



**Monitoring and Evaluation Report  
Land Between The Lakes  
National Recreation Area  
Fiscal Year 2009**



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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.

/s/William P. Lisowsky  
WILLIAM P. LISOWSKY  
Area Supervisor

December 22, 2009  
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) 2009.

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.

No major comments were received about last year's report format so most sections of this year's report remain the same. For continuity, we continued discussion of the relevant pieces from last year's report. 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](mailto: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

Three major weather events impacted LBL during FY2009. Hurricane Ike winds caused damage in fall of 2008, then a historical ice storm damaged forest and infrastructure across the state of KY in late January, 2009; and flooding occurred in May, 2009. The infrastructure (roads and facilities) at LBL was repaired by the dedicated, hard-working staff at LBL and partners, and the receipt of American Reinvestment and Recovery Act dollars. Highlights of the recovery efforts completed this fiscal year follow in this M&E, while two separate reports, LBL Ice Storm – 2009 and Ice Storm Assessment Master Draft detail the ice storm damage and the land-scale assessment completed to determine the existing conditions and opportunities within the most heavily impacted areas in LBL.

The FY2009 M&E report again demonstrates continued implementation of the Area Plan, in spite of the additional work required to respond to each storm. A comprehensive 5 year M&E report will provide a more thorough review of the progress made toward achievement of the objectives of the Area Plan. Still, this report has not identified any major deficiencies or significant changes to the Area Plan that are needed at this time.

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

- ❖ Ice storm recovery efforts throughout all programs at LBL, and the positive impact that it had on the surrounding communities.
- ❖ Completion of EA for five burn blocks to continue to move closer to the desired conditions of the Area Plan. (Environmental Assessment for Buffalo Trail, Crooked Creek, School House, Three Ponds, & Neville Creek Prescribed Fire Projects)
- ❖ Partnerships with local communities, creation of jobs and repair of infrastructure with ARRA monies, and utilization of a stewardship agreement with NWTf for storm recovery needs.
- ❖ Progress was made with timber sales: 75 % completion of the Ginger Bay salvage sale; close out of Mulberry Flats timber sale; and repackaged and sold Crockett Creek timber sale.
- ❖ First successful growing season burn at LBL in Oak-Grassland area was part of a rebound from FY2008 acres of prescribed burning.
- ❖ Visitation was down again this past year, partially due to the ice storm effects and the economy. Construction along highway 68/80 may have deterred visitors.
- ❖ Proposal for future management of the backcountry, lake access, and day use areas was published and made available for public input.
- ❖ Implemented an automated, internet based quota hunt permit process.
- ❖ Nomination and designation of The Trace as a National Scenic Highway.
- ❖ Dramatic restoration is evident in the Turkey Bay Off-Highway Vehicle (OHV) Area since implementation of the Area Plan began.

## D. Monitoring Results and Evaluations

<b>Goal 1:</b>	<b>Prioritize projects to provide the greatest recreation, Environmental Education (EE), and resource stewardship benefits.</b>
<b>Sub-element NFS Generic Desired Condition</b>	“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]
<b>Example Area Plan Desired Condition Statement</b>	“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]
<b>Desired Trend Statement</b>	“Eighty percent of all special projects will have identified and demonstrated benefits to recreation, EE, and resource stewardship.” [Objective 1a]
<b>Monitoring Questions</b>	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?
<b>Area Plan Performance Measures</b>	1. Trends in segmented visitation in comparison to numbers of related resource stewardship projects completed 2. Number of integrated projects being completed
<b>Data Sources Utilized</b>	--Summary of visitor satisfaction surveys or personal letters and notes received; visitation; and focused area accomplishments --Objective accomplishments, summary of integrated projects completed
<b>Importance</b>	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.
<b>What It Tells Us</b>	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, and has been working hard to integrate programs while implementing the Area Plan. The vision of providing at least one environmental message to each LBL visitor becomes easier to accomplish as shown in other discussions throughout this M&E report. The EE messages are intertwined with recreation and resource stewardship.

LBL has completed our fourth full fiscal year using the Area Plan. Concurrent with three major storm events during FY09, implementation of integrated projects under the 2004 Plan continues and supports the key emphases of the Protection Act. The recreation and environmental education opportunities continue to draw people to LBL. Open lands management, thinning of the forest through timber sales, and prescribed fire are expanding these opportunities for visitors through hiking, camping, programs, scenic viewing, and understanding the role of vegetation management.

The following examples of our integrated efforts are discussed in later narrative.

- LBL pooled all of its resources to initially respond and to assess the damage caused by the January ice storm. A separate draft report documents the integrated look at all of the opportunities within the 100,000 acres affected by the storm and prioritized the compartments that offer the greatest multiple use values. The executive summary is attached to this report in Appendix 2.
- During the first quarter, an integrated team made progress on the environmental analysis for restoration of the native shortleaf pine community in the Devils Backbone State Natural Area in LBL. This work was put on hold when the team shifted their focus to storm responses, ice storm assessment, and economic recovery projects. A Challenge Cost Share Agreement was signed for field trips with Stewart County School System to enhance student learning and to gain some monitoring information for the project area.
- Implementation of the prior year decisions related to the Continued Maintenance of Open Lands and the Prior Creek restoration efforts in the Oak Grassland Demonstration Area continued as described in Goal 5. Open lands, fire, NNIS, and timber accomplishments are also described in Goal 5 of this report. Educational programs describing vegetation management continue being delivered to visitors as described in Goal 7.
- Visitors will have the opportunity to learn about achievement of vegetation and fuels loading desired conditions of the Area Plan through interpretive panels for prescribed fire. See descriptions in Goal 7.
- More progress has been made toward improving the conditions in Turkey Bay OHV Area (<http://www.lbl.org/OHVTrails.html>) and is described in Goals 4 and 7. Messages are being communicated to natural resource, recreation, and interpreter professionals through articles and visits to LBL. Long-term users of the Turkey Bay OHV Area observe the successful restoration work every time they ride the trails. The work is described in periodic newsletters to users.

Key accomplishments for the year are found in the table at the end of the Goal 8 narrative. In looking over this list, it is clear that LBL is continuing to provide a high level of recreation and environmental activity, while recovering from the 3 weather events. As in past years, customer feedback from a variety of sources, including formal surveys, personal letters, comment cards, user feedback to individual program managers, and the general consensus from communities' key contacts are predominantly positive. It is thus very reasonable to conclude that 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.

<b>Goal 2:</b>	<b>Emphasize partnerships and cooperation with citizen groups, community businesses, private corporations, tourism organizations, and government agencies.</b>
<b>Sub-element NFS Generic Desired Condition</b>	“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]
<b>Example Area Plan Desired Condition Statement</b>	“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]
<b>Desired Trend Statement</b>	“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]
<b>Monitoring Questions</b>	3. Has the FS made progress toward supporting vitality of gateway communities and maintaining/enhancing relationships with its neighbors and regional organizations?
<b>Area Plan Performance Measures</b>	3. Trends in visitation, levels of community participation
<b>Data Sources Utilized</b>	--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
<b>Importance</b>	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.
<b>What It Tells Us</b>	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. Over the past year key automobile and timber product industries in LBL’s gateway communities have shut down

operations and these communities depend on tourism, now more than ever before, 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 2008-2009 indicate that LBL continues to be the center of a \$650 million tourism industry.

LBL is a member and active partner with 8 area Chambers of Commerce, plus 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 Lakes Region Tourism Coalition. Also, LBL staff coordinates promotions and partners with the 3 surrounding county tourism organizations. LBL staff assisted the Lakes Tourism Coalition by participating in the development of an organizational strategic plan and attending monthly meetings. The coalition has exceeded expectations and is focusing on attracting group travel to the region. This year Lyon Co. hosted a regional bar-b-que competition for the first time. Their goal is establishing an annual event that feeds into a national competition. LBL provided a sponsorship to support this effort.

Another level of tourism promotion efforts are facilitated on the state level, including all major visitor centers in the region. In 2009, LBL attended two regional tourism gatherings focused on the vision for developing a state wide recreation trails system and the implementation of a trails awareness program.

A new tourism partnership initiative was tested in 2006/2007 and continued into 2009 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 areas. 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 and tourism partners, do indicate the partnership is resulting in increased community awareness and involvement in LBL's recreation and EE facilities.

Several new initiatives were taken in 2009 to improve the mix of services and products offered in order to draw more visitors to the area. A new reservation system has been implemented and has been very successful compared to the previous system, eliminating the frustrations potential visitors were experiencing and expanding the options available. Laser light shows were tested for one month in the Golden Pond Planetarium. These shows reached out to a new audience and were a very successful regional opportunity. The Friday night shows, 13 total, all sold out and 3 additional shows were added to help accommodate the additional demand. The effort was in partnership with Friends of LBL and 7 tourism organizations. These tourism organizations contributed to producing a regional tourism attraction cross promotion piece that was shown to audiences before the featured laser show. Also, this promotion was displayed on a monitor in the visitor center prior to show times. The shows have been scheduled again for 2010 and the cross promotion effort will be expanded due to how well it was received.

Throughout FY09 LBL staff identified additional opportunities to work with neighboring communities. By working with a diverse advisory committee comprised of citizens from our surrounding communities, the nomination for the “Woodlands Trace National Scenic Byway” was completed and submitted. Management of the National Scenic Byway corridor is designed to ensure the intrinsic resources are conserved along with enhancing regional opportunities for tourism and economic development.

In 2009 many areas in KY experienced an unprecedented ice storm that left some communities without vital services for up to 21 days. LBL staff provided community assistance after the ice storm that may have saved lives, such as providing firewood for Trigg County and setting up a liaison with Lyon County to help with their emergency response to the storm. Once communities were stabilized, staff set LBL ice storm recovery priorities that supported partners and the regional economy, such as getting facilities, trails and/or roads open so that early spring events organized by communities and hosted in LBL would not be cancelled. In addition, re-opening facilities 10 to 25 days earlier than predicted using American Reinvestment and Recovery Act (ARRA) funds was a multi-million dollar boost to the area.

Also, LBL secured two grants through the ARRA for biomass utilization in two neighboring counties. These demonstrative projects will convert woody biomass to energy and show a direct benefit to the appropriate county facility. The two projects will benefit the Lyon County School system and the Trigg County Hospital. LBL has partnered with the state’s regional planning and development agency known as the Pennyryle Area Development District (PADD). PADD’s expertise in grant writing, administration, and engineering will be invaluable for project oversight and collaboration with county officials.

