



Monitoring and Evaluation Report Land Between The Lakes National Recreation Area Fiscal Year 2011



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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.

William P. Lisowsky
WILLIAM P. LISOWSKY
Area Supervisor

May, 2012
Date



Land Between The Lakes undeveloped shoreline.

B. Introduction

This Monitoring and Evaluation (M&E) report is a comprehensive report for the past fiscal year of implementation of the Area Plan. Accomplishments and trends at the U.S. Forest Service (FS) Land Between The Lakes (LBL) National Recreation Area (NRA) are presented for the past fiscal year: FY11.

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.

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

C. Executive Summary

This report is a comprehensive annual M&E report where we review the progress made toward achievement of the goals and objectives of the Area Plan implementation. No major deficiencies were identified that require amendments to the Area Plan. Each section contains highlights of FY11 trends and evaluations. M&E reports for FY2005-FY2010 are available on the LBL website at <http://www.lbl.org/LRMPPlanning.html>.

Some highlights of the FY2011 M&E report include:

- ❖ LBL made significant progress toward implementation of the Area Plan in spite of two major wind events (tornadic) and record setting lake levels which resulted in complete closure of all campgrounds.
- ❖ Forest diversity continued to be improved. Almost 900 acres of oak grassland were restored using timber harvest in the Prior Creek area. Over 4,600 acres of fuel reduction was completed.
- ❖ Comments were received from the public and consulting parties on the draft Heritage programmatic agreement. Thousands of acres were surveyed and hundreds of newly identified heritage sites were recorded.
- ❖ Partnerships continue to be integral in the management of LBL, including those with the *Friends of LBL*, Swift and Staley maintenance contractor, NWTF stewardship agreement, tourism partners, and environmental education partners.
- ❖ A national adventure race was held on LBL, indicative of the wide variety of recreation special uses LBL hosts.

D. Monitoring Results and Evaluations

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

Goal 1, Monitoring and Evaluation Narrative

Integration of the program areas at LBL remained a high priority during the sixth full year of the Area Plan implementation. Recreation, environmental education, and resource stewardship drive the program of work. Two major wind events and a record setting lake level required a shift in priorities for the middle part of the fiscal year. In addition to responding to these weather events, LBL continued to accomplish activities to strive toward the desired condition in the Area Plan. The remainder of this report discusses these activities. Actual tracking values for many of these accomplishments are listed in the table under Goal 8.

An interdisciplinary team focused on the environmental assessment for the Demumbers Bay Project, approximately 3,700 acres. The project will provide for regeneration of shortleaf pine and canebrakes, opening of the forest canopy, and a driving loop to learn about resource management in the northern part of LBL.

The effects of opening the forest canopy and prescribed burning along Road 204 in the Prior Creek oak grassland area in the southern part of LBL are being seen. More treatments are expected in the area to continue toward the oak grassland community type. New trails have not been created due to lack of resources.

Heritage

One of the most significant achievements for heritage was completing the first draft review of the Heritage Programmatic Agreement (PA) and Implementation Plan (Plan) which benefit almost all programs and projects at LBL. With 16 consulting parties each with their own particular interests and concerns, this was a great accomplishment. LBL's website now has a heritage link on the main page that is updated regularly to keep the public informed as to progress and stage of the developmental process as well as how they can provide input. All comments received during the first draft review and our responses to them are also available on the website. More information about the PA and Plan is provided under Goal 2.

Seventeen heritage compliance projects were completed in 2011 as part of the integrated project workload. See Table 1 below for the thousands of acres surveyed and the hundreds of sites recorded and protected. In addition to work on 4 prescribed burn projects, heritage carried out investigations for 6 timber projects, completed analysis for several proposed projects considered in the Demumbers Environmental Analysis, and worked with engineering staff to complete compliance for a culvert repair on FS Rd 108 and a bridge replacement on FS Rd 214.

Project		
Prescribed Burns		
<i>Preburn Surveys</i>	<i>Identified</i>	<i>Protection</i>
Crossroads	206 sites, 11 cemeteries	82 site locations, 11 cemeteries
Demumbers	40 sites, 4 cemeteries	8 site locations, 4 cemeteries
Pryor Hollow (new portion)	17 sites, 1 cemetery	4 site locations, 1 cemetery
<i>Postburn Surveys</i>	<i>Monitored</i>	<i>Recorded</i>
Buffalo Trail (south portion burn)	1 site location, 1 cemetery	18 sites
Crossroads (partial burn)	6 site locations, 3 cemeteries	24 sites
Devils Backbone	Burned 4/2010	5 sites
Franklin	1 site location, 2 cemeteries	24 sites
Timber	Survey	Sites Recorded and Excluded
Water Your Plants	307 acres: 286 ST	8 sites recorded: 5 excluded and 3 monitored
Prior West	530 acres: 527 ST	4 sites recorded: 3 excluded and 1 monitored
Demumbers EA	158 open land acres 79 acres: 822 ST 79 acres: pedestrian survey	15 sites recorded: 9 excluded or monitored
Hurricane	61 open land acres: 577 ST	1 site recorded
John Wayne	Unit 1 42 acres: 179 ST	7 recorded: 3 excluded and 2

	63 open land acres: 660 ST	monitored
2011 Roadside Salvage	39 sites checked	10 sites flagged and protected
Grace (field work completed)	267 acres: 592 ST 3 open land acres: 28 ST	6 previously recorded: 6 possible exclusion zones
Chestnut Planting	¼ acre: 50 ST	1 site recorded
Engineering	Survey	Sites Recorded
FS Rd 108 Culvert Replacement	~0.1 mile (spot location)	0 identified
FS Rd 214 Bridge Replacement	~0.1 mile (spot location)	0 identified
Recreation	Survey	Sites Recorded
Bike/Hike Trail	8 miles pedestrian 172 ST	2
Turkey Bay Trail Survey 2011	30 miles pedestrian	18
North/South Trail Survey 2011	20 miles pedestrian	21
2011 Open Lands Survey	285 acres completed	6

Table 1. Summary of 2011 Heritage participation in integrated resource management projects (ST = Shovel Test).

Many of the 17 heritage resource projects completed during 2011 stand out for their benefits for both resource stewardship and recreational and/or environmental educational experiences to visitors and Table 2, below, highlights some of the benefits.

Project	Purpose	Visitor Benefits	Resource Stewardship
Crossroads Prescribed Burn	Improve wildlife habitat Reduce number of and competition from non-native invasive species	Improved hunting conditions Improved wildlife viewing	24 historic sites formally recorded 6 sites and 3 cemeteries protected and improved through excess vegetation removal
Nature Station Access Road	Re-route service and maintenance access road found to be impacting an historic cemetery	Improved cemetery conditions	Improved cemetery preservation
Bike/Hike Trail	Lake to lake multi-user trail being constructed parallel to Hwy 68/80	Increased bike, hike, and historic interpretation and education opportunities for visitors of all ages and abilities	Heritage surveys are providing increased understanding and knowledge of history of the former Fenton and Golden Pond communities
Heritage Programmatic Agreement and Implementation Plan	Streamline heritage compliance for LBL resource and recreation projects	Increase focus on visitor heritage volunteer, interpretation, and education opportunities	Increase focus on heritage stewardship and partnerships

Table 2. Notable 2011 Integrated Projects

Recreation projects included Phase I and II investigations for the Bike/Hike Trail along Hwy 68/80 and continuing annual surveys of the North/South Trail and Turkey Bay Trails until they are completely surveyed and all sites recorded and condition assessed for impacts. In addition, heritage staff assisted during clean-up efforts at Wranglers, Turkey Bay, and within open land

fields following two spring tornado events. In spring we also suffered the highest water levels yet at LBL and heritage supported with flood preparation activities as well as clean-up after the waters receded.

Timber projects consumed much of the heritage staff's compliance work in 2011. One of our more creative compliance collaborations involved working with timber staff and LBL volunteers on a chestnut planting project near Nature Station. The heritage survey methodology for this type of project consists of shovel testing which means digging a hole one shovel blade deep by one shovel blade wide and screening the dirt to locate artifacts that are not visible in heavy vegetation. Interestingly, the project required a hole in which to plant the young chestnut trees. So everyone joined in to dig holes, screen dirt, take notes and photographs and instead of refilling the holes as is usually done, they were left open to plant the trees! A new prehistoric site was located and recorded and all things considered, this project was a win-win for all concerned.

