels of impacted area. There are a number of impacted sites in need of maintenance. Natural and monetary resources, along with public input, will be considered as proposals to backcountry and lake access areas are developed.



Typical backcountry campsite.

Local mountain bike clubs and Adopt-A-Trail members donated more than 1,200 volunteer hours to perform maintenance on the North/South Trail and Turkey Bay OHV Area. Additionally, three workdays were held at Turkey Bay OHV Area, totaling over 430 hours donated. Three trail reroutes and one trail improvement were completed with Alternative Spring Break groups and Adopt-A-Trail volunteers. The reroutes and relocations reduced trail erosion, and proper trail design and layout will reduce future erosion and maintenance issues. All sections of LBL trails were inventoried in 2007. Due to staff involvement in the inventory not all trails received annual maintenance. With completion of the trail inventory, 2008 efforts will be focused on maintenance.

The LBL 200 monitoring was completed for the final year of the permit cycle. Tread depth and soil displacement were included in the monitoring. Each year few to no impacts from the annual ride area mitigated immediately following the event.

A matching grant from the state of Kentucky totaling \$50,000 for restoration in Turkey Bay OHV Area was secured through Friends of LBL. A trails design and maintenance training course was hosted by LBL and Trail Design Specialists, Inc. for both FS and contractor staff.

In Turkey Bay, 106 miles of OHV trails were signed and designated. OHV trail inventories were entered into INFRA database. The new Turkey Bay OHV Area facility map identifies designated trails and communicates a resource stewardship message.



Designated trail in Turkey Bay OHV Area.

Twenty acres of watershed restoration were completed at Turkey Bay. Rehabilitation measures included mechanical grading, re-vegetation, and installing erosion mat and straw sediment logs. Also, bioengineering techniques included the use of tree root wads, fallen timber and limbs. Initial observations indicate progress has been made toward rehabilitation in targeted areas.



Hardened stream crossing in Turkey Bay OHV Area.

Two hardened stream crossings were constructed utilizing geotextile fabric and interlocking blocks. These areas had been heavily impacted by OHV use. Armoring these areas reduced stream bank erosion and lessened sediment transport. Stream bank/riparian area rehabilitation was completed on 0.2 mile of another stream in Turkey Bay OHV Area.

Riparian corridor implementation was established on 432 acres throughout LBL. These riparian corridors reduce sediment transport from open land maintenance, reduce the effects of scour erosion from out of bank flow, and improve water quality.

In August 2007, the FS Center for Aquatic Technology Transfer (CATT) performed a survey for aquatic passage on road/stream intersections. The survey is completed; however, the final report is not yet available.

Goal 5:	Use a collaborative approach to maintain and restore: 1) a diversity of plant and animal communities that support viability of associated plants, fish, and wildlife; and 2) sustainable levels of habitat and wildlife populations to support public demand for wildlife-related recreation.
Sub-element NFS Generic Desired Condition	“Visitors to LBL will see active management of forests and other vegetation designed to support ecological needs for forest health and wildlife habitat, in addition to supporting recreational and EE goals.” [Area Plan, Vision]
Example Area Plan Desired Condition Statement	“Much of the vegetation management program will be aimed at restoring ecological conditions to those best suited for sustaining native wildlife species. Vegetation management will target restoration and maintenance of oak woodlands and open oak forests, native short-leaf pine forests, canebrakes, and diverse structures characteristic of old growth forests.” “Sustainable open land management will be demonstrated through ecological restoration of native grasslands, maintenance of hayfields, and rights-of-way, and continued agricultural practices. Open lands management is directed at providing habitat for wildlife, especially those species in demand for hunting and viewing. Open lands located on sites incompatible with sustaining other resources (such as in riparian corridors) will be allowed to revert to forest, or will be maintained in native grassland or canebrake.” “Active management techniques will include the increased use of prescribed fire, which is documented to sustain native ecological communities and improve habitat for many wildlife species.” “Habitats will be provided for native and desired non-native plants, fish, and wildlife. All vegetation management activities will be designed to sustain or improve wildlife habitats, forest health, recreation opportunities, or EE experiences. The public will continue to play an important role in project-level actions and decisions.” [Area Plan, Vision]
Desired Trend Statement	“In mature oak forests, provide open forest structure on approximately 19,000 acres by the end of the first decade with a long-term objective of 31,000 acres.” [Objective 5a] “In mature oak forests, provide woodland structure on approximately 6,000 acres by the end of the first decade with a long-term objective of 30,000 acres.” [Objective 5b] “Provide a sustained supply of regenerating forest habitats totaling approximately 5,400 acres at any point in time. Regenerating forest will be treated predominantly within oak forests although other forest types and natural disturbances will be included.” [Objective 5c] “Increase the abundance of mature forest habitats toward achieving the long-term objective of approximately 123,000 acres of mature forest, of which 52,000 acres will meet old growth criteria.” [Objective 5d] “In mature forests on moist sites, provide canopy gaps on a minimum of 1,600 acres by the end of the first decade with a long-term objective of a minimum of 9,000 acres.” [Objective 5e] “Create and maintain at least 250 acres of short-leaf pine forests by developing desired mature open forest and woodland structural conditions over the first decade with a long-term objective of 450 total acres of shortleaf