EE staff continued working together with partners for planning and delivering special events at LBL (such as Nature Arts Day, 1850 Wedding, Independence Day at the Homeplace, Hummingbird Festival, and others). A new twist was put on an annual event this year, the 1850 Camp Meeting, instead of the Agricultural Fair, which brought in more local community (Dover, TN) partners. In February LBL hosted 127 participants at the largest ever National Interpretive Association Southeast Regional workshop, in conjunction with Lake Barkley State Resort Park. The many partnerships developed through the planning and implementation of this workshop will be nurtured and used in the years to come.

As staff works on implementing the EE Master Plan’s Goal 3 (increase and enhance EE partnerships in order to enrich audiences, programs and funding), they connect closely with Friends of LBL and non-government organizations, clubs, churches, and other partners to assist in accomplishing mutual EE goals.

One EE partnership, new in FY 2008, Girl Scouts of Middle Tennessee, was continued as EE staff worked with their council to successfully implement a \$5,000 “Linking Girls to the Land” grant project in 2009. Council staff and Senior Girl Scouts came to Brandon Spring on January 23/24 (just BEFORE the Ice Storm). They learned how to conduct EE programs and integrate them into their camp routines. LBL worked with Camp Sycamore Hills in August 2009 to help the camp deliver year round environmental education messages to girls, where they are re-establishing an EE center and Hermit Hill nature trail.

The partnership with the Stewart County Unified School District in Dover, Tennessee, was finalized with a signed Challenge Cost Share Agreement. Middle and High School field trips will begin in fall 2009 to study and monitor our emerging short leaf pine restoration project. Several teachers are very enthusiastic about the potential of this enhanced learning opportunity, so much so that original numbers of planned field trips were doubled with school system monetary support. Teachers presented at our Advisory Board meeting in June.

A majority of heritage staff time in 2009 was spent dealing with the aftermath and clean-up from the January 2009 Ice Storm. Over 300 miles of roads were walked while heritage staff flagged sites along the roads to prevent road clean-up debris from impacting known sites, in addition to the debris from the storm itself. Field visits to check for damage were also made to some of the priority cultural resources located within severely impacted areas. In addition, former residents and other interested parties were contacted by the Heritage staff to request any information that would help identify, record, and assess possibly damaged historic structures throughout LBL.

Another huge effort was assessing the condition of cemeteries and access to them in the months following the storm. During the recovery effort 165 cemeteries were assessed. Approximately 58 (35%) of those cemeteries were significantly impacted by the storm and the cemetery and/or access road was cleared of debris and downed timber. ARRA funding was used to hire a liaison to help with communication logistics for cemetery and access road clean-up. The liaison worked with individuals listed as cemetery contacts to update them on cemetery conditions and offer LBL assistance with vegetation clean-up as well as purchasing replacement cemetery marker signs where needed. An added bonus was that we were able to update the cemetery contact list, at least for the ones impacted by the storm. Heavy rains in the spring combined with the inability to perform routine annual maintenance on roads until downed timber was removed has made cemetery clean-up and access an ongoing challenge.

Two significant heritage projects accomplished in 2009 include work performed at Center Furnace, a site listed on the National Register of Historic Places, and at 5 historic sites related to the Star Lime Works community that are along the Hillman Heritage Trail. Impacts to historic sites occur from living vegetation as well as dead or damaged vegetation. Working with employees from Swift and Staley, LBL's onsite contractor, vegetation was removed mostly by hand at both the Center Furnace and Star Lime Works historic sites. During the clean-up efforts, features were uncovered that had previously been totally obscured and so were not even known to exist.

The Highway 68/80 improvement project is ongoing and is impacting the LBL east/west corridor (<http://www.us68lbl.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 future 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 context sensitive design alternative that addresses these concerns. Monthly progress meetings are attended by all partners and contractors. Public and employee safety concerns are always the first agenda item of the monthly meetings. During planning and

the implementation stages, other state and federal agencies were involved. USDA Natural Resources Conservation Service and Kentucky Division of Fish and Wildlife Resources staff provided, and continue to provide, input on right-of-way seeding mixtures and implementation. Kentucky Division of Water provided input and recommendations for water disposal and erosion control. Kentucky Transportation Cabinet staff conducts daily inspections and confers with LBL Forest Service on their findings. Impacts to tourism during the construction phases are being mitigated as much as possible. Some reduced visitation and travel delays can be expected at times, but this has been minimal.

The forest management staff has continued to engage members of the local forest products community this year. LBL staff also attended the Wood Expo in Madisonville, KY, this year. This contact has resulted in several new inquiries and interest in our vegetation management program. In addition, LBL and the TN State Natural Area Commission mutually agreed to renew the registration of the two TN State Natural Areas. The Devil's Backbone Area was expanded in size as a result of this agreement, and currently, analysis is required to promote shortleaf pine restoration in the area.

### **Partnerships, Agreements and Memoranda of Understanding (MOU)**

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.

The cooperative partnership between the Forest Service and Land Between The Lakes Association (aka "Friends of LBL") ([www.friendoflbl.org](http://www.friendoflbl.org)) continues to secure grants and provide critical services to help accomplish the LBL mission. Some of the FY09 "Friends of LBL" accomplishments are discussed under other goals, and others include:

- Submitted seven grants/funding requests to benefit projects and programs at LBL. We received \$50K for work at OHV, \$25K for work on North-South Trail and \$3500 for the School Field Trip Grant Program. Several grant submissions are still pending.
- Developing two funds development projects to include grant submission. One is for the Rifle Range improvements and one to make upgrades at the Golden Pond Observatory.
- Represented LBL at consumer shows in Murray, Hopkinsville, and St. Louis and at events/festivals in Aurora, Benton, and Oak Grove.
- Regional committee participation included the Citizens Advisory Committee for the Selection of Bridge Design for the Kentucky Lake and Lake Barkley bridges, The Murray State University, Regional Stewardship and Outreach Committee, and Pennyriple Area Development District's Transportation Safety Committee.
- Presented numerous presentations to civic, school, and interested groups in order to share the mission, education, and recreational opportunities which are available to those visiting LBL.

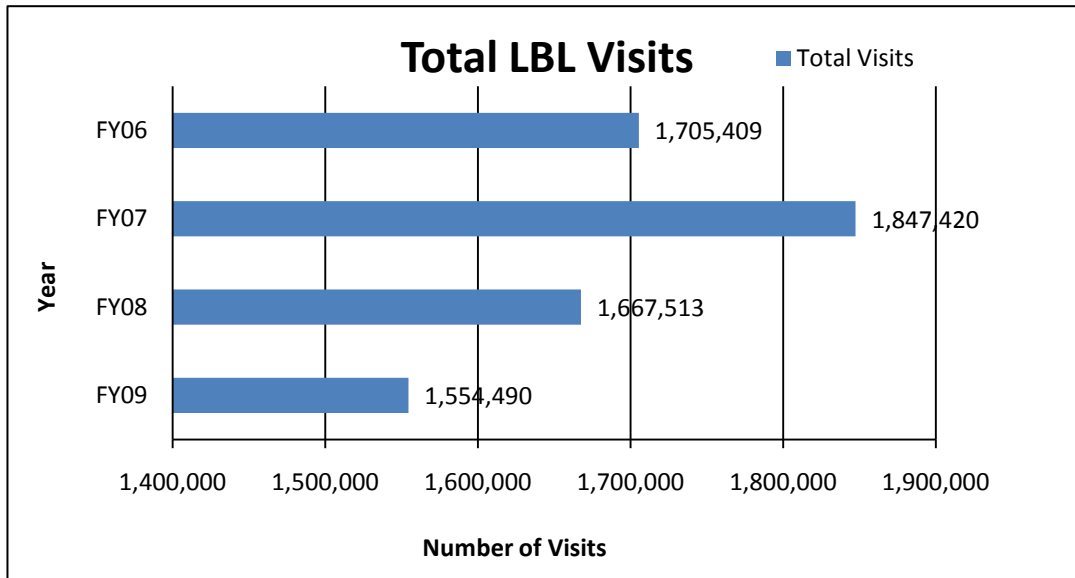
- Deliver on a continuing weekly basis, 30-minute radio promotion opportunity on local radio station to highlight activities and opportunities at Land Between The Lakes.
- Participate in Kentucky Western Waterlands and Land Between The Lakes Tourism Coalition efforts.
- Participated in regional committees and organizations pertaining to transportation issues, tourism, and economic development.
- Organized and managed volunteers and volunteer activity that produced over 106,000 hours of volunteer service to LBL with a value of over \$2.1 million.

LBL for a second year accomplished work through a 10-year Challenge Cost Share Stewardship Agreement with the National Wild Turkey Federation (NWTF). Under this agreement, habitat was restored, enhanced and maintained for the benefit of wildlife species, recreation opportunities and environmental education. During this year the NWTF managed approximately 4,427 acres of wildlife openings, croplands, and hayfields on LBL. In addition to this work the NWTF played a very important role in getting roads cleared in LBL that were closed as a result of an ice storm that hit LBL from January 27-28, 2009. The Governor declared the State of Kentucky a disaster area and announced that the western portion, where LBL is located, was the hardest hit area of the State. Consequently, the federal government declared a national disaster area for the boundaries that included approximately 100,000 of LBL's 172,000 acres. Many of the impacts within these acres were considered severe. The impacts to LBL resource areas included roads, facilities, forest and open lands. NWTF helped restore road access to facilities and forested and open land areas by clearing downed trees/debris from approximately 141 miles of passenger and high clearance roads. Tree debris was also cleared from 105 acres of open lands and field access in preparation for fields to be mowed, limed and disked.

### **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 was down by 9% in FY09 compared to FY08 (Figures 1 and 3). Visitation losses can be contributed to many factors. Two big factors that had a major effect on LBL's overall visitation this year was the 2009 Ice Storm that hit the Region in January that closed much of LBL for over a month, and road construction that affected several sites such as Fenton and Devils Elbow and contributed to a loss of over 25,000 visits. Other factors that may have contributed to LBL's decrease in visitation are rising unemployment rates and economic fears. It is important to note that regional and state visitation has had very little growth in recent years.