The increase in timber projects provided an opportunity to test and refine our survey strategy for ground-disturbing projects and develop protection measures and processes for sites found within proposed ground-disturbing project boundaries. As a result new protection measures were incorporated into the current version of the *Timber and Other Ground-disturbing Activities Survey Strategy* that is part of the draft Programmatic Agreement currently under review



Figure 1. Timber crew spraying white paint to mark boundary of exclusion zone used to protect heritage site. Heritage pink/black candy stripe flagging (visible in background) is used to mark site boundary prior to application of exclusion zone white paint. Orange paint in background is used to mark timber sale boundary.

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

Goal 2, Monitoring and Evaluation Narrative

Partnerships and Community Participation

Maintaining partnerships and encouraging community participation is vital to LBL’s role as the tourism industry keystone in western Kentucky and Tennessee. LBL fosters partnerships by

cooperating with citizen groups, community businesses, private corporations, tourism organizations, and government agencies. A few examples include partnerships with the Shawnee and Cherokee National Forests, Great Onyx Job Corps, and also other agencies such as the National Park Service, U.S. Fish & Wildlife Service, and National Wild Turkey Federation. We have built stronger relationships with American Indian tribes who once inhabited the area. The LBL Volunteer program leads to success in LBL programs thus leading to support of the gateway communities. This year we continued to receive positive feedback from visitors, community leaders, congressional members, and partners about making progress toward the vision of the Area Plan. During this economic downturn gateway communities more than ever depend on tourism as a primary industry, and LBL is the centerpiece of that industry.

As the backbone of the regional tourism industry it is critical for LBL to provide current and accurate trip planning information. The number one source people turn to today for travel information is the internet. In 2010 LBL launched a new website with input from our tourism partners, Friends of LBL, the LBL Advisory Board, educators, staff, and partners. In addition to winning a Kentucky Tourism Traverse Award in FY10, www.lbl.org received 680,238 visitors in FY11.

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 LBL Lakes Region Tourism Coalition (<http://www.visitlbl.com>). Also, LBL staff coordinates promotions and partners with the three surrounding county tourism organizations. In 2011 LBL participated in the following tourism promotion events.

- LBL hosted a Sustainable Business Seminar for local citizens interested in learning about small business development in partnership with Murray State University, The TN Dept. of Tourism Development, and the KY Cabinet for Economic Development.
- Participated in the LBL Lakes Region Tourism Coalition by attending monthly meetings, preparing materials for attending group tourism show and participating in developing a Truck and Tractor show as a new regional attraction. LBL also assisted the Coalition's participation in the Ft. Campbell Officer's Spouses' Business Expo by providing a display.
- LBL cross promoted special events and programs held in Grand Rivers, Marshall County, Trigg County, Stewart County, and Lyon County.
- LBL and the FS participated in the National NWTF Convention by hosting multiple booths.
- Staff promoted LBL at a *Healthy Kids Fair* for military families at Ft. Campbell to increase awareness of LBL amongst our local military population.
- Helped staff a *Great Onyx Job Corps Safety Week 2011* event at a Bowling Green Hot Rods Baseball game in Bowling Green, KY.
- Provided fire engines and Smokey Bear for numerous local parades and community festivals including events in Trigg, Marshall, and Livingston Counties.
- Participated in a *Safety Day* in Marshall County, Kentucky to promote outdoor and ATV safety.

- Assisted with More Kids in the Woods partnership project which supports conservation education programs to get local kids outdoors and teach them about nature. These included the annual *Futskilz Fight Against Childhood Obesity Day* in Paducah, KY and the *Wonders of Water* event in Benton, KY. Partners included US Fish & Wildlife (Clarks River National Wildlife Refuge), Marshall County Soil and Water Conservation District, and the US Coast Guard.

Another level of tourism promotion efforts are facilitated on the state level, including all major visitor centers in the region. In FY11 LBL continued and expanded upon WKDZ and National Public Radio partnerships in Nashville, TN, Cadiz, Hopkinsville, Ft Campbell, Murray, Bowling Green, Bardstown, and Elizabethtown, KY.

Throughout FY11 LBL staff identified additional opportunities to work with neighboring communities. In FY11 a committee met to discuss future plans for the “Woodlands Trace National Scenic Byway”. A logo was also created to identify and increase awareness of the Byway. In addition, in 2011 LBL and Ft. Donelson National Battlefield connected to jointly promote the 150th anniversary of the Civil War events in our region.

In the spring of 2011 areas in western TN and KY experienced flooding that left some communities without vital services for several days. LBL staff provided community assistance including law enforcement aid and Incident Command System expertise to the Stewart County Emergency Operations Center’s response to the flood.

The four lane highway, which is part of the US68/KY80 improvement project, is now open along LBL’s east/west corridor. Numerous partners worked on this project including the Kentucky Transportation Cabinet and the Federal Highway Administration. During planning and the implementation stages, other state and federal agencies were involved. United States Department of Agriculture (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 conducted daily inspections and conferred with LBL Forest Service on their findings. In connection with the US68/KY80 improvements, work is beginning on the western half of a bike/hike trail paralleling the highway. This trail will be utilized by local citizens and visitors.

Friends of LBL and EE Partnerships

Environmental Education (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).

Our primary partner for implementing the EE Master Plan is Friends of LBL, who maintains working relationships with other government agencies and non-government organizations. In 2010 we had the opportunity of working with an Eagle Scout, Dan Hagan, and Pennyryle Electric to build a new osprey nesting platform viewable from the Nature Station shelter and Woodland Walk Trail. Pennyryle Electric donated a utility pole and the service of their crew to install it. This provides another good Nature Watch opportunity. A new More Kids in the Woods



Figure 2. Osprey Nesting Platform

partnership was described above and also under Goal 3 of this report. LBL got involved with “Murray In Motion”, an ongoing campaign to promote physical activity and healthy lifestyles in Murray and Calloway County. Friends of LBL distributed information about getting active on nearby public lands to over 600 people at the First Annual Half Marathon in April. The Western Kentucky Amateur Astronomers club provides star gazing opportunities at the Golden Pond Observatory during the summer months.

We continue to work with many organizations, including 5 state parks, at least 15 conservation organizations, more than 6 universities and colleges, about 9 federal and state agencies and over 8 local organizations, 5 children’s organizations, and 6 professional organizations. A list of some of the organizations is in Appendix 2.

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 the Friends of LBL (www.friendsoflbl.org) continues to secure grants and provide critical services to help accomplish the LBL mission. Some of the FY11 Friends of LBL accomplishments are discussed under other goals, and others include:

- Involved 300 individuals from the general public in volunteer activities that produced 103,000 hours of service.
- Completed project to replace the old telescope with a 16 inch Mead professional grade telescope and made other improvements including enhancing the dome in the Golden Pond Observatory after a successful campaign which raised over \$18,000.
- Obtained \$4,200 donation to the School Field Trip Grant Program to achieve full funding for this year’s cycle.
- Represented LBL and LBLA at 45 consumer shows, civic clubs, tourism organization meetings, chambers of commerce and events throughout the region.

- Over 150 personal contacts and meetings were held with regional stakeholders and partners, with an emphasis on our local military.

LBL for a third year accomplished work through Special Use Permits (SUPs) and a 10-year Challenge Cost Share Stewardship Agreement with the National Wild Turkey Federation (NWTF). Under the SUPs and 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 5500 acres of wildlife openings, croplands, hayfields, and native warm season grassland on LBL. LBL and NWTF are monitoring a grassland species of viability concern, the Henslow's sparrow, as described in Goal 5. This partnership helps provide for wildlife habitat diversity, hunting, and wildlife viewing opportunities at a minimal cost.

Heritage

As mentioned in Goal 1, the first draft reviews of the Heritage Programmatic Agreement (PA) and Implementation Plan (Plan) were completed in 2011. Relationships with the 16 consulting party representatives continue to grow and strengthen as the consultation process continues. Some of the highlights from the first draft review process include:

- Meeting of all consulting parties held at LBL on August 3, 2011
- Agency consulting party meeting solidified goals, direction, and format
- Response to first draft reviewer comments posted on LBL website
- Heritage staff met with KY SHPO in Frankfort
- Two meetings with the new Lyon County Judge Executive
- Tribal consulting party meeting resulted in better understanding of their unique role and issues
- As a result of continued consultation, an invitation to become signatories was extended to the Eastern Shawnee and the Eastern Band of Cherokee Indians

In addition to building Tribal relations through the PA consultation process, heritage staff attended the 2011 To Bridge A Gap conference jointly hosted by the USFS and many Southern region Tribes in Oklahoma. A highlight was being able to fulfill a request by one of our Tribal partners to help rebury the remains of a prehistoric Native American that had been recovered nearby but outside LBL.