	pine forest.” [Objective 5f] “Restore 50 acres of canebrake over the first 10 years of Area Plan implementation, with a long-term objective of 240 total acres of canebrake.” [Objective 5g] “In addition to the approximately 600 acres of open lands currently in native grasses, restore native grasses and forbs to another 750 acres of current open lands within the first 10 years of Area Plan implementation, with a long-term (50-year) objective of 2,600 total acres of native grassland.” [Objective 5h] “Maintain approximately 10,600 acres in open lands-cultivated and grassland cover types to - support game species, early successional species, and watchable wildlife. Approximately 1,100 acres of this 10,600 will be converted from cultivated field to grassland within riparian corridors over a 10-year period to improve riparian functions.” [Objective 5i] “Restore and maintain fire regimes and fire return intervals in fire dependent communities by prescribed burning an average of approximately 10,000 acres per year by the end of the first decade, with a long-term objective of 21,000 acres per year on average. Some acres will incur repeat fire application during the planning period.” [Objective 5j]
Monitoring Questions	7. How well are species of viability concern being maintained on LBL? 8. How is management of LBL affecting recovery of threatened and endangered species? (Duplicate questions for Measures 9-10) 11. How is management of LBL affecting demand for wildlife-related recreation? (Duplicate questions for Measures 12-14) 15. How is management of LBL affecting special habitats and major biological communities? (Duplicate questions for Measures 15-25) 26. Is the forest less likely to be affected by insects, disease, and wildfire? (Duplicate questions for Measures 26-28) 29. Has the FS made progress towards identifying old growth stands on the ground?
Area Plan Performance Measures	7. Trends in key habitats and/or populations of viability concern species. 8. Trends in highest risk species 9. Trends in Price’s potato bean populations in relationship to Threatened & Endangered (T&E) Recovery 10. Trends in bald eagle populations in relationship to T&E Recovery 11. Trends in Eastern bluebird populations as a Non-game Demand species 12. Trends in white-tailed deer populations as a Demand Game species 13. Trends in Eastern wild turkey populations as a Demand Game species 14. Trends in Northern bobwhite quail populations as a Demand Game species 15. Trends in pileated woodpecker populations in relationship to Snags in Forested Situations 16. Trends in Eastern bluebird populations in relationship to Snags in Open Forested Situations 17. Trends in Acadian flycatcher populations in relationship to Mature Riparian Forests 18. Trends in Northern bobwhite quail populations in relationship to Grasslands 19. Trends in prairie warbler populations in relationship to Oak Woodlands

	20. Trends in Great-crested Flycatcher populations in relationship to Mature Open Oak Forest 21. Trends in wood thrush populations in relationship to Mesophytic and Riparian Forests with Canopy Gaps and Mature Forest Interior. 22. Trends in Eastern meadowlark populations in relationship to Grassland 23. Trends in Yellow-breasted chat populations in relationship to All Forest Type Regeneration 24. Trends in composition of aquatic communities dependent on clear water and stable channels 25. Trends in bat population levels 26. Trends in early, mid-, and late-successional forests by prescription group 27. Trends in species diversity, structural diversity, age class, and stocking levels 28. Trends in native insect and disease effects 29. Completed inventory of old growth stands
Data Sources Utilized	--Habitat trends for key factor indicators used in the species viability analysis assessed through ongoing inventory of vegetation cover and structure types; population status for selected species inventoried and monitored as appropriate for species or species group; species selected based on priorities identified and modified throughout plan implementation using improving information about threats and risks, and in cooperative efforts with conservation partners. --Periodic survey and assessment of highest risk species occurrences; project level survey information and accomplishments --Periodic assessment of status of known occurrences; new occurrence inventory --Breeding Bird Survey/Point counts occurrence trends for the bird communities --Summary of data received in deer surveys, harvest statistics; summary of comments related to recreational uses of white-tailed deer --Summary of data received in Breeding Bird Surveys/Point counts, harvest data, and poult summaries; summary of comments related to recreational uses of Eastern Wild Turkey --Surveys similar to those done by the CATT --Collection and analysis of area bat survey data-Map and update changes through routine inventories; monitor acres by successional stage and trend; fuel monitoring following Regional protocol and condition classes --Acres of hazardous fuels treated through wildland fire use, prescribed fire, and mechanical treatments --Sample for specific insects or disease as evidence of infestations occurs following established protocols for the organisms of concern; track Forest Health Monitoring results to identify emerging concerns --Collection and analysis of old growth characteristics data, locations, and patch size

Importance	This goal contains key emphases of the LBL Protection Act and reinforces the key purposes described for LBL when created in 1963, as well as those legislated for the FS in 1998. Managing LBL under a multiple use should lead to many on the ground accomplishments and support primary objectives of both LBL and the agency.
What it Tells Us	The results related to this goal will provide key information about whether LBL is meeting its legislated objectives, managing ecosystems in a healthy and sustainable way, and are tiering to national strategic goals.

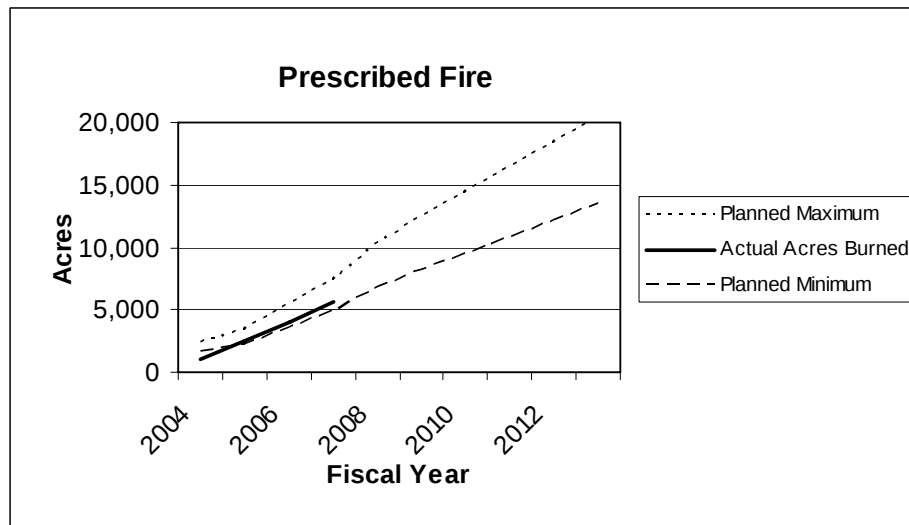
Goal 5, Monitoring and Evaluation Narrative

While it is early in the 10-year planning period, progress has been made in improving habitat diversity to support viability of threatened and endangered species and major biological communities. Significant planning progress has been made in advancing the use of prescribed fire and mechanical vegetation treatments. EA's have been completed for the Prior Creek OGRDA and for the Continued Maintenance of Open Lands across LBL. Both projects will implement the land allocation prescriptions described in the Area Plan (<http://www.lbl.org/LRMPPlanning.html>).