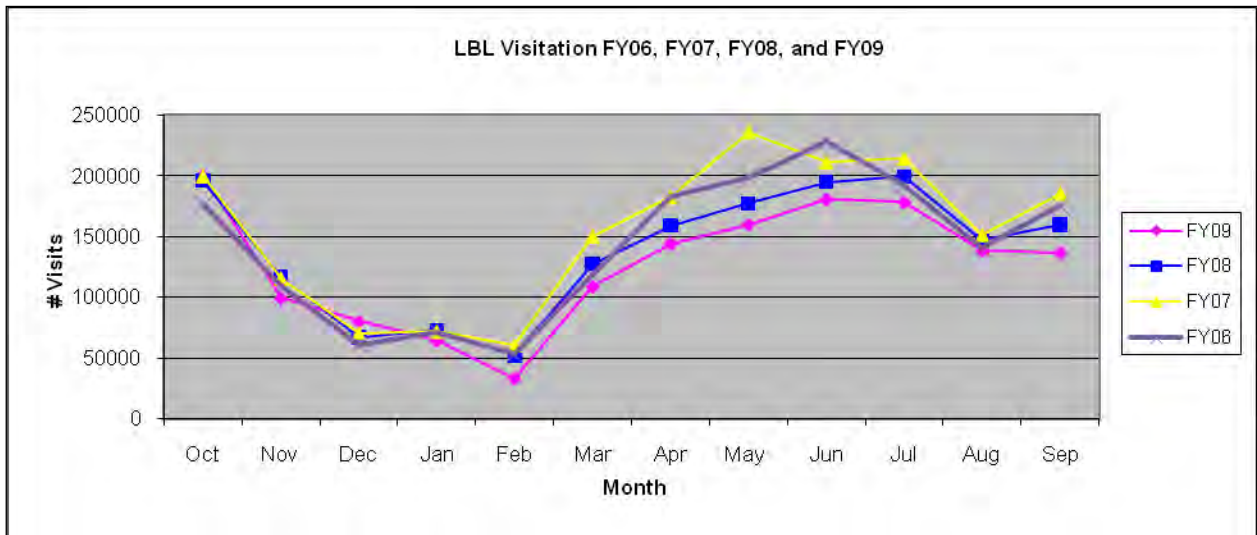


**Figure 1. LBL Visitation**

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 (The Homeplace and Woodlands Nature Station), participation has increased by 7-10% or stayed steady each fiscal year since our Area Plan-inspired focus (Figure 2). Since the Area Plan's implementation, LBL has taken more of a Local Market Advertising effort focusing on Day-Use facilities which has helped contribute to the increase in admissions for The Homeplace and Woodlands Nature Station and exposed more individuals to LBL's Environmental Education Mission.

Participation/Visitation	% Change from Previous Year			
	FY06 (% change)	FY07 (% change)	FY08 (% change)	FY09 (% change)
The Homeplace (Admissions)	+7	+9	-2	+4
Woodlands Nature Station (Admissions)	+8	+10	0	+10
Brandon Spring Group Center (Overnights)	+9	+2	-6	-4

**Figure 2. Facility Participation in Programs<sup>1</sup>**



**Figure 3. LBL Overall Visitation<sup>2</sup>**

<sup>1</sup> 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.

<sup>2</sup> Overall visitation is derived from traffic counts.

<b>Goal 3:</b>	<b>Utilize a variety of methods and opportunities to provide an EE message to every visitor.</b>
<b>Sub-element NFS Generic Desired Condition</b>	“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]
<b>Example Area Plan Desired Condition Statement</b>	“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]
<b>Desired Trend Statement</b>	“Ensure 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]
<b>Monitoring Questions</b>	4. Has the FS made progress toward successfully changing behaviors as a result of EE experiences to visitors?
<b>Area Plan Performance Measures</b>	4. Trends in on-site visitor behaviors and visitor comment surveys.
<b>Data Sources Utilized</b>	--Summary of visitor information surveys or personal letters and notes received, project accomplishments, annual monitoring results, programs, and communication products completed
<b>Importance</b>	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.
<b>What It Tells Us</b>	The results related to this goal will provide key information about whether LBL is meeting its legislated objectives.

### Goal 3, Monitoring and Evaluation Narrative

“Respect the Resource” Program continues to grow and provide additional EE messages. In FY2009 two recycling bins were added to Hillman Ferry Campground, for a total of 10 bins available to the public across LBL. Overall, at LBL, we collected approximately:

- 425 lbs of plastic
- 236 lbs of aluminum
- 1300 lbs of glass
- 208 lbs of household batteries

Paper and cardboard continue to be collected but are not weighed. The Calloway County Jail work release crew handles the transport of paper and cardboard from LBL to the Calloway County recycling facility. Two volunteers contribute nearly 100 hours of service helping manage the recycling program. Prominent use of recycled materials have been used in heavily visited sites, e.g. recycled glass countertops at Visitor Center, ground glass, and recycled picnic tables.

LBL's EE and Interpretive staffs provide quality programs throughout the year. School groups come on field trips for the day to the Planetarium, Woodlands Nature Station, Homeplace or the Elk Bison Prairie and for overnight stays at Brandon Spring Group Center. See the chart in Figure 4 for the statistics. Teachers and home school educators can choose from a variety of programs that fit their class needs and help meet State curriculum standards. At the Homeplace, the general "Stroll Back in Time" (or Show and Tell) offers an assortment of hands on activities that bring life in the 1850's to life. It is by far the most popular program selected, but Junior Farmer, Working with Wood, and Spinning Wool are also popular. At Woodlands Nature Station, the Backyard Safari is the general program which also has the highest attendance, but "In Cold Blood" (reptiles), Nature Detectives, and Pond Prowl are also in high demand. Our Interpreters work hard to support the land management messages of LBL and the Forest Service by weaving water, stewardship, native plants, organic gardening, and the role of fire in the landscape into our program offerings and events. Most weekends bring special programs to both Homeplace and Nature Station with monthly special events at each location as well. National Astronomy Day, Howl 'O Ween, and Elk Bison Celebration are offered at the Golden Pond Visitor Center and Planetarium as well as "Summer Nights" weekly during the summer. Popular special events engage local community partners as well as new and return visitors. The plethora of special events included: Wolf Awareness Week, Snap Apple Night, Fall Frolic, Junior Explorers Day, Earth Day Celebration, Quilt Show, Sheep Sheering, Migration Celebration, River Days, River Sounds (Old-time Music), Children's Festival, Nature Arts Day, Independence Day Celebration, Cool & Crawly Critters Day, Hummingbird Festival, Storytelling Festival, and 1850 Camp Meeting (a re-designed Agricultural Fair with a different flair that brought in new partners this year).



Tagging Monarch Butterflies

We are also working to bring visitors outdoors, recreating and building a relationship with nature through night hikes, nature walks, canoe trips, birding and wildflower walks, and winter eagle tours (in van or boat cruises). Campground interpretive programs reached 375 children of camping families at two of our developed campgrounds. Not only do school groups stay at Brandon Spring Group Center to enjoy the programs, recreation, and opportunity to live in the “wilderness”; but family reunions, church groups, and summer special needs groups also take advantage of this EE facility.

Many first time visitors stop at the North and South Welcome Stations to discover the many types of activities available at LBL. Staff also provides explanations of the regulations, many in the context of environmental education and natural resource sustainability. The Golden Pond Planetarium serves visitors in the central part of LBL, providing shows for most of the year. During August 2009, laser light shows in the planetarium were a huge success, with many shows being sold out. Over 6,200 people viewed 13 shows, and many were turned away due to limited seating capacity in the planetarium.

<b>Facility and Contacts</b>	<b>FY 07</b>	<b>FY 08</b>	<b>FY 09</b>
<b>Brandon Spring Group Center</b>			
# attended	7,972	7,683	6,820
Groups	124	113	104
Programs	470	508	474
<b>Woodlands Nature Station</b>			
# attended	44,124	33,489	37,622
# at off site	2,117	525	1117
Students	6,739	6,540	5160
<b>Golden Pond Planetarium &amp; Visitor Center</b>			
Visitors	114,613	94,975	84,586
# attended shows		15117	19,388
Students		5376	2,904
<b>Homeplace 1850 Farm</b>			
# attended	43,747	34,046	35,537
# at off site	1,457	500	845
Students	6,710	5682	4507
<b>Elk &amp; Bison Prairie</b>			
# visitors	123,129	93,026	93,750

**Figure 4. Environmental Education Facilities Attendance**

Attendance at some facilities may be down due to the economy and increased cost of fuel. Unemployment was around 10% in the region.

<b>Goal 4:</b>	<b>Manage natural and physical resources, and authorized FS activities, to reduce erosion or deterioration of riparian areas and watershed conditions.</b>
<b>Sub-element NFS Generic Desired Condition</b>	“Restoration of riparian area functioning and improvements of priority watersheds will be another focus of the resource improvements.” [Area Plan, Vision]
<b>Example Area Plan Desired Condition Statement</b>	“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]
<b>Desired Trend Statement</b>	“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]
<b>Monitoring Questions</b>	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?
<b>Area Plan Performance Measures</b>	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.
<b>Data Sources Utilized</b>	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 BMPs and design criteria. --Stream inventory of substrate, Level II Rosgen channel type, average water flow (discharge), and stream bank vegetation.
<b>Importance</b>	This goal emphasizes LBL legislated multiple use mission and the need to direct resources and policies to sustain critical soil and water resources.
<b>What It Tells Us</b>	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. Turner Hollow Watershed is the most impacted watershed in the Land Between The Lakes NRA. The Turkey Bay OHV Area lies within Turner Hollow, therefore restoration work that is completed by the trails program leads to improvement of the watershed. Twenty-six acres of user made trail, hill climbs and associated disturbed areas were restored. To accomplish this, 22,000 sq. ft. of sediment mats and sediment logs were utilized. Also, bioengineering techniques included the use of tree root wads, fallen timber, and limbs. Initial observations indicate that progress has been made toward rehabilitation in targeted areas. These areas were then designated off limits to riders in order for vegetation to take hold. This restoration was recognized in May 2009 *Erosion Control Magazine*.



Turkey Bay Restoration

Also, 30 miles of OHV trails were maintained to standard thus reducing erosion potential. The youth rider area, “Turkey Trot” trails, received trail improvements to mitigate heavy annual use. Some of the slash removed from trails was placed on user made illegal trails to prevent rider use.

A 40-acre prescribed fire was conducted for native warm season grasses in the OHV area. This practice stimulates growth and increases percent of ground cover which increases soil protection. Paving of the entrance bridge to the OHV area was completed, eliminating erosion issues associated with the old entrance. See the narrative for Goal 7 for additional work done in Turkey Bay after the ice storm.