FY2011 was another year of devastating weather events and in response to the spring tornadoes, heritage staff visited 93 cemeteries to assess access and cemetery conditions. Heritage staff and our maintenance contractor, Swift and Staley, cleaned up 24 cemeteries.



Figure 3. Gavin Hale, assistant heritage program manager (with chain saw), and archaeology Technician, Jerry Elmore, clear downed tree at Rushing Creek Cemetery.

During the past year, LBL heritage staff had the opportunity to build community relationships through local branches of two national programs: Job Corps and Youth Conservation Corps (YCC). Ten members of the Great Onyx Job Corps located near Mammoth Cave, Kentucky worked with heritage staff for three weeks in December 2010; and two Trigg County High School students involved with the Youth Conservation Corps worked with heritage for two weeks out of their 8-week internship program at LBL.



Figure 4. Job Corps volunteers finishing day 1 shovel test survey at open land field near Willow Bay.

Resource Management

LBL continued and expanded resource management partnerships in FY11. LBL is involved in a Collaborative Forest Landscape Restoration Proposal to move ahead with a landscape scale approach to restoration of critical wildlife habitats. Over the next decade this project would restore and improve habitats for a wide range of species, while creating numerous jobs and stimulating demand for woody biomass in the region. The total project will be 340,000 acres with 170,000 acres in LBL. Partners include KY & TN state wildlife agencies, Dept. of Defense, Nature Conservancy, US Fish & Wildlife Service, and others. LBL's Area Supervisor serves as a co-chair of Central Hardwoods Joint Venture Management Board, as a member of the TN Forestry Assoc. Public Lands Committee, and TN Rural Development Committee.

Timber management and wildlife staff worked together in FY11 to expand upon projects in collaboration with the National Wild Turkey Federation (NWTF). LBL experienced damage to the forest during multiple wind events and tornadoes that went through the area in the spring of 2011. In FY11 LBL worked with NWTF to set in place the removal of 203 acres of this downed timber in FY12. LBL plans to use the revenue generated from the FY12 timber sale to complete timber projects including biomass, Wildlife Stand Improvement and reforestation work.

In 2009 LBL secured two grants through the ARRA for biomass utilization in two neighboring counties. These demonstration projects to convert woody biomass to energy are well under way. The two projects included installing a biomass boiler system in the Lyon County School system, which was 80% completed during FY11, and the Trigg County Hospital project, which was 40% completed during FY11. LBL has partnered with the state's regional planning and development agency known as the Pennyryle Area Development District (PADD) to utilize the organization's expertise in grant writing, administration, and engineering for project oversight and collaboration with county officials. LBL has agreed to provide a 5-year supply of wood chips (fuel) for the biomass boilers.

The forest management staff continues to engage members of the forestry community at the local, state, and national level. For example, LBL presented information on our Devil's Backbone State Natural Area at a Shortleaf pine symposium in Alabama that was attended by state and federal land managers and partners such as Quail Unlimited. Forest staff also represents LBL on the Kentucky Prescribed Fire Council, which includes state, federal, non-profit, and private sector partners. These numerous resource management partnerships help LBL share expertise, information, and resources to manage natural resources as effectively and efficiently as possible while also learning from others.

2011 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. Overall visitation for LBL was down by 14% in FY11 compared to FY10. Visitation losses can be contributed to many factors. Two big factors that we believe had a major effect on LBL's overall visitation this year was the regional economy with continued high unemployment rates and major closures in May due to high water or flooding.

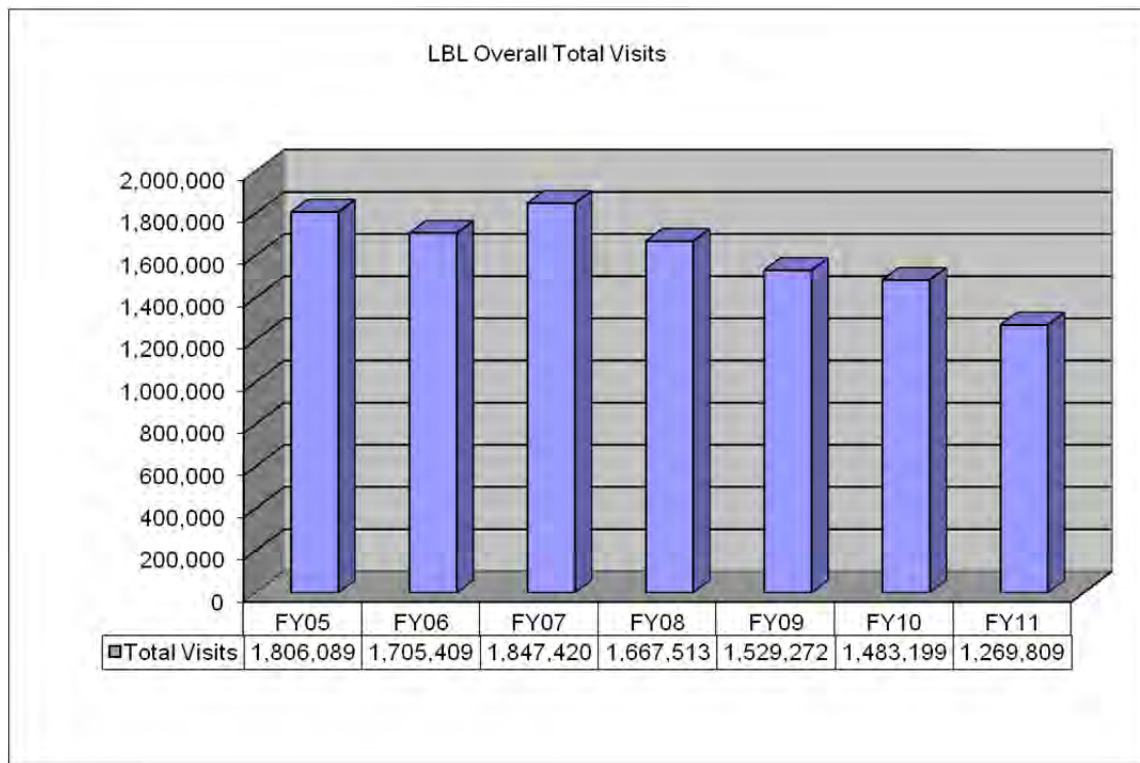


Figure 5. LBL Visitation

Since the Area Plan's implementation, LBL has taken more of a Local Market Advertising effort focusing on Day-Use facilities to try to keep admissions static for The Homeplace and Woodlands Nature Station and expose more individuals to LBL's Environmental Education Mission.

	% Change from Previous Year				
Participation/Visitation	FY07 (% change)	FY08 (% change)	FY09 (% change)	FY10 (% change)	FY11 (% change)
The Homeplace (Admissions)	+9	-2	+4	-3	-8
Woodlands Nature Station (Admissions)	+10	0	+10	+2	-7
Brandon Spring Group Center (Overnights)	+2	-6	-4	-9	+6

Table 3. EE Facility Participation in Programs¹

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

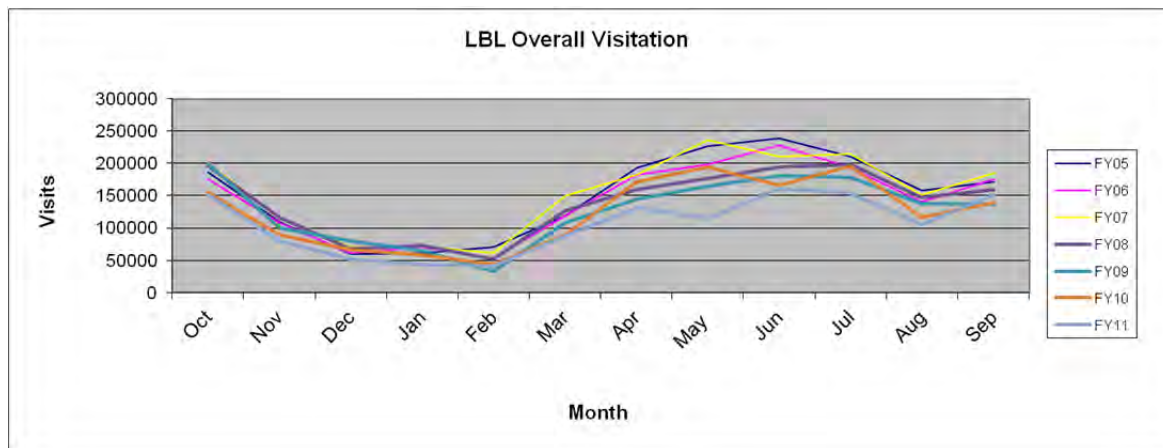


Figure 6. LBL Overall Visitation ²

Overall, since 2007 LBL's visitation has been declining (see Figure 5. LBL Visitation). While it is hard to pin point why, there are several economic factors that could be contributing.