Prescribed fire, as a tool for vegetation management and oak-grassland maintenance, continues to increase in annual acreage slightly above the expected trend line as shown in Figure 5. Since Area Plan implementation began, over 11,140 acres have been treated by fire (See Figure 7). Two large aerial ignition prescribed fires were accomplished in 2007, and have significantly expanded areas treated with prescribed fire. The Franklin Creek prescribed fire (2,337 acres) located in the northern OGRDA was ignited in March. The Homeplace prescribed fire (1,520 acres) located in the southern OGRDA (adjacent to last years Cemetery Ridge prescribed fire) was also ignited in March. Burning with low to moderate intensity, these prescribed fires accomplished the crucial step of reintroducing fire as a natural disturbance in these project areas.

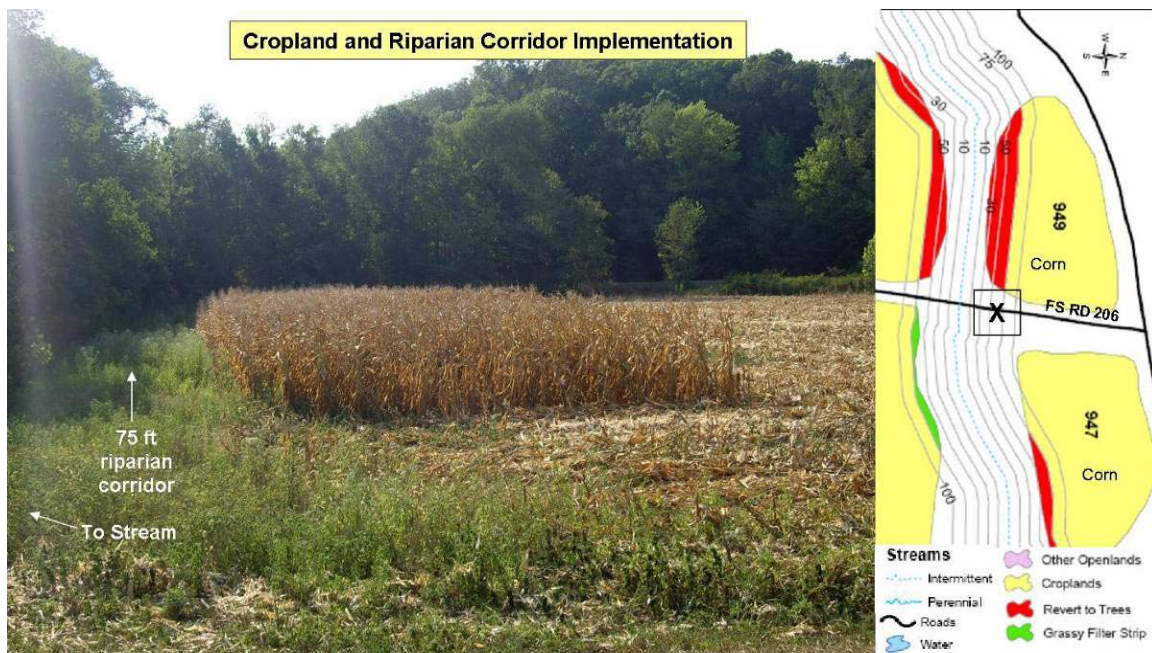
The Franklin Creek prescribed fire bordered two small Core Areas (approximately 70 acres total). The Area Plan allows prescribed fire in Core Areas while also stating that minimal management will occur except in a few circumstances. Hand-lines were constructed in an effort to exclude these two small Core Areas from the Franklin Creek prescribed fire. During implementation fire personnel were put at risk protecting these areas. This has led to internal discussions about prescribed fire in Core Areas, and the need for a fire management strategy in Core Areas. A planning effort is underway and the public will be engaged in these discussions during fiscal year 2008.

Figure 5. Acres of Prescribed Fire Treatments



Open land maintenance treatments were completed on 6,753 acres in 2007 (<http://www.lbl.org/VCMaps.html>). LBL is on target with its projected trend for converting open lands to native warm season grasses, estimated at 75 acres annually. Since the Area Plan was implemented, 225 acres of warm season grasses have been re-established on LBL. Expanded riparian corridors were implemented according to Area Plan standards on all cooperatively managed hayfields and cropland in 2007 for approximately 300 acres. Figure 6 illustrates a 75 foot riparian corridor in a field along an intermittent stream. The x on the map inset shows the implementation lines for distance from bank full stage of the stream. Most of the corridor has already grown up in trees and shrubs. Figure 6 shows the remainder to grow up in trees and shrubs. Corn was left in this field for wildlife uses.

Figure 6. Implementation of Expanded Riparian Corridors in 2007. Photo by E. Raikes



Non-native invasive species (NNIS) are one of the FS's Four Threats to the health of our forests' ecosystems. A total of 587 acres in 2005, 465 acres in 2006, 280 acres in 2007 were treated to reduce invasive species. The predominant factor for the decrease in acres treated during 2007 was extreme drought conditions that plagued the area. Increased costs of both chemical and mechanical treatments are additional factors causing the decreasing trend. Monitoring and continued treatments will be required to reduce the occurrence of NNIS across LBL. An extensive review and analysis of pesticides was conducted as part of the Open Lands EA, and will result in lower risk and more effective use of pesticides in LBL.

For the federally threatened Price's potato bean, surveys were conducted during field seasons of 2005 and 2006, establishing permanent monitoring plots at the five known locations of *Apios priceana* (Price's potato bean) on LBL. All sites were in relatively good condition with little change noted since the last site visit. The populations are mostly stagnant and not flourishing. Shade problems from upper canopy and shrub competition were noted at most sites. A plan to reduce canopy shading at these sites is needed.