Sustainable OHV Trail

Volunteers planted 700 trees in the Turkey Bay OHV Area to reduce erosion by stabilizing stream banks and hill sides. Turkey Bay OHV area was closed for approximately 60 days for trail repairs and resource protection. Volunteers donated 1,000 hours of time to the trails program for watershed improvements, including 20 miles of trail clearing and maintenance and 1 mile of trail reconstruction with best management practices incorporated. Two hundred seventy five miles of hike and bike trails were maintained to Forest Service standard. Most of the maintenance issues were due to wind and ice storms and above average rainfall.

During FY09, trail improvements and best management practices were completed on ½ mile of the North South Trail. These improvements were associated with the Ginger Bay Salvage Sale and the LBL 200 endurance ride.

In 2007 riparian corridor implementation was established on 432 acres throughout LBL. These riparian corridors reduce sediment transport from open land maintenance, reduce erosive effects of out-of-bank flow, and improve water quality. In 2009 the increase in the amount and quality of vegetation in these corridors shows a reduction of sediment transport and erosion, resulting in improved water quality.

In 2009, 349 of 419 miles or 83% of forest roads were maintained to standard, surpassing the plan objective of 75%. (See Figure 5.) This standard reduces sediment and gravel transport which improves water quality and reduces the amount of time and money spent clearing gravel and sediment from culverts.

Maintenance Level	Miles Receiving Maintenance	Total System Miles
1	0.00	5.70
2	74.00	113.90
3	120.00	131.10
4	60.00	71.00
5	95.00	97.50
<b>Total</b>	<b>349.00</b>	<b>419.20</b>

**Figure 5. Road Maintenance**

<b>Goal 5:</b>	<b>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.</b>
<b>Sub-element NFS Generic Desired Condition</b>	“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]
<b>Example Area Plan Desired Condition Statement</b>	<p>“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.”</p> <p>“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.”</p> <p>“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.”</p> <p>“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]</p>
<b>Desired Trend Statement</b>	<p>“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]</p> <p>“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]</p> <p>“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]</p> <p>“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]</p> <p>“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]</p> <p>“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</p>

	<p>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]</p>
<p><b>Monitoring Questions</b></p>	<p>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?</p>
<p><b>Area Plan Performance Measures</b></p>	<p>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 &amp; Endangered (T&amp;E) Recovery.  10. Trends in bald eagle populations in relationship to T&amp;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.</p>

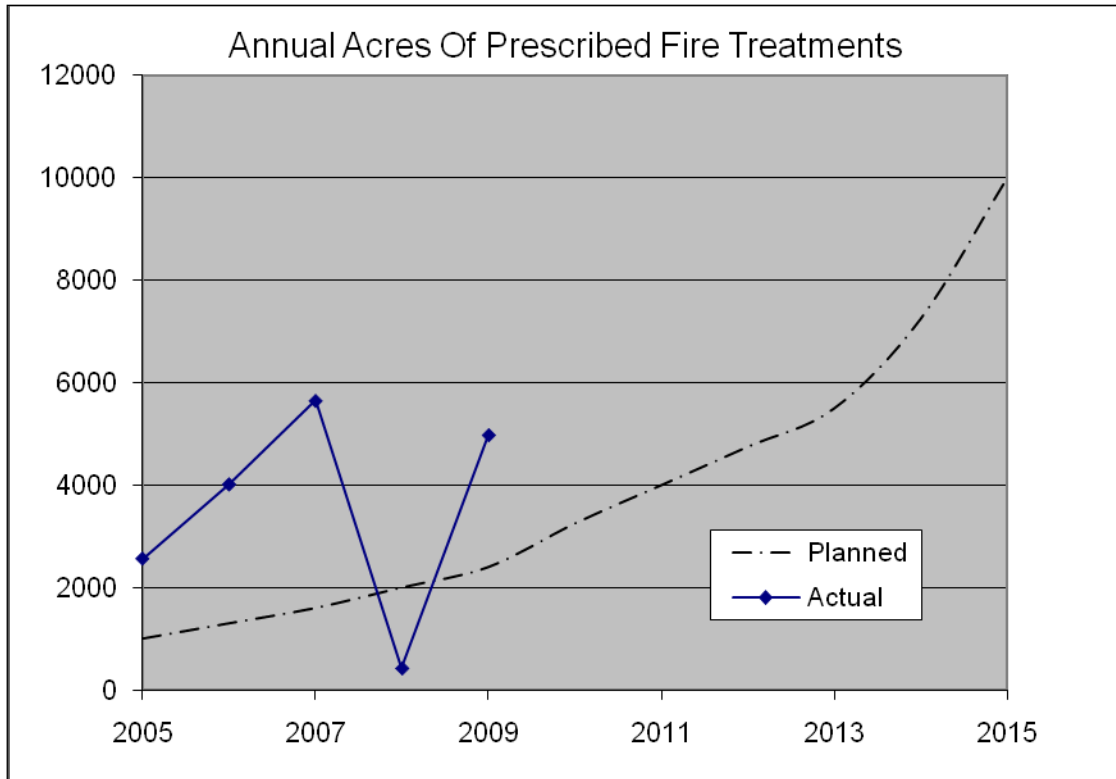
	<p>20. Trends in Great-crested Flycatcher populations in relationship to Mature Open Oak Forest.</p> <p>21. Trends in wood thrush populations in relationship to Mesophytic and Riparian Forests with Canopy Gaps and Mature Forest Interior.</p> <p>22. Trends in Eastern meadowlark populations in relationship to Grassland.</p> <p>23. Trends in Yellow-breasted chat populations in relationship to All Forest Type Regeneration.</p> <p>24. Trends in composition of aquatic communities dependent on clear water and stable channels.</p> <p>25. Trends in bat population levels.</p> <p>26. Trends in early, mid-, and late-successional forests by prescription group.</p> <p>27. Trends in species diversity, structural diversity, age class, and stocking levels.</p> <p>28. Trends in native insect and disease effects.</p> <p>29. Completed inventory of old growth stands.</p>
<b>Data Sources Utilized</b>	<p>--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.</p> <p>--Periodic survey and assessment of highest risk species occurrences; project level survey information and accomplishments</p> <p>--Periodic assessment of status of known occurrences; new occurrence inventory</p> <p>--Breeding Bird Survey/Point counts occurrence trends for the bird communities</p> <p>--Summary of data received in deer surveys, harvest statistics; summary of comments related to recreational uses of white-tailed deer</p> <p>--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</p> <p>--Surveys similar to those done by the CATT</p> <p>--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</p> <p>--Acres of hazardous fuels treated through wildland fire use, prescribed fire, and mechanical treatments</p> <p>--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</p> <p>--Collection and analysis of old growth characteristics data, locations, and patch size</p>
<b>Importance</b>	<p>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.</p>
<b>What it Tells Us</b>	<p>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.</p>

## Goal 5, Monitoring and Evaluation Narrative



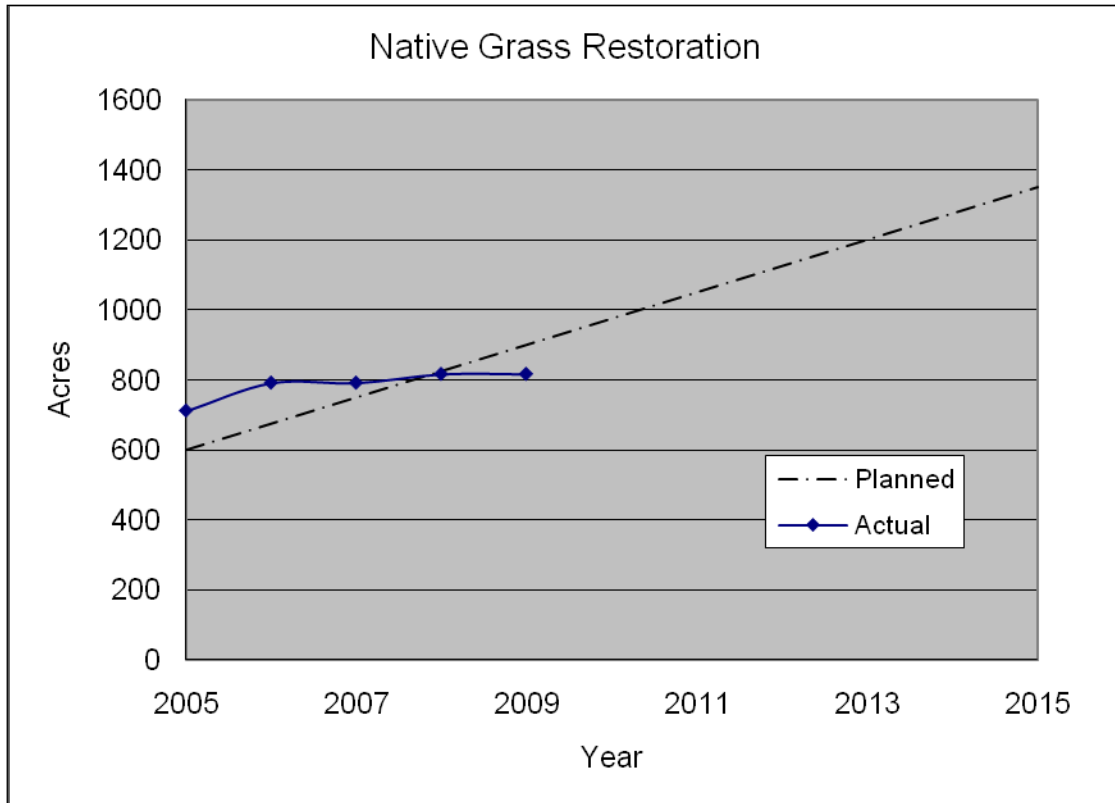
Prescribed Fire

The NRA relies heavily on “militia” firefighters for all prescribed burning activity. The militia is composed of NRA staffs that have regular duties in disciplines other than Fire Management. Project workload related to the American Reinvestment and Recovery Act reduced militia availability and a balance was struck with only the most critical prescribed fire projects being accomplished. While several proposed/scheduled projects were postponed, prescribed burning on the NRA in Fiscal Year 2009 rebounded from a slow year in 2008, with 4,984 acres treated. Eleven prescribed burns ranging from 10 to over 1,500 acres were accomplished. Notably, prescribed fire reduced fuel loads and maintained scenic quality in Wranglers, Energy, and Piney Campgrounds, and at Gatlin Point Lake Access; enhanced ecological integrity at Brandon Spring Group Camp, and a 40-acre restoration area within Turkey Bay OHV Area. Additionally, prescribed fire maintained tall grass ecosystems at Three Ponds and Neville Creek, and was integral to oak-grassland restoration efforts in the South Fox Ridge and Crooked Creek treatment units. Also noteworthy was the continuation of fire use in the Elk and Bison Prairie as a critical ecological disturbance.