1. High Unemployment Rates in calendar year 2010: 10% for West Kentucky and 11% for West Tennessee with 2011 showing similar trends.
2. Consumer Price Index (CPI) Inflation increase of 9% since 2007. (Bureau of Labor Statistics)
3. Stagnant Median Incomes in KY, TN, MO, IN, and IL

Even though we have seen an overall decrease in visitation, developed camping facilities' visitation remains strong.

The past three years have been difficult on the regional and local economies. With the three factors above taking place at the same time, it can create economic fears and unknowns which can play a major role in individuals' decisions on how to spend discretionary income.

² Overall visitation is derived from traffic counts.

Goal 3:	Utilize a variety of methods and opportunities to provide an EE message to every visitor.
Sub-element NFS Generic Desired Condition	“EE messages, information and principles will be incorporated into all projects on LBL through diverse cooperative, interdisciplinary efforts designed to potentially reach every visitor to LBL.” [Area Plan, Vision]
Example Area Plan Desired Condition Statement	<p>“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.”</p> <p>“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]</p>
Desired Trend Statement	<p>“Ensure that 80% of LBL communications, programs, and activities have an interwoven EE message.” [Objective 3a]</p> <p>“An average of one to two user impact challenges will be addressed annually through EE.” [Objective 3b]</p>
Monitoring Questions	4. Has the FS made progress toward successfully changing behaviors as a result of EE experiences to visitors?
Area Plan Performance Measures	4. Trends in on-site visitor behaviors and visitor comment surveys.
Data Sources Utilized	--Summary of visitor information surveys or personal letters and notes received, project accomplishments, annual monitoring results, programs, and communication products completed
Importance	This goal contains one of the key emphases of the LBL Protection Act and reinforces the key purposes described for LBL when created in 1963. Effective delivery of conservation education messages is also a primary objective of both LBL and the agency.
What It Tells Us	The results related to this goal will provide key information about whether LBL is meeting its legislated objectives.

Goal 3, Monitoring and Evaluation Narrative

The overarching program or banner for encouraging ethical behavior is “Respect the Resource”. We have used this as our conservation messaging venue and recognizable reminder for many behaviors we are encouraging. As a result, campers and visitors to our day use facilities are recycling; visitors are using re-usable water containers; fishing line is being recycled; and, OHV riders are learning to respect trail boundaries. The designated area for young riders at Turkey Bay is popular to allow them to practice safe riding techniques and learn sustainable riding practices.

Other environmental education (EE) programs encourage people to be resourceful at home by turning their yards into backyard habitat for wildlife. Native plant sales were held at several events this year. We have partnered with a small local nursery that grows native plants from seed or cuttings taken from the native gardens at Nature Station. Our programs are designed so that visitors can apply what they learn at LBL to their homes and communities.

Respect the Resource and Volunteers

Under the banner of “Respect the Resource”, LBL recycled more plastic, aluminum, glass, and batteries in 2011 than in 2010: 5,718 pounds (2010) compared to (8,380 pounds in 2011). Other materials recycled included 34,946 pounds of scrap metal, 331 pounds of household batteries, 25 pounds of fishing line, and 1,803 pounds of tires (shore clean-up). The total of over 45,000 pounds of material recycled from LBL in 2011 does not include the paper and cardboard because they are not weighed.

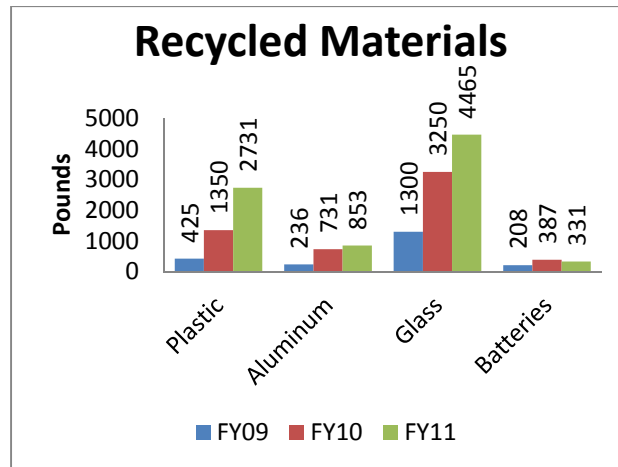


Figure 7. Recycled Materials

Two Canoe/Kayak/Land-based shoreline cleanups were held in support of the Respect the Resource program this year. In April, 504 pounds of trash were collected at Crooked Creek Bay and we were able to recycle 133 pounds of that total. For National Public Lands Day in September, 34 volunteers collected over 2,470 pounds of trash at Honker Bay of which 1,703 pounds were recycled. Midway through the fiscal year (March), the new recycling dumpsters were placed in the campgrounds and other facilities. We look forward to continuing to increase the percentage of our trash that is recycled. The staff and visitors are responding well to the opportunities to conserve resources in this way.

Volunteers

Our volunteer program is another form of education with solid action. In FY 2011, volunteers contributed 103,189 hours collecting trash, improving many miles of trails, pulling invasive weeds, working on heritage restoration projects, working at campgrounds or day use facilities, and helping out at special events for Environmental Education. This year our volunteer



Figure 8. Shoreline Cleanup

recognition theme was “Volunteers Make a World of Difference”. We see the difference that their time makes at LBL and are proud to recognize them for this contribution. Volunteer hours for 2011 are lower than in 2010 due to the campground closures during the spring flooding and reduced apprentice hours. See table below.

<u>Year</u>	<u>Volunteer Hours</u>
2011	103,189
2010	123,579
2009	106,824
2008	112,827
2007	92,014
2006	93,047
2005	104,686

Table 4. Volunteer Hours

Environmental Education

Over 241,000 people visited our EE facilities in FY 2011 (See Table 5). Attendance at our EE programs isn’t the whole picture. It’s not just the number of programs or people attending, but the messages they receive and how it affects their lives that is important. Getting children out into the woods, out into LBL, and out into nature is vital for the future of public lands and our world. Our programs offer families safe, fun, and engaging ways to interact with the natural world. The school field trips bring learning outside where the intense, vibrant experiences anchor the knowledge gained. Teachers brag that the classroom studies all year long are enhanced by the experiences their students have had at LBL.

This year, a new series of public programs was launched: The Nature Watch Series. In October we offered “Pelicans and & Prairies”; in January “Winter Wanderers”; in April “Wildflowers & Warblers Weekend”; in June “Stiltwalkers of LBL”; and in September “Hidden Treasures of LBL”. These in-depth offerings are for a smaller, more-serious-about-nature-watching niche so we have lower maximum numbers allowed. The trips include lunch, often necessitate staying in the area and might go off site to a state park nearby. Total attendance was 33 people. We learned about logistics and marketing and the need for a new program like this to become well-known. We will continue in 2012 with new offerings. Another goal of this series is to bring visitors to the nearby communities as part of an LBL visit.

Another opportunity to partner and get kids out into the woods came through a Challenge Cost Share Agreement funded from the National More Kids in the Woods Campaign. LBL received \$3,600 to contribute to the \$82,500 partner contributions coordinated by Futskilz Soccer Training for the “Soccer Kids into the Woods” project. This project will get the organized sports kids out to LBL and surrounding public lands to interact with and learn about nature. One event already accomplished was a “Wonders of Water” event with third grade classes from Marshall County, KY. Partnering with US Fish & Wildlife (Clarks River National Wildlife Refuge), Marshall County Soil and Water Conservation District, and the US Coast Guard, staff assisted students to explore a pond, the water cycle, watersheds (non-point pollution), native fish, and learned water safety. This hands-on learning opportunity was welcomed by their teachers. Learning about the importance and rarity of fresh water on earth will lead to good stewardship



and conservation of water. Pre and post tests were used to evaluate learning and the resultant 7% increase in learning was more than double that of other programs.