Due to successful population recovery, the bald eagle was removed from the endangered species list in 2007. However, the bald eagle continues to be protected under other laws; monitoring and protection of bald eagles on LBL will continue. Winter occurrence counts, nesting sites, and nesting success were recorded. Monitoring of eagles was completed primarily through volunteer efforts. During the 2007 nesting season, there were 17 active nests that successfully produced at least 22 eaglets. The number of nests has risen steadily in the past 20 years with the past 5 years holding fairly steady at around 15 active nests. Nests are protected from disturbance during activity. Winter counts of eagle sightings can vary greatly by the weather to the north and availability of open water locally. Recent winter counts have ranged from 130 to 150 birds.

Breeding Bird Surveys/Bird Point Counts were conducted in 2007 on 213 historical points located on transects throughout LBL. Nine additional points were sampled within the southern OGRDA. LBL data for 1992-2004 was analyzed as part of a regional analysis of bird population trends³. Information from this analysis is used at the project level in preparing biological assessments and EAs. Evidence indicated populations increased for some species, but decreased for others on Southern Region National Forests and LBL. Habitat management, described in the Continued Maintenance of Open Lands and Prior Creek Project EAs, will improve habitat for early successional at-risk species.

Four bat species of concern may occur on LBL: gray, Indiana, Rafinesque's big-eared, and Southeastern myotis. The most recent area-wide bat surveys were conducted in 2005 using mist nets and Ana bat surveys. Bat surveys were conducted in 2007 as part of the Prior Creek OGRDA project and Jenny Ridge Timber Sale project. One potential Indiana bat was detected in 2007 during an Ana bat survey in the Prior Creek Area, but a single sonogram was not sufficient to establish presence. Gray bats have not been captured recently on LBL, likely due to changes in conditions at the nearest hibernaculum and summer roost cave, which is not located on LBL. The next area-wide survey will be conducted in 2010 (5 year intervals). Consideration for bats will continue in all projects that could potentially affect them. Bat populations on LBL will benefit from expanded riparian corridors implemented as part of the Continued Maintenance of Open Lands project. Additional benefits will occur from implementation of riparian corridors and retention of at least six snags per acre in forest management projects, and providing for older, large trees to serve as roosting and maternity sites. Wildlife improvement projects within the Tennessee OGRDA, such as Prior Creek Project, offer potential recruitment sites for bats over time.

Forest management is gaining momentum. The Prior Creek EA decision included harvest of 1,145 acres and the use of "cut-and-leave" timber stand improvement (tsi) treatments on 650 acres. The 378 acre Crockett Creek Timber Sale, which is the first of three planned sales in the project area, was laid out and cruised on the ground in 2007 and is expected to be offered for sale in early calendar year 2008. Preparations to offer a contract for 100 acres of tsi treatment began late in FY 2007. Two thousand six hundred thirty-five CCF of timber within the planned highway 68/80 expansion was cruised, marked, and prepared for sale to the state of Kentucky.

³ La Sorte et. al. 2007, Population Trends and Habitat Occurrence of Forest Birds on Southern National Forests, 1992-2004. United States Department of Agriculture, FS Northern Research Station, General Technical Report NRS-9). http://nrs.fs.fed.us/pubs/gtr/gtr_nrs9.pdf



Marking of timber within the highway 68/80 expansion.

Successional stages of forest have changed very little since the Area Plan. Ongoing qualitative assessments of oak-grassland fire and mechanical treatments indicate a significant increase in both early successional species (grasses and forbs) and oak hickory regeneration as shown in Figure 7. Systematic plot monitoring is scheduled for the summer of 2008 to quantify these observations.

Surveys were conducted in 2006 in the Devil's Backbone Tennessee State Natural Area of the Panther Creek watershed. This area has significance as the northernmost edge of the native short-leaf pine community's range. Over 2,000 acres of survey using variable radius basal area plots, plus some cursory surveys have been completed. Generally speaking, there is little to no shortleaf pine regeneration in the area due to fire suppression and little recent management. The mature shortleaf pine is starting to die out and is being replaced by xeric site oaks. The Area Plan calls for renewed management of this area to reach a maximum of 250 acres of short-leaf pine forests with a mature open forest and woodland structural conditions. Completion of an assessment of the Panther Creek watershed, along with the timber surveys that will lead to a proposed action in Devil's Backbone is needed.



Devil's Backbone Shortleaf Pine Area – Present Condition.

Forest Management needs to increase the supply of regenerating forest habitat and provide for more mid-age forest through thinning and shelterwood. The lack of regenerating shortleaf pine around Devil's Backbone is especially concerning. Prescribed fire is starting to reduce the midstory and develop an herb layer in the Prior Creek Project Area and OGRDA.

Across LBL in general, mature late successional forest groups are increasing, meaning trees are getting older, bigger, with closed canopy. There continues to be more white oaks than red oaks. The red oak group is approaching maturity.

Oak decline is becoming more of a possibility as a result of the late spring freeze in April 2007 combined with a drought in the summer of 2007. Deciduous trees were forced to deplete their sugar reserves in order to re-sprout, leaving them with low vigor. The drought only added stress and left oaks more vulnerable to *armillaria* root rot, *hypoxylon* canker, and various insects including the two-lined chestnut and red oak borers. We may not see any significant effects for a few years. Twenty-five gypsy moth traps were put out in the forest, and no moths were found. Animal & Plant Health Inspection Service placed additional traps throughout LBL and did not find any gypsy moths either. None were located in surrounding counties, but one was caught on the Daniel Boone National Forest Cumberland Ranger District in 2007.



Oak-Grassland Desired Condition.

Figure 7. Visible effects of prescribed burning along Road 144.