**Figure 6. Acres of Prescribed Fire**

Open land maintenance treatments were completed on 5,343 acres in 2009 ([http://www.lbl.org/pdf/Habitat\\_09.pdf](http://www.lbl.org/pdf/Habitat_09.pdf)). Approximately 29 acres of native warm season grasses planned for establishment this year have been put on hold until 2010 as a result of ice storm damage clean up needs affecting our ability to accomplish this work. Since the Area Plan was implemented in January 2005, approximately 216 acres of native warm season grasses have been restored on LBL (111 acres in 2005; 80 acres in 2006; 25 acres in 2008; and zero acres in 2007 and 2009). (Note that these numbers were revised from the 2008 M&E report.)



**Figure 7. Acres of Native Grass Restoration**

Non-native invasive species (NNIS) are one of the Forest Service’s Four Threats to the health of our forests’ ecosystems. In 2009, 250 acres were treated to reduce invasive species; primarily with the use of approved herbicides. Acres treated since 2005 have included 587 acres in 2005, 465 acres in 2006, 280 acres in 2007, and 168 acres in 2008. There was a slight increase in the number of acres treated this year due to available funding. Since 2005 there has been a reduction in the number of acres treated each year due to the increased cost of mechanical treatments in 2005-2006, drought conditions in 2007 and 2008, and the increased costs of herbicide applications in 2008. In 2009 some scheduled treatments were not possible due to wet weather conditions that affected vegetation growth and timing of applications. Monitoring and continued treatments will be required to reduce the occurrence of NNIS across LBL. An LBL NRA-wide non-native invasive species strategy was completed on June 26, 2009. The strategy identifies risk/threat levels at the Forest Service Region 8 and Kentucky and Tennessee state levels for NNIS aquatic and terrestrial flora and fauna on LBL. The strategy also prioritizes areas for NNIS-free or controlled conditions. An extensive review and analysis of pesticides was conducted as part of the Open Lands EA (September 2007), which has resulted in lower risk and more effective use of pesticides in LBL.

For the federally threatened Price’s potato bean (*Apios priceana*), permanent monitoring plots were established in 2005 and 2006 at the five known locations of this plant on LBL. In 2005 and 2006 baseline survey data was collected at all the sites. At the time of the surveys, the sites were in fair to good condition; however, since that time, the populations had become stagnant and non-flourishing due to over-story canopy shading and shrub competition. A plan

was drafted in 2008 in coordination with the US Fish and Wildlife Service (USFWS), Kentucky State Nature Preserves Commission (KSNPC), and the Tennessee Department of Environment and Conservation (TDEC) for the recovery of Price's potato bean on LBL that included canopy removal from these sites. In 2009, canopy removal was accomplished on three of the five sites for a total of three acres in threatened and endangered terrestrial habitat improvement. Post-treatment survey data was collected at all three sites. The shade removal was a big success with flowering clusters and bean pods produced at all treated sites (flowering had not occurred during the past 8 years at two of these sites). This was a significant step in contributing to recovery of these populations. Field checks were done at the other two sites on LBL with one site not producing any vines and the other site with greatly reduced numbers of vines, flowers and bean pods than were reported in 2006. The latter two sites need canopy removal treatments. Canopy removal is planned for additional sites in 2010 with prescribed fire proposed for use on one of the sites. Monitoring and evaluation of the sites on LBL will continue to occur in coordination with the USFWS, KSNPC and TDEC for the recovery of the Price's potato bean. The recovery plan for the LBL Price's potato bean populations will be revised as needed, in cooperation with our partners, based on results obtained through management and monitoring.



Price's Potato Bean Plants

Other plant species of viability concern, the Barbed rattlesnake root (*Prenanthes barbata*) a Regional Forester's Sensitive species was surveyed in September to determine potential impacts from proposed activities within the area of known locations. The species appears to be doing fairly-well where it was observed; however, to sustain this species presence at some of the sites and to expand its populations, partial canopy shade removal is necessary. In FY2010 some shade tree removal is being planned.

During the 2009 Ice Storm clean-up, known locations for species of viability concern were assessed and checked in the field before and during clean-up operations within road rights-of-way (ROW). Known locations of the Crème false indigo (*Baptisia bracteata* var. *leucophaea*) that could be negatively affected by equipment removing debris from the ROW were flagged to be avoided. Inspections were made during and after the time work was completed and none of the plants were negatively impacted by the operations.

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 and monitoring and protection of bald eagles will continue on LBL. Winter occurrence, nesting sites, and nesting success continue to be monitored. Monitoring of eagles is done in partnership with the Kentucky Department of Fish and Wildlife Resources (KDFWR) and volunteers through the Land Between The Lakes Association (LBLA). During the January 2009 midwinter survey, 150 eagles were counted along LBL's shoreline in Kentucky and Tennessee (116 adults and 34 immature). KDFWR reports that 367 eagles were counted for the State of Kentucky in 2009, which includes 116 eagles reported for LBL. This is the highest in the past ten years for Kentucky; and is likely due to a cold, harsh winter experienced in the Great Lakes region. During an aerial survey in March with KDFWR, attempts were made to check 16 nests for activity in the Kentucky portion of LBL. Six of the 16 were not found, and were reported lost as a result of weather related events from fall 2008 through winter 2009. Eight nests were in poor condition or were not being used by eagles; and two nests had two chicks each present with one or two adults. Due to the weather related events, many of the access roads to eagle nesting sites were inaccessible; therefore, ground surveys for most of the nest sites in LBL were not completed. In 2010, mid-winter and nesting aerial surveys will be conducted in partnership with KDFWR, and surveys from the ground will be completed in partnership with LBLA.

Annual breeding bird point counts continue at LBL along 13 transects with 16 points each, plus ten extra points in the southern Oak Grassland Restoration Area, for a total of 218 points. In 2009, 207 points were surveyed in May and June for 10 minutes at each point. A regional analysis of bird population trends from 1992-2004 was conducted that included data from LBL surveys. Evidence from this analysis indicated populations increased for some species, but decreased for others on Southern Region National Forests and LBL. Many species that declined in LBL during 1992-2004 were early successional species. Northern bobwhite quail, belted kingfisher, eastern phoebe, American robin, gray catbird, yellow warbler, and red-winged blackbird declined by more than 25%, while northern parula, black-and-white warbler, ovenbird, and blue grosbeak all increased by at least 10%. No species increased by over 20%. Habitat management described in the Continued Maintenance of Open Lands EA, Prior Creek Project EA, and the Five Burns EA will improve habitat for early successional at-risk species. In FY2009, the Southern Region of the Forest Service improved the R8-Bird computer program for recording, summarizing and analyzing bird trend data for Forest Service units in the Region. These improvements should facilitate future evaluations of bird population trends. In FY2010, the LBL bird transects will be evaluated to determine their effectiveness and the need to establish points to monitor habitat types that are currently poorly represented or not at all in the current monitoring protocol. Vegetation survey information is also due to be collected from transect points.

In addition to the point count surveys, surveys of Eastern bluebird nest boxes on LBL have been conducted since 1990 by volunteers Bob and Judy Peak. In 2009, 165 Eastern bluebird nest boxes were monitored and 1,429 eastern bluebird eggs were laid in those boxes. There was an 82.8% fledging success rate from these boxes. Habitat management for early successional at-risk species will also improve habitat for Eastern bluebirds.

New bat surveys were initiated in 2009 in response to concerns for the viability of cave dwelling bats due to White Nose Syndrome. In conjunction with Austin Peay State University, mobile acoustic survey transects totaling approximately 83.6 miles were completed once per week for three weeks during June and July using Anabat®. Five additional stationary sites were also monitored using Anabat®. Data collected was sent to the Kentucky Department of Fish and Wildlife Resources to become part of a southeastern U.S. database.

This fiscal year has presented a distinct combination of continuing and additional activities for the forest management staff at LBL. This was the first time since the FS started managing LBL that multiple timber sale contracts were started and continued over from the last fiscal year. Two timber sales that were started last fiscal year and completed this fiscal year are, the Mulberry Flat timber sale, and the U.S. Highway 68/80 settlement sale. The Finklestein Kid salvage sale which came out of the Ginger Bay Decision Memo is 75% cut and removed. The remaining timber to be cut is standing live trees on approximately 60 acres; this section is a thinning operation and part of the Prior Creek Oak-Grassland Restoration EA. As forest management projects continue to expand, hopefully, this trend of more complex and multiple resource objective timber sales will continue at LBL. Implementation of silviculture prescriptions is a sound process to promote the goals and objectives set forth in the Area Plan.

The 60 acres set for thinning in the Finklestein Kid Salvage Sale is just the beginning of several other thinning operations which took shape this year. The 378-acre Crockett Creek Timber Sale is the first of three planned sales in the Prior Creek Oak-Grassland Restoration project area and was sold in March. Contract execution and pre-operational meetings have been completed. Plans to start thinning the 3,037 CCF of timber are set for the month of October 2009. The Prior Creek project area also has several stands scheduled for non-commercial thinning operations. Approximately 104 acres of this treatment type were completed this fiscal year; for a total of 226 acres of non-commercial thinning achieved in Prior Creek.

A shift in priorities and forest management strategies occurred, primarily in response to a massive ice storm which blanketed the whole Kentucky portion of LBL in late January. As a result of the Ice Storm that hit Land Between The Lakes (LBL) January 27-28, 2009, well over 200 miles of Forest Service (FS) roads were blocked by downed trees and limb debris. The Forest Service and NWTF used Stewardship authority and American Reinvestment and Recovery Act (ARRA) funding to aid with the initial clean up and recovery efforts in clearing trees from FS roads and opening field accesses for open lands management in 2009. As a result, an estimated volume of 1,630 CCF (100 cubic feet) comprised of white oak and mixed hardwood saw-timber logs were salvaged and stacked into 95 separate log decks that lie within FS road rights-of-way (ROW).

This weather phenomenon left forest management with a breadth of variables to consider in managing a forest after such a large scale weather event. Some projects had to be put on hold such as the Devil's Backbone EA. The interdisciplinary team has developed a draft EA and was in the process of the 30-day legal notice and comment period when the ice storm hit western Kentucky. Although this project is still valid and needed, the focus of LBL staff's

time this fiscal year has been devoted to “re-assessing” forested areas impacted by the ice storm and getting recreational facilities and infrastructure operational and safe for visitors to use.