The Soccer Kids into the Woods project will continue into 2012 reaching kids in schools, encouraging field trips, recycling and water conservation.

Figure 9. Third grade students from South Marshall County Elementary School explore the Wonders of Water.

Campground interpretive programs reached 1,515 children of camping families at two of our developed campgrounds: Piney and Hillman Ferry. Piney Campground and Brandon Spring Group Camp again shared an apprentice position between the sites. We were able to maximize staffing for the busy seasons in each facility, provide multiple experiences for the apprentice, and reap the benefits of a trained interpreter at the campground.

Facility and Contacts	FY07	FY 08	FY 09	FY 10	FY 11
<u>Brandon Spring Group Center</u>					
# attended	7,972	7,683	6,820	6,644	6,958
Groups	124	113	104	87	108
Programs	470	508	474	482	461
<u>Woodlands Nature Station</u>					
# attended	44,124	33,489	37,622	40,135	41,526
# at off site	2,117	525	1,117	3,491	1,278
Students	6,739	6,540	5,160	5,312	6,294
<u>Golden Pond Planetarium & Visitor Center</u>					
Visitors	114,613	94,975	84,586	78,415	94,381
# attended shows		15,117	19,388	15,545	9,127
Students		5,376	2,904	2,640	2,695
<u>Homeplace 1850 Farm</u>					
# attended	43,747	34,046	35,537	34,645	34,436
# at off site	1,457	500	845	425	400
Students	6,710	5682	4507	4,015	5,354
<u>Elk & Bison Prairie</u>					
# visitors	123,129	93,026	93,750	80,798	63,839

Table 5. Participation in EE Programs at Facilities

Our field trip grant program encourages new schools and classes to bring students on single and multi-day trips to LBL. Table 6 shows the numbers and dollars for the program. This year two new school groups came to Brandon through the grant program.

Fiscal Year	# of Schools/Groups	# of Students	\$ from LBL	\$ from other FS	\$ from grants and donations	Total \$ allocated
2006	16/19	1249			12,000+	13,078
2007	17/21	1444		10,000	3,000	13,078
2008	21/32	2493	5,000	5,000	12,000	12,580
2009	20/25	1983			16,000	16,123
2010	22/24	1771			17,271	17,271
2011	22/24	2121			7,900	18,124

Table 6. Field Trip Grant Program

LBL interpreters continue to create fresh, exciting learning opportunities through special events and EE programs that teach and demonstrate through hands-on activities the wonder of nature, the value of our cultural and natural history, and the importance of stewardship of our public lands.

Heritage Education

Several exciting heritage educational opportunities to add to the heritage link currently on the LBL website are in the works, including an interactive heritage map and oral histories.

Heritage staff provided a presentation on the LBL heritage program at the 2011 Southeastern Archaeological Conference which was held in Lexington, Kentucky, Trigg County Chamber of Commerce, a local chapter of the Daughters of Confederacy, and to the Graves County Genealogical Society.

In what is fast becoming an annual favorite, once again heritage staff offered a highly successful outreach program that offered participants of all ages the opportunity to learn about Native American pottery and try their hand at creating pinch pots and rock art markers during the Piney Campers Fair.



Figure 10. Heritage Booth at Piney Campground 2011 Campers Fair.

FY2011 also saw the first Archaeological Resource Protection Act of 1979 (ARPA) investigation at LBL which will serve to help educate the public about the significance of cultural resources and why hunting for them and taking them away hurts everyone. Two individuals were apprehended metal detecting near Ft. Henry, a Civil War Site listed on the National Register near the southern boundary of LBL on Kentucky Lake. Although the damage cannot be undone, value can be gained by turning this into a Respect the Resource teaching opportunity.

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

Goal 4, Monitoring and Evaluation Narrative

The FS is making steady progress in reducing erosion and sediment transport in order to improve watershed conditions. The Target Range was hydro-seeded and hydro-mulched during FY2011. This resulted in 20 acres of improved watershed condition by reducing sediment transport and improving water quality.

Eight impaired road culverts were replaced to improve stream channels, stream bank stability, aquatic friendly passages and riparian area functions. Approximately 53% of roads were maintained to standard, falling short of the yearly goal of 75%.



Figure 11. Road Culvert Replacement

Riparian values and soil and water resource considerations were implemented through BMP's and design criteria to 184 miles of trails that were maintained to standard, 16 miles of trails improved to standard and 2 miles of rerouted trail. Maintaining and improving trails to standard will lead to reduced erosion and sediment transport thus reducing deposition in creek channels and riparian areas and improve water quality.

In 2011 LBL performed watershed analysis on 10 Level 6 Watersheds consisting of 170,000 + acres of Forest Service land. Analysis was performed for Watershed Condition Indicators; Aquatic Physical, Aquatic Biological, Terrestrial Physical and Terrestrial Biological, each with its own set of indicators.

Two “functioning at risk” (Watershed Condition Class 2) watersheds, Dry Creek/Cumberland River and Ledbetter Creek/Kentucky Lake watersheds, were selected for development of Watershed Restoration Action Plans (WRAPs). WRAPs have been developed for Forest Service land on 22,651 acres in the Dry Creek/Cumberland River watershed and 8,178 acres in the Ledbetter Creek/Kentucky Lake watershed. Implementation of the WRAP projects will improve these “Functioning at Risk” (Watershed Condition Class 2) watersheds to “Fully Functioning” (Watershed Condition Class 1) within 3 years.

Four Rivers Watershed Watch monitors 2 sites on tributaries draining into Lake Barkley. These sites are located on Crooked Creek and Demumbers Creek. Hancock Biological Station (HBS) at Murray State University monitors 12 sites on Kentucky Lake and its tributaries: 2 sites on Duncan Creek/Bay, 1 site at Higgins Bay, 1 site at Vickers Bay, 2 sites at Turkey Bay, 1 site at Highland Light, 1 site at Ginger Bay and 4 sites on Panther Creek/Bay. Both groups monitor for physical, chemical, and biological characteristics. Sites monitored by both groups indicate good water quality.

The 1972 Federal Water Pollution Control Act, commonly known as The Clean Water Act, requires States to assess and report current water quality conditions to Congress biannually. No LBL streams or water bodies have been listed as impaired until 2004, when Hematite Lake was first listed. Warm water aquatic habitat is not supported due to eutrophication and low dissolved oxygen. (Volume II. 303(d) List of Surface Waters Kentucky Environmental and Public Protection Cabinet Division of Water May 2008). Due to the 303(d) listing Hematite Lake required development of a monitoring plan in FY 2011; however, due to lack of resources a monitoring plan was not developed during 2011. A monitoring plan will be developed for Hematite Lake in 2012.

The Water Quality Branch of Kentucky Division of Water recently reported a finding of the federally endangered freshwater mussel species *Potamilus capax* (fat pocketbook) in the lower Cumberland River below the Lake Barkley Dam. This resulted in the lower Cumberland River being listed as an Outstanding State Resource Water (OSRW) Segment. The finding of the federally endangered freshwater mussel species also indicates good water quality. This area of the Cumberland River is located in Lyon County, KY. The listing area is outside the LBL boundary; however, runoff from LBL into the Cumberland River does pass through the identified area.

A recent survey by Kentucky Energy and Environmental Cabinet (EEC) Division of Water has listed Crooked Creek as an “Exceptional Waters” (EXCW). EXCW are, by definition, waterbodies whose quality exceeds that necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water. (401 KAR 10:030 Sections 1). This section of Crooked Creek goes upstream from Energy Lake 6.1 miles. (The total length of Crooked Creek is 9.1 miles.)

Municipal Water System Intakes on the Cumberland River were identified during the Demumbers EA. Municipal Water System Intakes and water quality downstream of the Demumbers project area was determined to be unaffected due to distance between the project area, intake location and dilution. These Municipal Water System Intake locations and boundaries are now available as an information layer for use in GIS projects.