Goal 6:	Demonstrate and widely export innovative, efficient, and effective management techniques that can benefit others.
Sub-element NFS Generic Desired Condition	“Through the Demonstration Project role, the FS will continually seek to sharpen its management policies and techniques with an eye toward exporting these innovative and beneficial approaches to others locally, regionally, and nationally.” [Area Plan, Vision]
Example Area Plan Desired Condition Statement	“In its demonstration role, LBL will develop and test the programs, methods, and systems by which recreation, EE, and vegetation are managed, with the intention of promoting those elements that would provide benefits to other public and private land managers and units.” [Area Plan, Vision]
Desired Trend Statement	“Each year, export three to five demonstration products.” [Objective 6a]
Monitoring Questions	30. Has LBL produced measurable results from demonstration projects that have lead to positive changes on other units? 31. How many demonstration products have been exported?
Area Plan Performance Measures	30. Trends and annual summary of accomplishments and results 31. Trends and annual summary of accomplishments and results
Data Sources Utilized	--Annual summary of units supported, accomplishment reports, feedback, policies changed, results; tracking, by documenting the assistance provided, support to specific organizations and agencies --Track annual accomplishments with standard tracking system
Importance	This goal contains one of the key emphases of the LBL Protection Act and reinforces the key purposes described for LBL when created in 1963. Effective delivery of conservation education messages is also a primary objective of both LBL and the agency.
What It Tells Us	The results related to this goal will provide key information about whether LBL is meeting its legislated objectives.

Goal 6, Monitoring and Evaluation Narrative

In order to expand the types of demonstrations LBL undertakes, LBL established a request for proposals to all FS units in FY2007. Of the proposals received, the Demonstration Board and Regional Forester approved four proposals for LBL to take on in FY07. By LBL seeking proposals and with Regional Forester support, LBL has increased the awareness of the Demonstration Lab throughout the FS.

Some of the highlights of the Lab in FY07 are:

- The Region 8 Regional Forester personally sent a correspondence throughout the FS System encouraging units and individuals to submit proposals to the Demonstration Lab.
- The Demonstration Lab created an intranet site (<http://fsweb.lbl.r8.fs.fed.us/demo/DemoLabSite/index.shtml>) to inform FS units and

individuals of the purpose and mission of the Lab. The site also provides updates on projects and other items related to the lab.

- Clarified project focus from primarily recreation management to address a wider spectrum of management issues for field units.

The Area Plan set a target of serving between three and six customers each year, on average. In 2007, the LBL Demonstration Laboratory met this target by serving several units in a variety of ways. No products were exported to other units in FY07; however, LBL is currently working on exporting one product in FY08. Projects that took place or began in FY07 are listed below:

- Blanchard Caverns Marketing Strategy – Advised Blanchard Springs Caverns on how to use Interpretive Associations for functions that Agency policies restrict the efficiency of operations on the FS. Also assisted in exploring technology solutions that could increase efficiency and revenue.

Status: Done, report was written and submitted to Lab and Blanchard Springs Caverns.

- Dakota Prairie Grassland Marketing Plan – Advising the Dakota Prairie Grassland on creating a Marketing Plan and Strategy. Furthermore, assist in creating a strong promotional strategy and explore cost effective ways to promote the Dakota Prairie Grassland.

Status: In process

- LBL Interpretive Association Guidebook – Develop a guidebook for units on how Interpretive Associations can be used to provide functions the FS cannot. Will also explain type of agreements that can be used.

Status: On hold, waiting for National Guidelines to be released.

- Grey Towers Interpretive Association – Assist in the development and implementation of a Joint Venture Agreement that will allow their Interpretative Association to more efficiently (and even, sometimes, effectively) accomplish work that policy precludes the FS from doing for themselves. This is an exportation of LBL's Joint Venture Agreement with Friends of LBL.

Status: In process

- Safety Database Hourly Report Development – Developed a data base in order to create the “hours worked” report that Human Capital Management uses to share with the safety community before the transition to the Albuquerque Service Center. The report makes the data easy to read, and is shared with the safety community along with instructions for using it.

Status: Done

- San Dimas Test Sites for OHV – Testing new resource management techniques on multiple forests in cooperation with San Dimas Research Lab. Studied dust conditions and creating possible solutions to reduce effects.

Status: In process

- LBL Monitoring and Evaluation Report – Worked with national monitoring and evaluation team to write the FY05/06 M&E Report and refinement this year.

Status: Complete

Goal 7:	Enhance dispersed recreational and EE opportunities throughout LBL.
Sub-element NFS Generic Desired Condition	“...management will also promote and increase support for dispersed day-use and extended-stay activities in anticipation of increased demand in dispersed recreational and educational activities and experiences. “Hunting and fishing will continue to be important dispersed recreation opportunities at LBL.” [Area Plan, Vision]
Example Area Plan Desired Condition Statement	“Dispersed activities and opportunities will become an extension of the developed Rec/EE facilities and sites that currently exist.” “Program and project efforts will be directed toward improving and developing self-guided trail systems for nature viewing, hiking, biking, and horseback riding. Scenic lake vistas will be opened up, and the road system will support scenic driving, access to cemeteries, and access to dispersed recreational opportunities.” [Area Plan, Vision]
Desired Trend Statement	“Rehabilitate one to two areas contributing to dispersed recreation opportunities (e.g. backcountry, lake access, etc.) annually as determined by the realignment process, based on meeting present and anticipated user needs, providing resource protection, reducing maintenance costs, and reducing infrastructure.” [Objective 7a] “An average of one to two miles of trail will be constructed annually.” [Objective 7b] “Complete an average of one interpretive project annually within the Nature Watch Demonstration Areas and Oak-Grassland Demonstration Areas.” [Objective 7c]
Monitoring Questions	32. Have dispersed recreational and EE opportunities at LBL been enhanced? (Duplicate question for Measures 32-35)
Area Plan Performance Measures	32. Trends and annual summary of accomplishments and results 33. Backlog of facility and trail maintenance needs and trends 34. Results and trends in user satisfaction ratings 35. Trends in financial resources needed and available to provide recreation opportunities
Data Sources Utilized	--Objective accomplishments, percentage of visitation utilizing dispersed Rec/EE opportunities --Analysis of Infra Deferred Maintenance Report and reporting of percent change in backlog --Summary of visitor satisfaction surveys or personal letters and notes received; objective accomplishments, integrated projects completed --Analysis of incoming funds-traditional budgets and fee collections-and costs of operations, in view of needs; reports using standard tracking systems
Importance	This goal contains one of the key program changes displayed in the LBL Area Plan and responds to concerns voiced by the visiting public during the planning process that LBL was not meeting changing customer demands through existing services.
What It Tells Us	The results related to this goal will provide key information about whether LBL is meeting its stated objectives in the Plan and is responding to the feedback of the public.