Data collected from aerial and ground reconnaissance operations assisted in creating an interdisciplinary ice storm assessment for a majority of the Kentucky portion of LBL. This assessment represents a systematic approach to integrated resource management. The document will serve as an evolving guide on how and where project level work can effectively manage multiple resources for a more holistic land management approach given the current conditions after the ice storm. (See Executive Summary in Appendix 2.) In total, 51 compartments at LBL were recorded as having some form of ice and wind damage. Twenty-four compartments were identified as containing over 60% of the moderate and heavily damaged acreage across LBL. Stand level inventory is being conducted in these compartments in order to confirm and refine initial data which can be applied through more comprehensive silvicultural strategies. Forest Management still needs to increase the supply of regenerating forest habitat and provide for more mid-age forest through thinning and shelterwood cuts to meet desired conditions in the Area Plan. Forest management treatments are behind Area Plan projections and a “pipeline” strategy is needed to grow the forestry program in both timber and biomass capabilities to meet the Plan goals. The ice storm has presented an opportunity not only to improving areas damaged by the ice storm but to increase these forest habitats at the same time. It should also be stated that these potential areas present specific forest health threats which should be monitored simultaneously. Areas of interest to the forest management staff that coincide with an ice storm damaged forest and trying to increase the supply of regenerating forest habitats, include limiting both the advancement of non-native invasive species and shade tolerant non-mast producing advanced regeneration. Given current forest conditions the opportunity for these species to expand their dominance is a real possibility.

Successional and compositional changes continue along LBL’s forest. In general the Red Oak group is approaching maturity, which may have played a role in these species receiving more damage than the White Oak and Hickory groups. Large mature Red Oak species with signs of crown dieback and significant amounts of heartrot have reduced vigor and structural integrity. These signs of senescence certainly contributed to the species’ reduced capacity to withstand the weight of the ice and snow or the strong sustained winds that passed through the area. Although there are concentrated areas where all tree species at LBL received heavy ice storm damage, the Red Oak family is of interest because of the sheer amount and sites in which these species play a vital role in being a consistent producer of hard mast on which a variety of wildlife species rely.

There are even more widespread forest health concerns surrounding LBL that go beyond the Red Oak family, specifically, oak decline and exotic pests. Susceptibility to Oak Decline is of relevance not only due to ice storm damage of 2009 but in combination with the late spring freeze in April 2007 and drought conditions in the summer of 2007. Deciduous trees were forced to deplete their sugar reserves in order to re-sprout after the freeze, leaving them with low vigor. The drought only added stress and left oaks more vulnerable to *armillaria* root rot, *hypoxolin* canker, and various insects including the two-lined chestnut and red oak borers. Ice storm damage where more than a third of the crown was damaged will reduce photosynthetic

capability to a point where root function is compromised. There are no overt signs of an oak decline breakout as of yet, although sporadic mortality of older trees is occurring.

Twenty-five gypsy moth traps were put out in the forest, and no moths were found by LBL. Animal & Plant Health Inspection Service placed additional traps throughout LBL and did not find any gypsy moths either. A new exotic insect of concern is the Emerald Ash Borer (EAB). EAB traps were also placed throughout LBL, with a focus on high use recreational areas as infestation could possibly develop from firewood brought in from outside of LBL. EAB was not detected in LBL; however, as of July 7, 2009, seven counties north of Lexington, KY along the I-75 corridor have confirmed EAB populations. A twenty county quarantine has been established by the state and regulations are in place for removal of forest products from the infested areas. Insect traps will continue to be used on LBL to determine the presence or absence of Gypsy Moth and/or Emerald Ash Borer on LBL.

<b>Goal 6:</b>	<b>Demonstrate and widely export innovative, efficient, and effective management techniques that can benefit others.</b>
<b>Sub-element NFS Generic Desired Condition</b>	“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]
<b>Example Area Plan Desired Condition Statement</b>	“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]
<b>Desired Trend Statement</b>	“Each year, export three to five demonstration products.” [Objective 6a]
<b>Monitoring Questions</b>	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?
<b>Area Plan Performance Measures</b>	30. Trends and annual summary of accomplishments and results 31. Trends and annual summary of accomplishments and results
<b>Data Sources Utilized</b>	--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
<b>Importance</b>	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.
<b>What It Tells Us</b>	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 process for proposals in FY2007 that was announced across all FS units. Of the proposals received, the Demonstration Board and Regional Forester approved four proposals for LBL to take on, beginning in FY07. All four of those projects have now been completed, pointing to the need to re-engage field units next fiscal year by issuing another proposal request. A date to receive new proposal submittals has been set for early December 2009.

In FY 2008 and FY2009, the Demonstration Lab focused on internal projects. For example, LBL has been working on its internal financial system and customer delivery processes. This includes the LBL Point of Sale and New Camping Reservation System which went live in April of 2009. LBL’s financial system did result in efficiencies and cost savings that are earning attention at the national level. LBL has also been able to provide input and feedback on system implementation to the FS in relation to potentially setting up a Forest Service wide Point of Sale system.

The Area Plan set a target of serving between three and six customers each year, on average. In 2009, the LBL Demonstration Laboratory met this target by serving several units in a variety of ways, mainly in an advisor role on specific subject matter. No products were exported to other units in FY2009. However, LBL is currently working on internal projects that could be exported in the future. Projects that were completed in FY09 or are still underway are listed below:

- Digital Radio System Test – Testing new Digital Radio system that will replace existing Analog systems across the Forest Service.

*Status: Complete.*

- Local Unit Reservation System using Point of Sale Methodology.

*Status: Currently making small changes to enhance the users experience and meet Agency goals.*

<b>Goal 7:</b>	<b>Enhance dispersed recreational and EE opportunities throughout LBL.</b>
<b>Sub-element NFS Generic Desired Condition</b>	“...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]
<b>Example Area Plan Desired Condition Statement</b>	“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]
<b>Desired Trend Statement</b>	“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]
<b>Monitoring Questions</b>	32. Have dispersed recreational and EE opportunities at LBL been enhanced? (Duplicate question for Measures 32-35)
<b>Area Plan Performance Measures</b>	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
<b>Data Sources Utilized</b>	--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.
<b>Importance</b>	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.
<b>What It Tells Us</b>	The results related to this goal will provide key information whether LBL is meeting its stated objectives in the Plan and is responding to public feedback.

## Goal 7, Monitoring and Evaluation Narrative

FY2009 was an unusual year at LBL. Several natural disasters played havoc with the recreation facilities, especially the trails system. Beginning with wind damage from Hurricane Ike in September, a major ice storm in January, and flooding and run off from excessive rains in May, major damage was done to the recreation facilities and trails at LBL. There was major cleanup and infrastructure repair in twenty seven developed recreation sites and almost all of the trails on LBL. Hillman Ferry, Nature Station, the Elk & Bison Prairie and Wranglers Campground received the most damage. Almost the entire electrical grid at Hillman Ferry was repaired or replaced along with a new roof for the outpost. Nature Station suffered significant damage to the animal holding pens. Wranglers lost three miles of communication line, plus several fences damaged and numerous campsites washed out. The Elk & Bison Prairie suffered significant impacts to the trees within the facility as well as damage to the access gate. A majority of the damage was repaired and the facilities were back in service in 2009.

Forest Service standards are met by 293 miles of trails. Of those, 275 miles received maintenance during FY09. Several trails were cleared or rehabilitated in 2009 due to the storm events:

### Hurricane Ike Wind Event

- 40 miles of the North/South trail and connectors were cleared
- Repaired 500 feet of boardwalk on wetland interpretive trail
- 27 miles of equestrian trail were cleared of debris

### Ice Storm Event

- Volunteers contributed 650 hours clearing 20 miles of trails impacted by the various storms (Canal Loop and connectors, Honker Trail, Hematite Trail)
- 15 miles of equestrian trails were reconstructed to bring them back to standard
- 70 miles of equestrian trails had heavy maintenance performed to bring it back to standard
- 50 miles of OHV trails were cleared and overhead hazards removed

### Spring Flood Event

- 3 miles of OHV trail were reconstructed to bring them back to standard



Portion of the North/South trail after the 2009 ice storm. Individual is standing in the trail corridor.



Volunteers working to clear a section of the Canal Loop Trail in Lyon County.



May, 2009 flooding contributed to more than 60 days of wet weather closures at Turkey Bay OHV Area.

The 2009 recreation program of work continued in conjunction with the storm cleanup and repairs. In April, LBL developed an integrated business program for use in the facilities that incorporated POS, reservations, accountability, and social science. LBL made progress on achieving objective 7a in September with a proposed alternative for the future management of the backcountry, lake access, and day use areas across LBL. Users of these facilities are currently commenting on this proposed alternative. Work continued in our cooperative effort with the State of Kentucky in the 68/80 Highway improvement project in mitigating disturbance to the dispersed and developed recreation facilities located in the right-of-way. This includes the future construction of a nine mile trail between the two bridges that will include a hike and bike pathway and mitigation work at Fenton Campground and Boat Ramp.

In 2009, the “Woodlands Trace” Corridor Management Plan was completed and submitted to the nomination process and was successful in achieving National Scenic Byway designation <http://www.byway.org/explore/byways/2345/index.html>. This designation will allow LBL to compete for grants to develop and enhance recreation and EE opportunities along The Trace.

LBL reissued the Motor Vehicle Use Map (MVUM) in 2009 with no changes from the 2008 map.

The deferred maintenance backlog at LBL was addressed in 2009 with the installation of an accessible bathhouse (replacement of original) in C loop at Energy Lake Campground, an accessible SST vault toilet for Colson Hollow Group Camp replacing several porta-johns, and new well drilled in A loop at Hillman Ferry Campground.