Goal 5:	Use a collaborative approach to maintain and restore: 1) a diversity of plant and animal communities that support viability of associated plants, fish, and wildlife; and 2) sustainable levels of habitat and wildlife populations to support public demand for wildlife-related recreation.
Sub-element NFS Generic Desired Condition	“Visitors to LBL will see active management of forests and other vegetation designed to support ecological needs for forest health and wildlife habitat, in addition to supporting recreational and EE goals.” [Area Plan, Vision]
Example Area Plan Desired Condition Statement	<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>
Desired Trend Statement	<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]</p> <p>“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]</p> <p>“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]</p> <p>“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]</p> <p>“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>
Monitoring Questions	<p>7. How well are species of viability concern being maintained on LBL?</p> <p>8. How is management of LBL affecting recovery of threatened and endangered species? (Duplicate questions for Measures 9-10)</p> <p>11. How is management of LBL affecting demand for wildlife-related recreation? (Duplicate questions for Measures 12-14)</p> <p>15. How is management of LBL affecting special habitats and major biological communities? (Duplicate questions for Measures 15-25)</p> <p>26. Is the forest less likely to be affected by insects, disease, and wildfire? (Duplicate questions for Measures 26-28)</p> <p>29. Has the FS made progress towards identifying old growth stands on the ground?</p>
Area Plan Performance Measures	<p>7. Trends in key habitats and/or populations of viability concern species.</p> <p>8. Trends in highest risk species.</p> <p>9. Trends in Price’s potato bean populations in relationship to Threatened & Endangered (T&E) Recovery.</p> <p>10. Trends in bald eagle populations in relationship to T&E Recovery.</p> <p>11. Trends in Eastern bluebird populations as a Non-game Demand species.</p> <p>12. Trends in white-tailed deer populations as a Demand Game species.</p> <p>13. Trends in Eastern wild turkey populations as a Demand Game species.</p> <p>14. Trends in Northern bobwhite quail populations as a Demand Game species.</p> <p>15. Trends in pileated woodpecker populations in relationship to Snags in Forested Situations.</p> <p>16. Trends in Eastern bluebird populations in relationship to Snags in Open Forested Situations.</p> <p>17. Trends in Acadian flycatcher populations in relationship to Mature Riparian Forests.</p> <p>18. Trends in Northern bobwhite quail populations in relationship to Grasslands.</p> <p>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>
Data Sources Utilized	<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>
Importance	<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 plan should lead to many on the ground accomplishments and support primary objectives of both LBL and the agency.</p>
What it Tells Us	<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

Fire

LBL has successfully implemented 2,600 acres of prescribed burning. This treatment has reduced the amount of hazardous fuels that could have contributed to the cause of a catastrophic wildfire due to the ice storm of 2009. The prescribed burns in the Crossroads area have improved some of the openlands in this area as well. A total of 4,600 acres of integrated fuel reduction has been accomplished this year through a combined effort of multiple programs. The forestry department has treated over 850 acres this year with commercial timber sales and another 174 acres of Timber Stand Improvement (TSI) projects to reduce the midstory and help create the oak-savannah type ecosystem described in the plan.

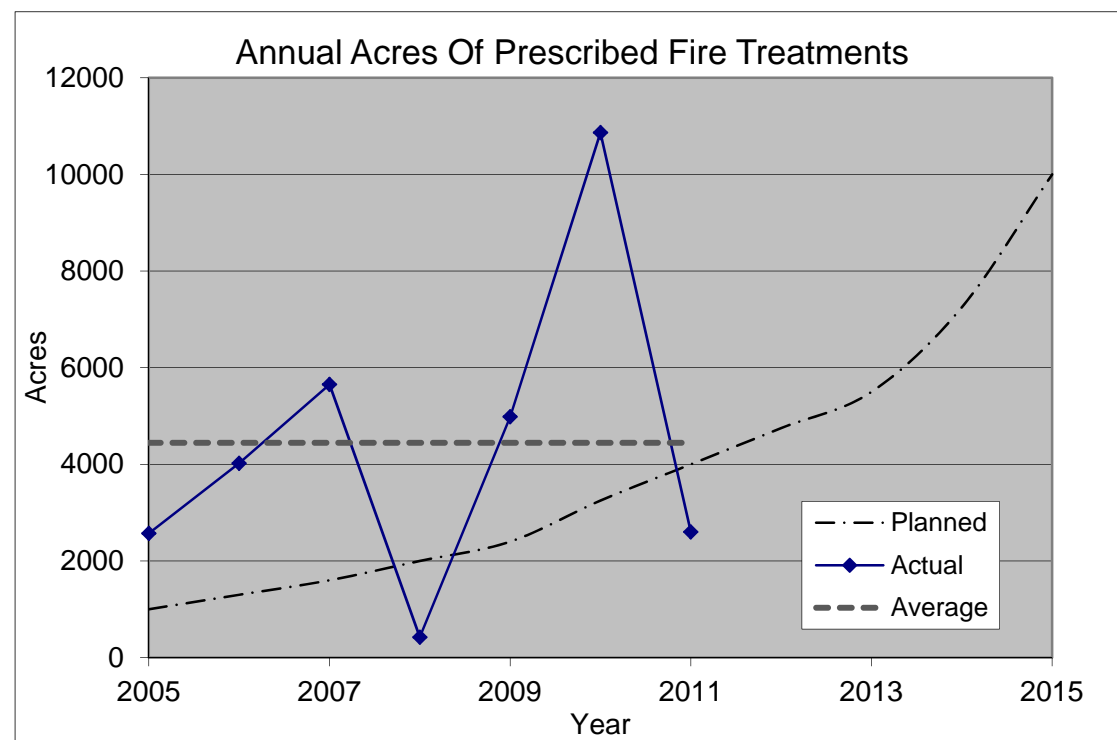


Figure 12. Acres of Prescribed Fire Treatments

Open Lands

Open land maintenance was completed on a total of 6,647 acres to enhance wildlife habitat diversity (http://www.lbl.org/pdf/11_12LBLHabitatMap.pdf). In 2011, 14 acres in the Barnes Hollow area and 19.5 acres in the Elbow Creek area (Kentucky) were taken out of cultivation and herbicide treatments completed in the fall for conversion of these acres to native warm season grasses and forbs beginning in spring 2012. Another 32 acres of cool season grass (fescue) hayfield in the Rayburn Hollow area (Tennessee) were also treated with an herbicide during the fall for conversion to native warm season hayfields in spring 2012. Since the Area Plan was implemented in January 2005, approximately 236 acres of native warm season grasses have been restored on LBL (111 acres in 2005; 80 acres in 2006; 25 acres in 2008; zero acres in 2007 and 2009; and 20 acres in 2010).