Goal 7, Monitoring and Evaluation Narrative

There have been few specific “on-the-ground” activities completed to significantly change dispersed recreation and EE activities within the past year. However, the planning on several watersheds incorporated several trail projects that will increase dispersed recreation opportunities in LBL. The Prior Creek Watershed, part of an OGRDA, incorporated an assessment that included a 20 mile mountain bike trail complex as well as trails devoted to interpretation and wildlife viewing. EE messages were also incorporated in every aspect of the future of open lands management. Work continued in our cooperative effort with the state of Kentucky in the 68/80 improvement project in mitigating disturbance to the dispersed and developed recreation facilities located in the right-of-way. This includes the future relocation of three miles of equestrian trail from a legal road into a more natural setting and the future construction of a nine mile trail between the two bridges that will include a hike and bike pathway.

In 2007, several planning projects began that will incorporate dispersed recreation and EE activities. Development of the Trace Corridor Management Plan began in 2007 with a goal on achieving scenic byway designation. This designation will allow LBL to compete for grants to develop and enhance recreation and EE opportunities along the Trace. Planning also began on the Panther Creek watershed that will include enhancing recreation and EE opportunities.

LBL began implementation of development of a Motor Vehicle Use Map (MVUM) in 2007 as part of a FS national initiative. The end goal is a map that identifies to the general public all roads that are open for any type of motor vehicle use. As part of this effort, 106 miles of OHV trails were signed and designated for all terrain vehicle use in the Turkey Bay OHV Area. These trails were also inventoried and entered into the INFRA data base. The rest of the user created trails in Turkey Bay OHV Area were signed as closed. A new facility OHV map was created that also included EE messages concerning responsible riding. As part of the MVUM planning effort, all user created backcountry campsites were inventoried and the access to said campsites will be evaluated for inclusion in future revisions of the LBL MVUM map.

In 2007, LBL facilitated planning with Lake Barkley, Ken Lake, and Kentucky Dam State Resorts Parks to develop a complex of mountain bikes trails on state park land. This would provide a variety of mountain bike trails in the region, but is in its early stages.

Deer quota hunt applications and harvests remained fairly consistent between 2006 and 2007. An outbreak of epizootic hemorrhagic disease in the southeast US resulted in some mortality on LBL, but the effects on overall population are uncertain at the present time. Turkey quota hunt applications and harvests were down nearly 6% between 2006 and 2007. Turkey populations fluctuate with habitat conditions and weather during the spring hatch. Improved open land habitat conditions and increased use of fire should benefit this species during the next 10 years.

Figure 8. Quota Hunt Results

Species and Year	Quota hunt applications	Number Harvested During Quota Hunts
Deer		
2005	12,421	711
2006	12,312	843
2007	12,414	732
Turkey		
2005	2907	111
2006	2724	164
2007	2583	117

LBL participates in a number of regional partnership programs that have increased EE activities in the area. Earth Camp is held annually and hosted by the Partners for Education on Public Lands. LBL held two educators workshops to help teachers see LBL as an outdoor lab for their students, including the now annual Teacher's Appreciation Weekend. ([Also see narrative for Goal 2](#))

Dispersed programs within the northern Nature Watch Demonstration Area include eagle tours. In FY07, 501 people participated in van and boat tours. Woodlands Nature Station programs presented offsite were attended by 2,117 people and The Homeplace programs presented offsite were attended by 1,467. These programs include hikes or talks outside of the facilities, such as the Western Furnace. Other examples of the programs include shoreline walks, bird walks, and stream strolls. ([Also see narrative for Goal 3](#))

An EE Master Plan was developed in FY07. It lists as an objective to “develop at least one new method of presenting dispersed educational messages based on environmental stewardship, recreation or heritage issues each year.” The plan lays out a framework of goals and objectives that will lead to effective dispersed education at LBL.

Goal 8:	The LBL Area Plan will remain effective and usable and lead to accomplishments that support National Strategic Goals.
Sub-element NFS Generic Desired Condition	“...as a unit of the FS, LBL will actively fulfill its role in support of the FS’s National Strategic Goals.” [Area Plan, Mission]
Example Area Plan Desired Condition Statement	“The programs and methods used at LBL will be in a constant state of evaluation for improvement and refinement, assuring that LBL will maintain a cutting-edge management focus in all disciplines.” [Area Plan, Vision]
Desired Trend Statement	“A user-friendly and informative Area Plan monitoring and evaluation report will be produced annually and include comparison of LBL accomplishments and National Strategic Goals.” [Objective 8a]
Monitoring Questions	36. Are the goals of the LBL Plan leading to accomplishments that support national objectives? (Duplicate question for Measures 36-39)
Area Plan Performance Measures	36. Trends and annual summary of accomplishments and results 37. Determine whether standards, guidelines, and management requirements are being met and are effective in achieving expected results 38. Determine if planning information or physical conditions have changed and provisions remain scientifically valid 39. Comparison of estimated and actual costs of plan implementation
Data Sources Utilized	--Comparison of projects and recent accomplishments to the National Strategic Plan goals and objectives; public comments; standard tracking systems --Interdisciplinary review; sample projects to observe effectiveness of implemented standards --Interdisciplinary review of Area Plan for needed changes as new information becomes available and/or significant changes in conditions are observed --Compare trends in operating budgets to the estimated costs of implementing the Area Plan
Importance	Ensures that the Plan stays usable and is working to support not only LBL goals, but those of the agency. Aids in communication with stakeholders.
What It Tells Us	By reviewing the accomplishments, we are able to find trends that indicate if the Plan is moving towards desired conditions, and should emerging issues begin to occupy more time and resources than the objectives in the Plan, indications for a “need for change” can be identified.