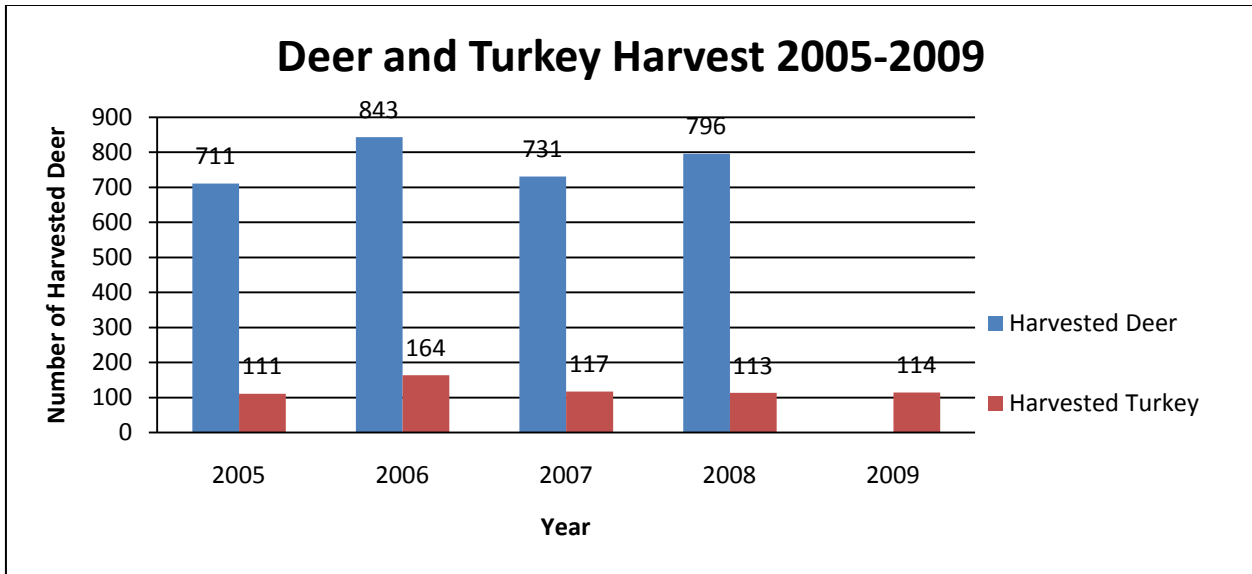
Monitoring efforts continued across LBL trails:

- Volunteers updated 12 photo monitoring points on the Canal Loop trails and completed three snapshot comparisons from 1994, 1999, and 2008.
- Completed and/or verified 100% of GIS on all hike/bike trails.
- Completed trail impact monitoring for the LBL 200 Special Use OHV recreation event.

Thousands of hunters remain interested in quota hunts on LBL, as indicated by the receipt of more than 10,000 applications for deer and almost 2,300 applications for turkey hunts. The numbers of deer and turkey harvested in FY2009 are consistent with the numbers harvested in the past few years. (See Figure 8a and 8b.)

<b>Species and Year</b>	<b>Quota Hunt Applications</b>	<b>Number Harvested During Quota Hunts</b>
<b>Deer</b>		
2005	12,421	711
2006	12,312	843
2007	12,414	731
2008	11,965	796
2009	10,166	Not available until Jan 2010
<b>Turkey</b>		
2005	2907	111
2006	2724	164
2007	2583	117
2008	2629	113
2009	2292	114

**Figure 8a. Quota Hunt Results**



**Figure 8b. Quota Hunt Results**

In 2009, the LBL deer quota hunt application process was converted from a paper application to an online paper-free application process. This was done as both a convenience for the hunters and to conserve natural resources. A telephone option was made available to applicants for 2 weeks of the application process to aid those who did not have access to a computer. Overall success of this process is still being evaluated since several issues arose during the implementation of this option. A noticeably lower number of applications was received (almost 1,800) during the season. The reasons for the lower application numbers was believed to be a combination of applicants that were unwilling to change to the computer system and the poor condition of the economy, which may have reduced hunters willingness to travel to LBL.

A new safety regulation was implemented during 2009 that will affect youth hunters on LBL. The new regulation requires that all youth hunters receive hunter safety instruction before hunting on LBL and carry proof of this while hunting. This was implemented to increase the safety of other LBL Recreation Area users as well as youth hunters and their escorts during hunting season. New state regulations allow hunters under age 10 to participate in deer hunts, but do not require completing a hunter safety course until age 10 in TN and age 12 in KY.

The concept plan for Northern Nature Watch Area was completed in 2009 and will act as a foundation for activities and improvements in the area. Woodlands Nature Station has Discovery Backpacks for families or home school groups to check out for free which they can use to explore dispersed areas away from developed facilities. EE presentations, programs and outreach in the surrounding communities reached 2,282 people. The staff of *Friends of LBL* continues to participate in community events and weekly radio spots to support those communities and promote EE at LBL.

Much progress has been made on developing a thematic packaging of “self guided” activities which will be available through our new web site. (Potential) visitors will be able to design and

customize itineraries according to their interests and abilities throughout LBL. We will be developing and pioneering one to three categories in 2010.

Interpretive panels for prescribed fire were designed and fabricated during FY2009. These will be installed near recent prescribed burn areas until the areas have greened up and the burn is no longer very noticeable. Two fifth grade classes provided feedback during the design phase. Their input was very informative and useful and the text and layout of the panels were changed as a result.

The EE components of the Devil’s Backbone project have continued progressing. A Challenge Cost Share Agreement with Stewart County School System was signed. Forest staff will aid a few teachers with pre-visits and field trips to the project area to enhance student learning while gathering some monitoring information to be used by the LBL project team.



Fourth and fifth graders from Murray and Benton explore life in Crooked Creek during “Outdoor Explorers” summer day camp.

<b>Goal 8:</b>	<b>The LBL Area Plan will remain effective and usable and lead to accomplishments that support National Strategic Goals.</b>
<b>Sub-element NFS Generic Desired Condition</b>	“...as a unit of the FS, LBL will actively fulfill its role in support of the FS’s National Strategic Goals.” [Area Plan, Mission]
<b>Example Area Plan Desired Condition Statement</b>	“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]
<b>Desired Trend Statement</b>	“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]
<b>Monitoring Questions</b>	36. Are the goals of the LBL Plan leading to accomplishments that support national objectives? (Duplicate question for Measures 36-39)
<b>Area Plan Performance Measures</b>	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.
<b>Data Sources Utilized</b>	--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
<b>Importance</b>	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.
<b>What It Tells Us</b>	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

The 2004 Area Plan remains aligned with the national strategic goals of the Forest Service (<http://www.fs.fed.us/publications/strategic/fs-sp-fy07-12.pdf>). An interdisciplinary team assessed the damage from the January ice storm to determine potential opportunities that will lead to achievement of Area Plan desired conditions. This event presents an opportunity to focus management efforts to restore native communities and early successional habitat. See the Ice Storm Assessment Master Draft Executive Summary in Appendix 2 of this report. The planning information, assumptions, and provisions of the Area Plan remain scientifically valid.

In spite of the severe weather events during FY09, LBL met or exceeded most assigned Performance Attainment Reporting (PAR) targets. The over-arching strategic goals of the FS are achieved through attainment of these targets by each National Forest System unit each year. Figure 17 displays key accomplishments for the first four and one half fiscal years of the 2004 Area Plan implementation.

LBL received some of the initial ARRA funds in the Forest Service. Initially, \$2.5 million was spent during FY09 to open roads, facilities, and maintain open lands access after the ice storm. Through ARRA, LBL was able to create or maintain 65 jobs in the first two projects. More are coming as other ARRA projects are implemented during FY10. Re-opening facilities 10 to 25 days earlier using ARRA funds was a huge economic boost to the area.

Also during the fiscal year, \$870,000 was received to recover from winds created by Hurricane Ike.

The budget for LBL in FY09 compares well with the projections in the Area Plan and indicates we remain on track with our projections. LBL's annual operating budget remains approximately \$12.6 million: \$8.8 million in federal appropriations and \$3.8 million in revenue. Almost half of the budget was applied to the Recreation, EE, and Heritage programs at LBL. Approximately 30% was allocated to facilities, roads, and trails maintenance to support and provide the array of opportunities. The appropriated budget for LBL has been essentially flat since 2000 (about 1% increase). Taking into account inflation and rising operational costs this has decreased LBL's ability to reduce the deferred maintenance across the property. LBL has been able to absorb these rising costs but it has not been able to substantially invest in facilities without other sources of funding. Activities at LBL were reduced in the beginning of the year due to the significant storms, but by the end of the year things were appearing more traditional in use and visitation.

In FY09, LBL volunteers contributed over 106,000 hours of volunteer service, which correlates to over 50 people-years of service, or \$2.1 million. Partnership with the LBL Association provides an additional in-kind assistance valued at \$350,000 (plus direct cash contributions of another \$350,000). When volunteer hours are combined with all other in-kind assistance and cash contributions from partners, the value of total savings to the taxpayer in FY08 was over \$3,000,000.

**Figure 9. LBL Key Accomplishments**

<b>Specific National Objective (Target)</b>	<b>Unit of Measure</b>	<b>FY05 Accompl.</b>	<b>FY06 Accompl.</b>	<b>FY07 Accompl.</b>	<b>FY08 Accompl.</b>	<b>FY09 Accompl.</b>
Miles of high clearance system roads receiving maintenance	Mile	41	30	0	0	0
Miles of passenger car system roads receiving maintenance	Mile	192	210	220	231	293
Miles of road decommissioned	Mile	5	1	0	3	0
Total trail system miles meeting standard	Mile	57	60	--	--	294
Miles of system trail improved to standard	Mile	8	15	15	18	19
Miles of system trail receiving maintenance to standard	Mile	20	30	20	13	275
Number of recreation, interpretive, and conservation education products provided to standard	Product	880	535	--	--	--
Number of interpretive and conservation education plans implemented	Plan	--	--	1	1	1
Priority Heritage assets managed to standard	Asset	0	3	1	2	3
Recreation site capacity (number of People At One Time) operated to standard	PAOT	2,100,555	2,100,000	2,500,000	2,500,000	2,525,000
Number of wildlife interpretation and education products	Product	41	42	44	44	42
Acres of inland lake habitat enhanced	Acre	101	121	86	61	112
Acres of inventory data collected or acquired meeting corporate standards	Acre	0	14,000	3000	14,500	117,470
Acres of non-threatened/endangered terrestrial habitat enhanced	Acre	6,598	6,690	5370	6964	5343
Soil and water resource acres improved	Acre	20	20	19	879	20
Volume of Regular Timber Sold(*05=offered)	CCF	917	474	2638	2173	3,037
Number of forest special projects permits issued	Permit	219	9	23	21	22
Annual monitoring requirements completed	Number	0	8	12	12	12