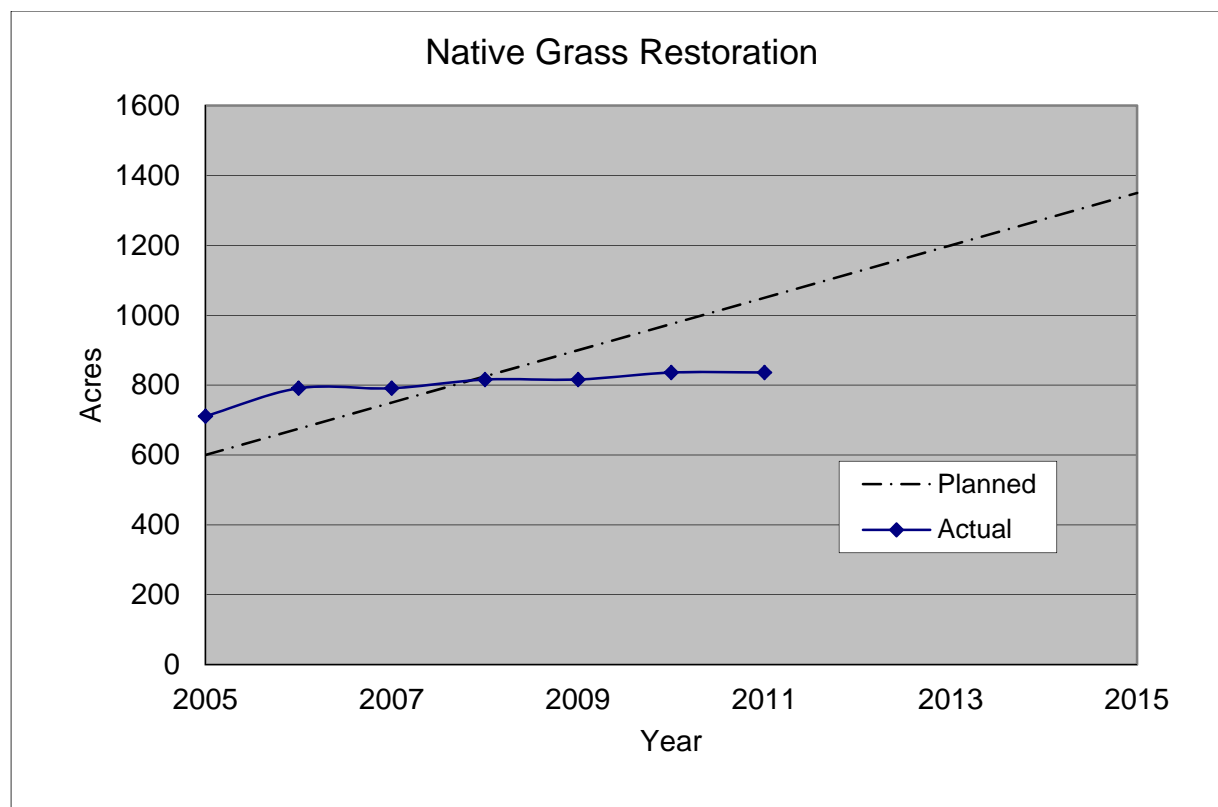


Figure 13. Native Grass Restoration

Non-Native Invasive Species

Non-native invasive species (NNIS) are one of the Forest Service's Four Threats to the health of our forests' ecosystems. In 2011, 771 acres were treated to reduce and control NNIS vegetation competition with a combination of fire, mowing, and approved herbicides. Primary NNIS species targeted included autumn olive (*Elaeagnus umbellata*), loblolly pine (*Pinus taeda*), sericea lespedeza (*Lespedeza cuneata*), fescue (*Schedonorus phoenix*), Johnson grass (*Sorghum halepense*), pigweed (*Amaranthus hybridus*), cocklebur (*Xanthium sp.*) and foxtail (*Setaria sp.*). The overall success rate for the control of NNIS was variable across the areas treated with a range of 40-90 % success.

Species of Concern:

Price's Potato Bean

Permanent monitoring plots were established in 2005 and 2006 at five known locations of the federally threatened Price's potato bean (*Apios priceana*) in LBL. Four sites occur in Kentucky and the fifth is in Tennessee. 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 with flowering plants at two of the five sites. 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 four Kentucky sites for a total of three acres threatened and endangered terrestrial habitat improvement. The shade tree removal was a big success with flowering clusters and bean pods produced at all treated sites. Beans were collected by the US Fish and Wildlife Service (USFWS) and Forest Service staff from 188 pods produced on nine vines at one of the sites. At this site, approximately 290 seeds were planted uphill of the existing plants the day of collection in efforts to expand the plant population. None of the seeds produced vines in 2010 or 2011. The failure of the seeds to produce is not fully understood. Research and understanding of *Apios pricieana* reproduction needs are part of the recovery efforts for this species and its habitat. Of the seeds collected at this site in 2009, the USFWS kept approximately 170 seeds and they were planted in spring 2011. About 25% of these plants were successful in growth during the more moist spring months and then they appeared to weaken due to lack of moisture and heat stress during the summer. At a second site about 7 seeds had been collected in fall 2009. These seeds were also planted in spring 2011 and the success was poor overall.

Field observations of existing populations at the four Kentucky sites included flowers and bean pods present at the two sites where seeds were planted in spring 2011; two flowers and no bean pods at the third site, and no flowers and beans present at the fourth site. The third site in Kentucky was partially under water in May and the early good growth spurt put on by the vines in late April-May appeared to have been affected for those plants that were covered by the flood waters in May. The fourth site has shown increasing improvement in vine growth since shade-tree removal was done in late winter/early spring 2010. Vines were present at this site in 2009 and in 2008 they were in poor condition.

The Tennessee population has declined since 2006 with plant vines dwindling in condition and numbers. Only 2-3 vines were observed flowering in 2010, and no observations of plant growth were done at this site in 2011. Some canopy removal was planned in 2011; however, due to weather conditions during winter/early spring, shade-tree removal/tree girdling did not occur. This activity is planned to occur in FY2012 in cooperation with the USFWS.

Monitoring of populations and habitat conditions will continue to occur for all sites with implementation of the Price's Potato Bean Recovery Plan and in coordination with the USFWS, KSNPC and TDEC. The recovery plan for the LBL Price's potato bean populations will be revised as needed in cooperation with our partners and based on results obtained through management, monitoring, and research.

Bald Eagle

The bald eagle was removed from the endangered species list in August 2007 due to successful population recovery. However, the bald eagle continues to be protected on LBL by the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. To ensure the species continues to proliferate, National Bald Eagle Management Guidelines (May 2007) and Final Post-delisting Monitoring Plan (March 2009, Posted 5/11/2010) have been developed and are available at: <http://www.fws.gov/migratorybirds/baldeagle.htm>.

Winter occurrence, nesting sites, and nesting success continue to be monitored. Monitoring of eagles for LBL is done in partnership with the Kentucky Department of Fish and Wildlife Resources (KDFWR), Tennessee Wildlife Resources Agency (TWRA), U.S. Fish and Wildlife Services and their partners, and volunteers through the Land Between The Lakes Association (LBLA).

Within the LBL and surrounding lake areas during the January 2011 midwinter survey, 37 bald eagles were counted along the Kentucky and Tennessee shorelines of Kentucky Lake and Lake Barkley (27 adults and 10 immature). In the April 2011 Midwinter Eagle Survey Report, KDFWR avian biologist, K. Heyden, states that the normal to mild winter weather conditions in early 2011 within the Great Lakes region and in Kentucky likely led to a lower count of wintering eagles in the Commonwealth in comparison to counts in recent years. Eagles do not need to move as far south in search of available food when temperatures are mild and small lakes do not freeze over. This may have caused the low count for LBL and surrounding lake areas in 2011 compared to 215 counted in 2010. Table 7 provides the history of bald eagles *observed only on LBL shoreline* during the Midwinter Eagle Surveys completed in 2005-2011.

Table 7. LBL Midwinter Eagle Counts and number of eagles sighted during 2005 through 2011 aerial surveys.						
2005	2006	2007	2008	2009	2010	2011
74	45	64	87	77	118	27

Bald eagle fledging success in LBL has been monitored since 1984 when the first successful nesting of bald eagles occurred in Tennessee (Appendix 3). Over the past ten years, the number of eaglets fledged from LBL nests has remained fairly constant with a slight increase in total eaglets fledged beginning in 2007 when the bald eagle was delisted.

During an aerial survey in March 2011 with KDFWR, 24 nests were checked for nesting activity. Adults were observed incubating eggs on 5 of 12 nests checked in LBL. Seven of the twelve nests had chicks visibly present. The Tennessee nests were not checked by TWRA. Based upon ground surveys, the fledgling nest success for nine nests was a total of 16 chicks with eight of the nests (13 chicks) in Kentucky and one nest (3 chicks) in Tennessee. The LBL nest sites in Tennessee were not monitored for fledgling success in 2011 except the one noted above.

Bats

LBL-wide surveys for bats have occurred every five years, after an initial 3-year baseline survey in 1993-1995 (2010 M&E Appendix 2). Project-specific surveys have also been conducted, which covered relatively small areas at LBL. Ten bat species have been captured on LBL: gray, red, eastern pipistrelle, evening, little brown, northern long-eared, big brown, hoary, silver-haired, and Seminole bats. Gray bats are the only endangered species that have been confirmed on LBL. Indiana bats (E), Rafinesque's big-eared bats (RFS), and southeastern myotis (RFS) have not been captured on LBL.

Surveys in 2011

In 2011 year 3 of mobile transect acoustical surveys were completed using Anabat™ acoustical recording systems. The new and long-awaited software to analyze the data became available in summer of 2011; however, after scanning LBL data files with the new software, several questions about interpretation of the results became immediately obvious. Researchers at Murray State University and Austin Peay State University are improving the software; results and future direction will be presented in the FY2012 M&E report.

Other Species of Concern

During field inspections in 2011, Prairie dock (*Silphium pinnatifidum*) was reported in a native warm season grass restoration area in Tennessee and another along a creek bank and an access route to a field in Kentucky. In 2010 three new locations were reported for this species. The Forest Rank for this species changed from an F1 rank with 1-5 occurrences to an F2 rank with 6-20 occurrences. With the new findings, the Forest Rank (F2) remains the same for this species. For a second consecutive year the Henslow's sparrow has been observed within a 33 acre (13.4 hectare) hayfield area adjacent to cropland in a continuous open lowland area of approximately 100 acres, North-end Nature Watch area. The Henslow's sparrow uses grassland areas that are >10 hectare where there is suitable grass such as broom-sedge for nesting and very little woody vegetation present. In preparation for the possibility that the Henslow's sparrow may return to the area this year we had planned that only half of the acreage would be cut for hay and the rest left for the Henslow's sparrow to nest. The area was visited in May to determine the presence of the bird and two pair were present. Hay cutting commenced on half the acreage as planned after June 1. The hayfields were visited again in August to determine nesting success of at least one Henslow's pair. Two fledglings were observed with one nesting pair in the uncut hayfield portion and a possible third unconfirmed observance of a fledgling in the cut-over area. We are not sure if the second Henslow's sparrow pair in the cut-over area may have re-nested in July. We did have sufficient rain to allow good vegetation growth back into the cut-over field areas. Management was allowed during the first part of September in the un-cut hayfield once the critical use period of the area for fledging success had passed.