Goal 8, Monitoring and Evaluation Narrative

LBL boasts an Area Plan that is consistently aligned with the national strategic goals of the FS. <http://www.fs.fed.us/publications/strategic/fs-sp-fy07-12.pdf>. We have looked at the FY 2007-2012 USDA FS Strategic Plan and feel LBL is well aligned in many of its focus areas.

The over-arching strategic goals of the FS are manifest in the specific Performance Attainment Reporting (PAR) targets assigned to each field organization. Most of these are very directly aligned to objectives listed in the Plan. The following table displays key accomplishments of FY05 through FY07. LBL has accomplished the vast majority of our assigned PAR targets, and in some cases we have significantly exceeded the targets. The targets in which LBL was deficient are in the number of acres treated for noxious weeds and completion of an ecosystem assessment. Treatment for noxious weeds was down due to the 2007 drought conditions. The ecosystem assessment for Panther Creek watershed will be completed in FY08.

Figure 9. LBL Key Accomplishments

Specific National Objective (Target)	Unit of Measure	FY05 Accompl.	FY06 Accompl.	FY07 Accompl.
Miles of high clearance system roads receiving maintenance	Mile	41	30	0
Miles of passenger car system roads receiving maintenance	Mile	192	210	220
Miles of road decommissioned	Mile	5	1	0
Total trail system miles meeting standard	Mile	57	60	--
Miles of system trail improved to standard	Mile	8	15	15
Miles of system trail receiving maintenance to standard	Mile	20	30	20
Number of recreation, interpretive, and conservation education products provided to standard	Product	880	535	--
Number of interpretive and conservation education plans implemented	Plan	--	--	1
Priority Heritage assets managed to standard	Asset	0	3	1
Recreation site capacity (number of People At One Time) operated to standard	PAOT	2,100,555	2,100,000	2,500,000
Number of wildlife interpretation and education products	Product	41	42	44
Acres of inland lake habitat enhanced	Acres	101	121	86
Acres of inventory data collected or acquired meeting corporate standards	Acre	0	14,000	3000
Acres of non-threatened/endangered terrestrial habitat enhanced	Acre	6,598	6,690	5370
Soil and water resource acres improved	Acre	20	20	19
Volume of Regular Timber Sold(*05=offered)	CCF	917	474	2638
Number of forest special projects permits issued	Permit	219	9	0
Annual monitoring requirements completed	Number	0	8	12
Landscape scale or Ecosystem assessments completed	Assessment	0	1	0
Highest priority acres treated annually for noxious weeds and invasive plants on NF lands	Acre	587	465	264
Land use authorizations administered to standard	Authorization	20	7	29
Number of non-wildland/urban interface acres treated	Acre	2,219	2,625	--
Number of acres treated to reduce the risk of catastrophic wildland fire	Acre	2,517	3,340	--
Total Acres Treated with Fire	Acre			5278
HF Acres Treated	Acre	--	--	4858
FN Other Acres Treated	Acre	--	--	420
Number of land use proposals and applications processed	Application	2	3	10
Recreation Special use Authorizations Administered to Standard	Authorization		228	390
T&E and non-T&E Habitat Enhanced	Acres			1383

It is impossible to ascertain definitive trends at this early stage of the Area Plan implementation. However, successful attainment of nationally assigned targets is fairly indicative that LBL is adequately and consistently aligned along the nationally designed and developed strategic roadmap for the agency. From the narratives for each of the other goals, it is clear LBL is becoming more

integrated and moving ahead to accomplish its stated multiple use goals and objectives. Some key examples:

- LBL has completed two multi-purpose EAs. The EAs maintain or create open land and oak-grassland wildlife habitat and dispersed recreation. The impacts of implementing the pesticide and riparian corridor standards in open lands were analyzed in the open lands EA.
- An interdisciplinary review of the FY08 priorities indicated LBL continues to work toward the desired conditions of the Area Plan. The challenge before us is to prioritize the workload to maximize the benefits supporting the plan goals.
- Timber removal and roadwork on Highway 68-80 has begun as a result of the extensive work Kentucky Department of Transportation completed during FY07. LBL contributed to this effort as one of the partners in the project.
- In partnership with the LBL Advisory Board, the LBL EE Master Plan was developed. Visitation has increased overall and at facilities, which indicates LBL continues to meet the needs of the public.

Comparing the budget for LBL in FY07 today with the projections in the Area Plan indicates we are on track with our projections. LBL's annual operating budget for FY07 was approximately \$12.4 million: \$8.6 million in federal appropriations and \$3.8 million in revenue. Almost half of FY07 budget was applied to the Recreation, EE, and Heritage programs at LBL. Approximately 28% was allocation to facilities, roads, and trails maintenance to support and provide the array of opportunities.

Volunteers are an integral part of LBL's success. In FY07 LBL enjoyed over 125,000 hours of volunteer service. Partnership with the LBL Association created an additional in-kind assistance value of \$310,000 (plus direct cash contributions of \$350,000). The volunteer hours, combined with the in-kind assistance and direct cash contributions from the LBL Association, along with \$142,000 from other partners, generates a total savings value to LBL of approximately \$3 million in FY07.

The planning information, assumptions, and provisions of the Area Plan remain scientifically valid. There are no red flags to indicate any significant issues or shortfalls to preclude our continued alignment with national strategic goals, nor are there any indications we will be unable to attain any of the associated PAR targets.

E. Action Plan

LBL monitoring results did not establish the need for any major actions or changes at this time. There are a number of minor actions listed below to aid in implementation of several program initiatives outlined in the Area Plan, have some level of public expectation, or have had limited progress towards the desired conditions. These action items are drawn from the FY05/06 M&E Report and the narratives presented in the preceding section of this report.