<b>Landscape scale or Ecosystem assessments completed</b>	<b>Assessment</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>1</b>
<b>Highest priority acres treated annually for noxious weeds and invasive plants on NF lands</b>	<b>Acre</b>	<b>587</b>	<b>465</b>	<b>264</b>	<b>354</b>	<b>494</b>
<b>Land use authorizations administered to standard</b>	<b>Authorization</b>	<b>20</b>	<b>7</b>	<b>29</b>	<b>49</b>	<b>22</b>
<b>Number of non-wildland/urban interface acres treated</b>	<b>Acre</b>	<b>2,219</b>	<b>2,625</b>	<b>--</b>	<b>--</b>	<b>--</b>
<b>Number of acres treated to reduce the risk of catastrophic wildland fire</b>	<b>Acre</b>	<b>2,517</b>	<b>3,340</b>	<b>--</b>	<b>--</b>	<b>--</b>
<b>Total Acres Treated with Fire</b>	<b>Acre</b>			<b>5278</b>	<b>291</b>	<b>4984</b>
<b>HF Acres Treated</b>	<b>Acre</b>	<b>--</b>	<b>--</b>	<b>4858</b>	<b>65</b>	<b>64</b>
<b>FN Other Acres Treated</b>	<b>Acre</b>	<b>--</b>	<b>--</b>	<b>420</b>	<b>226</b>	<b>54</b>
<b>Number of land use proposals and applications processed</b>	<b>Application</b>	<b>2</b>	<b>3</b>	<b>10</b>	<b>12</b>	<b>5</b>
<b>Recreation Special use Authorizations Administered to Standard</b>	<b>Authorization</b>		<b>228</b>	<b>390</b>	<b>330</b>	<b>321</b>
<b>T&amp;E and non-T&amp;E Habitat Enhanced</b>	<b>Acre</b>			<b>1383</b>	<b>65</b>	<b>6539</b>
<b>Stewardship</b>	<b>Acre</b>				<b>1310</b>	<b>4,427</b>

## **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 prior year's M&E Reports and have been updated. Two new action items have been identified from the information provided in this report. In addition, this report has not identified the need for any Area Plan amendments at this time.

### **Action Items 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. (FY05/06)

Responsibility: Customer Service Department Staff

Completion Date: Ongoing; Complete by January 31, 2010

Status: This effort will continue into 2010. Public input was gathered during FY07, crafted during FY08; a proposal was circulated to the public for comment in 2009. Decisions are expected in 2010.

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. (FY05/06)

Status: This action item is being removed from this report, as "Respect the Resource" is now well incorporated into the environmental education program and continues to evolve to new areas over time.

3. Action: Develop a Programmatic Agreement with both State SHPOs. Concurrently a Heritage Implementation Plan will be completed. (FY09)

Responsibility: Customer Service Department Staff

Completion Date: Ongoing

Status: These two documents were anticipated to be complete during FY09; and will now be complete in FY11.

4. 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. (FY07)

Responsibility: Environmental Stewardship Department Staff

Completion Date: December 31, 2009 (Decision date)

Status: IDT began preliminary data gathering work on this project in FY08. Alternatives were developed and proposed for comment during FY09. The completion of the EA was

put on hold due to FY09 priorities, but will return a priority in FY12. The use of prescribed fire to under-burn Devil's Backbone for shortleaf pine regeneration is being analyzed in FY10.

5. 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. (FY07)

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

Completion Date: September 30, 2009

Status: Timber sale (Crockett Creek) offered but did not sell in 2008. Crockett Creek timber sale was sold in FY09. EE materials will be developed in FY09 as well. This action item will be viewed as complete when the self guided auto trail brochure is underway.

6. Action: Develop Northern Nature Watch master plan. (FY07)

Responsibility: Environmental Education

Completion Date: September 30, 2010

Status: Staff began preliminary layout work and data gathering on this project in FY08. A concept plan was developed during FY09. Prioritization for implementation will begin in 2010. This item is complete.

7. 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 (GPVC). (FY07)

Responsibility: Customer Service (trail) and Environmental Stewardship (support)

Completion Date: Trail re-route March 2011; Support September 2010; Golden Pond Visitor Center master plan FY 2011.

Status: Trail re-route will be designed in the spring of 2010 and implemented during FY11. Planning for GPVC site modifications and services will begin in FY10. Support to highway improvement will continue into FY10.

8. Action: Address emerging challenges of those small Core Areas adjacent to General Forest areas scheduled for management activities. (FY07)

Responsibility: Environmental Stewardship

Completion Date: September 30, 2010

Status: No significant progress was made on this item during FY08 or FY09.

9. Action: Develop in coordination with U.S. Fish and Wildlife Service a plan to improve habitat for Price's Potato Bean. (FY07)

Responsibility: Environmental Stewardship

Completion Date: September 30, 2010

Status: Though preliminary discussions were held, no significant progress was made on this item during FY08. A draft plan was completed in FY09 and will be updated based on field visits. Site visits and monitoring will continue in FY10. This item is complete.

10. Action: Develop and begin to implement a strategy to meet the desired annual vegetation management objectives of the Area Plan. (FY09)

Responsibility: Environmental Stewardship

Completion Date: September 30, 2012

Status: The strategy will be developed and the analysis will begin in FY10.

11. Action: Implement a strategy to supply biomass materials for Trigg and Lyon Counties projects and meet a share of projected future demands of the region. (FY09)

Responsibility: Environmental Stewardship

Completion Date: September 30, 2011

Status: The strategy is being developed and the implementation will begin in FY10. We still need to determine what form and volume of biomass the counties and other projects will need. This will be largely dependent on the technology selected to convert the woody biomass to energy.

## **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.

## Appendix 2

### Ice Storm Assessment Master Draft, November 2, 2009 Executive Summary

The first objective after the unprecedented Ice Storm of 2009 was to provide for the overall safety of the public and the employees at Land Between The Lakes National Recreation Area (LBL). Subsequent to their on-going dedication to safety, Forest Service staff members have returned their focus to several projects outlined in the Land and Resource Management Plan (LRMP). The purpose of this assessment is to help project managers better understand the implications of the ice storm damage across all resource areas and prioritize locations where the storm impacts created opportunities to implement the LRMP.

Created by an interdisciplinary team, this assessment is a working document designed to be updated as conditions change or new information becomes available. This landscape-scale assessment is not a decision-making document, and does not make any suggestions for LRMP amendments. The assessment team found that this storm event was to some degree anticipated by the natural disturbance analysis completed during the Area Planning process, and has not created conditions that are incompatible with the desired conditions and long range vision contained within the Plan.

The assessment team spent several months analyzing the damaged areas along with comments received from the public, natural resource professors and forest health advisors. The team utilized data generated from a fly-over that occurred in February 2009. The flight data and the work being done on the ground showed that several areas in the northern portion of LBL were noticeably more impacted than the rest of the NRA.

Healthy forest ecosystems are the utmost concern for all the resource managers at LBL. Timber, recreation and wildlife managers focus on the importance of these ecosystems for the future vitality of LBL. A few of these management concerns addressed in this assessment include:

- habitat degradation, primarily the oak-hickory forest
- decreased aesthetics and dispersed recreational opportunities
- reduced canopy tree vigor, growth rates, and economic value
- increased fuel loading predisposing forested areas to wildfire events
- heightened susceptibility to insect and disease attacks
- increased rate of spread amongst non-native invasive species populations
- optimizing site conditions for the regeneration of shade intolerant hard mast producing tree species
- discouraging less-desirable shade tolerant tree species development in the mid-story and canopy levels
- successful establishment of a suitable cover type conversion in decimated planted pine stands

This assessment addresses these issues and makes a conscious effort to assist in formulating effective future resource management projects. The forest management strategies delineated in this assessment focus on opportunities to address these challenges and recommends projects that allow for integrated project work. Fundamentally all forest management projects in this assessment center on meeting one primary objective: setting a course of action that re-aligns damaged areas with the vision of LBL's Land and Resource Management Plan (LRMP) desired conditions and various goals.

The team used existing geographical boundaries, known as compartments, to group the damaged acres systematically and give resource managers a better advantage in understanding the magnitude of the situation. Approximately fifty-five compartments were impacted with an approximate 19,000 acres in the moderate to heavy category (canopy basal area damage exceeded 45%). Twenty-four of these impacted compartments are included in the assessment. The team then developed a strategy that would work toward meeting the desired objectives at LBL. Rather than taking a reactive approach to the ice storm and the damaged timber, the team began to establish which affected compartments would accomplish the overall greatest good for the resource and provide the visitors with the recreational experience they desire. Using the direction of the LRMP, the team then selected seven compartments that may become the focus for future restoration projects.

The team selected seven compartments, known in the document as the Immediate Action Compartments, which represent approximately 30 % of the impacted areas on LBL. These seven compartments received this designation from the team because they would allow managers to accomplish multiple objectives. These areas will represent an excellent contrast to other areas that may be left to naturally regenerate. They will, above all, allow resource managers to restore a small percentage of the forested areas and react to any undesirable vegetation, insect or disease out-breaks that may occur in years to come, while carrying out the direction of the LRMP.

A few areas of focus that the team recognized as primary objectives in the seven compartments are the replacement of non-native pine stands with native pine species. Many of these non-native pine stands were completely devastated during the storm, creating an opportunity for the encouragement of native pine growth. Another is implementing uneven age management strategies in LBL's oak-hickory ecosystems, which maintains trees of several age classes in the same area. Using an uneven-aged management concept in the general forest will be essential for the success in restoring forest health, promoting forest diversity, and reducing forest stagnation onset by the depleted and impaired canopy trees. An additional opportunity is the control of Non-Native and Invasive Species (NNIS) spread in, and adjacent to, damaged sections of a compartment. The implementation of these focal points will provide an umbrella effect of desired results that will benefit many of the long-term goals as outlined in the LRMP.

Dispersed recreation and resource management activities will include environmental education components. Visitors would be able to see various examples of active and passive management strategies related to storm damage restoration. As a part of LBL's recreation efforts, it would be beneficial to remove some debris from the ground for safety and scenic

management reasons. Even if done on a limited basis, this removal would also reduce the risk, intensity and potential extent of wildfires in those areas.

LBL is currently exploring uses for the large amounts of small-diameter low value material that was created by the ice storm. New markets are starting to develop locally and have the potential to close the loop in the biomass supply and demand flow. This new demand for local biomass utilization would help in making biomass production a viable strategy for land managers trying to deal with the large amounts of woody debris generated by the ice storm as well as regular management activities. Much of the debris left on roadsides, along trails and within facilities after the initial cleanup operations and on the forest floor is already being considered for use in biomass projects.

Again, this assessment is a working document and will remain in draft status. The intent is to identify in an integrated fashion, the resource opportunities that were created by the Ice Storm of 2009 and allow managers to make sound decisions for the next five to ten years. The assessment team began this process looking at the negative impacts that may affect the general forest and in return produced a vision that deals with the negatives, focuses on the positives and integrates LBL's resource managers.