This report has not identified the need for any Area Plan amendments. Discussions about one may evolve about prescribed fire in Core Areas, as described in Goal 5 narrative and identified as FY07 Action Item 6.

FY05/06 Action Plan and Status

1. Action: Collaborate with the public to review, identify, and determine backcountry or boat ramp facilities that are obsolete, excessively expensive to maintain, and can be consolidated to fewer but better-maintained facilities meeting today's public service needs.

Responsibility: Customer Service Department Staff

Completion Date: Ongoing; Complete an action plan by October 1, 2008

Status: This effort will continue into FY08. Public input was gathered during FY07 and the action plan is expected October 1, 2009.

2. Action: Expand use of the "Respect the Resource" program to littering, perhaps along The Trace or Highway 68/80. Collaborate with users to find creative ways that will lead to a noticeable improvement in the scenic quality of LBL. The upcoming Trace Scenic Byway Corridor Management Plan and the reconstruction of US 68/80 may offer the opportunity to begin this initiative.

Responsibility: Customer Service Department Staff

Completion Date: January 1, 2008

Status: During FY07, the littering focus was changed to recycling. First phase of recycling program is now being implemented at facilities to determine feasibility at other locations. No actions have been identified along 68/80 or The Trace, as yet.

3. Action: Implement the Plan strategies associated with major blocks of wildlife habitat. Collaborate with the public and complete environmental analyses of the 10,000 acres of open lands maintenance and 8,800 acres of Prior Creek projects. Ensure EE aspects of the project are highlighted in the decision.

Responsibility: Environmental Stewardship Department Staff

Completion Date—Ongoing

Status: Environmental analyses COMPLETE; implementation will begin in FY08

4. Action: Collaborate with the public to revise the Heritage Resource Management Plan and gather information about former area residents.

Responsibility: Customer Service Department Staff

Completion Date: Ongoing

Status: Effort has been changed to development of the Heritage Implementation Plan to support an effective and meaningful heritage program.

FY07 Action Plan

1. Action: Continue to work toward completion of the unfinished FY05/06 actions.

2. Action: Implement the Area Plan strategies associated with the State Natural Area in the Devils Backbone area in Tennessee by completing an EA to promote shortleaf pine regeneration.

Completion Date: December 31, 2008 (Decision date)

3. Action: Implement the first phase of the Prior Creek project. Offer the Crockett Creek Timber Sale Unit and begin harvest on this unit. Develop EE materials to interpret the Prior Creek project.

Completion Date: September 30, 2008

Responsibility: Environmental Stewardship (timber) and EE (interpretation)

4. Action: Develop Northern Nature Watch master plan.

Completion Date: September 30, 2008.

Responsibility: Environmental Education

5. Action: Provide support to the 68/80 highway improvement project. Re-route equestrian trail impacted by the new highway. Look at changing demands for Golden Pond Visitor Center.

Completion Date: Trail re-route September 30, 2008; Support November, 2009; Golden Pond Visitor Center master plan January 1, 2009

Responsibility: Recreation (trail) and Environmental Stewardship (support)

6. Action: Address emerging challenges of those small Core Areas adjacent to General Forest areas scheduled for management activities.

Completion Date: September 30, 2008

Responsibility: Environmental Stewardship

7. Action: Develop in coordination with U.S. Fish and Wildlife Service a plan to improve habitat for Price's Potato Bean.

Completion Date: September 30, 2008

Responsibility: Environmental Stewardship

F. Appendix

Appendix 1

The following section is excerpted directly from Section 2 of the Area Plan. It clearly articulates both the reasons to develop this report and the methodologies being employed.

Monitoring and Evaluation

Monitoring constitutes an important link between the goals of the Area Plan and annual program accomplishments. The planning process has identified key monitoring questions that address each of the priority goals and objectives; they are listed in Part 1 of the document (*2004 Area Plan*) under Area Wide Goals. The monitoring program will focus on some risks mentioned previously while addressing suitable uses, use strategies, and design criteria.

Monitoring will track the wide variety of components of the Area Plan. Roles and contributions identified include the LBL interdisciplinary program specialist who will complete data gathering and evaluation of the Area Plan's implementation. Additionally, both the general public and stakeholders will be involved to capture the perceptions of how successfully LBL achieves the area wide goals and objectives. Monitoring will track how well implementation of the Area Plan's goals and objectives is bringing the conditions of LBL to the desired conditions specified by the Area Plan.

Because this Area Plan also supports the FS National Strategic Goals, the monitoring program will also weigh the Area Plan's progress and achievements in supporting these national goals. However, as these national goals are likely to change over time as national issues and special initiatives dictate, they were not included as formal goals of the Area Plan. This monitoring program, therefore, will include a comparison of this Area Plan's goals, annual LBL program accomplishments, and current or future national goals as part of the monitoring process.

By applying the evaluation questions and measures for each area goal, results and trends will provide a clearer picture of progress toward the vision. The evaluation of monitoring information will measure how close LBL is to reaching desired conditions identified in the Area Plan, including goals, objectives, and susceptibility to emerging issues.

An important concept incorporated in this Area Plan is the continuing use of some evaluation factors used in the analyses of the Environmental Impact Statement (EIS) alternatives. This approach allows for those EIS evaluation factors to serve as benchmarks from which original assumptions can be tested, and progress toward desired conditions can be measured.

Evaluations will serve as the springboard from which the resource specialist can identify changes needed in the Area Plan or its implementation, or research needed to clarify and address management issues. Results will also be used to help set shorter-term (three-to-five-year) strategic direction, as well as annual work plans. Existing strategies will be updated as needed, based on these evaluations. Results will be in the Area Plan M&E annual report. The Monitoring Summary Table in the Appendix (*of the Area Plan*) includes a complete list of questions, measures, method of collection, frequency, and responsible staff.

Note: items in italics are clarifications to the original section in the Area Plan, intended to aid the reader.