Figure 14. Adult Henslow's sparrow perched on blue vervain plant.

Turkeys

Wild Turkeys are a popular species for both hunters and bird watchers. The annual brood surveys conducted by LBL staff give an indication of spring breeding success. During 2011, an average 53% of hens were seen with poults, with an average of 4.4 poults per hen. These figures are very similar to 2010 numbers, and are very good when compared to reproduction during other previous years even though heavy spring rains likely reduced the number of surviving poults hatched during the earlier part of the nesting season.

Forestry

Forest Inventory

The Forest Management Staff has inventoried over 2,000 acres in the Pisgah project areas to meet the Goals and Objectives of the 2004 Area Plan. Multiple treatments will be proposed to increase acres in our Mature Canopy Gaps, Mature Woodland, Shortleaf Pine, Mid-Aged and Regenerating Forest types as stated in the plan.

Prescription Area	Acres Inventoried
General Forest	1,800
Core Areas	200
Total Acres	2,000

Table 8. Forest Inventory

Treatment

Forest management is continuing to expand with multiple treatment activities throughout LBL directed to meet the objectives in the Area Plan for forest structure. This year over 1,000 acres of oak grassland and general forest were treated with timber harvest or cut and leave treatments.



Figure 15. Timber Treatment Area

LBL had 5 timber contracts open during the fiscal year of which 2 finished cutting and removed the remainder of timber in the sales. Two sales are now closed, the Finklestein Kid Salvage sale and the Crockett Creek sale. The acres for each of these sales were part of the Oak-Grassland Restoration project. Three commercial sales, listed in the table below, were awarded to local logging companies during FY11. The Road Enhancement sale was a result of a major wind event that crossed our region in April. A contract was awarded for the

removal of the blown over trees and leaning trees that posed a hazard to the public within the roads rights-of-way. The WYP and Prior West timber sales were the last portions of the Prior Creek Decision for the Oak-Grassland Restoration project. These sales encompass just under 900 acres and will generate over 6,200 ccf of volume for local wood production. This is the most timber sold since FS has managed the recreation area. The Forestry department also implemented 174 acres of timber stand improvement (cut and leave) in the Oak-Grassland area as well.

Sale Name	Acres Treated
WYP	309
Prior West	531
Road Enhancement	20
TSI (Cut and Leave)	174
Total Acres	1,034

Table 9. FY11 Timber Treatments



Figure 16. Timber Treatment Area

Several projects got underway to implement additional timber sales in the future. Hurricane Creek, Grace Creek and the John Wayne Salvage projects were initiated due to the ice storm and recent wind events that have impacted LBL. These projects were selected due to locations and impacts to recreation facilities, wildlife and forest health. These projects will treat up to 700 acres and remove over 7,000 ccf of timber that will meet our objectives and support local businesses. The EA for Demumbers Creek Project is near completion and when implemented will create approximately 800 acres oak woodland, 700 acres open mature oak forest, and about 300 acres regenerating oak and shortleaf pine forest types. The Devil's Backbone project is back on the list of projects to accomplish over the next couple of years as well. This project was dropped back in 2009 due to weather events but now has been given priority to improve our shortleaf pine habitat on the southern end of LBL.

Weather events are not our only concern for forest health at LBL. Oak decline and other insects still can have an effect on LBL's forest. Susceptibility to Oak Decline is of great relevance due to ice storm damage of 2009 and multiple wind events in 2011. This is adding more stress and leaving oaks more vulnerable to *armillaria* root rot, *hypoxylon* canker, and various insects including the two-lined chestnut and red oak borers. Storm damage to more than a third of the crown 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-seven gypsy moth traps were put out in the forest, and currently no moths were found by LBL staff. 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. Though no insects were found 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.

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

Goal 6, Monitoring and Evaluation Narrative

During the first few years of management by the Forest Service an informal process was used to guide the operation of the Demonstration Lab and the role needed clarification. In 2005, an oversight group was commissioned to review and formalize its role, including development of a formal charter and coordinated process for project submittals, oversight, and approval. Nine members serve on the Board of Directors, representing each level and facet of the Forest Service organization. One of the first recommendations of this board was to open up the solicitation of demonstration project proposals to the entire country.

Since 2005, the LBL Demonstration Lab has conducted 14 projects which have served all levels of the Agency. Over the last few years, the Lab has had difficulty in soliciting new proposals throughout the Forest Service, and is working diligently with individuals on all levels of the agency to increase lab awareness. However with this challenge, the Demonstration Board

remains determined to promote and support the importance of LBL's National Demonstration Role.

In order to further expand the types of demonstrations LBL undertakes, LBL established a request for proposals to all FS units in FY10. Of the proposals received, the Demonstration Board submitted 3 to the Regional Forester for consideration, which were subsequently approved. These projects included a biomass mid-story removal contract, a biomass wood harvest sale, and an outfitter/guide capacity study.

Two biomass utilization demonstration projects to convert woody biomass to energy are well under way in two neighboring counties. Installation of a biomass boiler system in the Lyon County School system was 80% completed during FY11. The Trigg County Hospital project was 40% completed during FY11.

In FY11, the Demonstration Lab continued to focus on internal projects as well. For example, LBL worked on its internal Financial System and customer delivery processes, which includes its Point of Sale, Partnership Payments, and cost saving and efficiency ideas.

The Area Plan set an objective of serving between three and six customers each year, on average. In FY11, the LBL Demonstration Laboratory met this target by continuing to serve several units in a variety of ways, mainly in an advisor role on specific subject matter. Two innovation proposals are in the Washington Office awaiting approval. The details of the unique Small Business Development Seminar idea was shared with the staff at the USDA headquarters in Washington, DC. No products were exported to other units in FY11.

Goal 7:	Enhance dispersed recreational and EE opportunities throughout LBL.
Sub-element NFS Generic Desired Condition	<p>“...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.</p> <p>“Hunting and fishing will continue to be important dispersed recreation opportunities at LBL.” [Area Plan, Vision]</p>
Example Area Plan Desired Condition Statement	<p>“Dispersed activities and opportunities will become an extension of the developed Rec/EE facilities and sites that currently exist.”</p> <p>“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]</p>
Desired Trend Statement	<p>“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]</p> <p>“An average of one to two miles of trail will be constructed annually.” [Objective 7b]</p> <p>“Complete an average of one interpretive project annually within the Nature Watch Demonstration Areas and Oak-Grassland Demonstration Areas.” [Objective 7c]</p>
Monitoring Questions	32. Have dispersed recreational and EE opportunities at LBL been enhanced? (Duplicate question for Measures 32-35)
Area Plan Performance Measures	<p>32. Trends and annual summary of accomplishments and results</p> <p>33. Backlog of facility and trail maintenance needs and trends</p> <p>34. Results and trends in user satisfaction ratings</p> <p>35. Trends in financial resources needed and available to provide recreation opportunities</p>
Data Sources Utilized	<p>--Objective accomplishments, percentage of visitation utilizing dispersed Rec/EE opportunities</p> <p>--Analysis of Infra Deferred Maintenance Report and reporting of percent change in backlog</p> <p>--Summary of visitor satisfaction surveys or personal letters and notes received; objective accomplishments, integrated projects completed</p> <p>--Analysis of incoming funds-traditional budgets and fee collections-and costs of operations, in view of needs; reports using standard tracking systems</p>
Importance	This goal contains one of the key program changes displayed in the LBL Area Plan and responds to concerns voiced by the visiting public during the planning process that LBL was not meeting changing customer demands through existing services.
What It Tells Us	The results related to this goal will provide key information about whether LBL is meeting its stated objectives in the Plan and is responding to the feedback of the public.

Goal 7, Monitoring and Evaluation Narrative

Challenges

FY2011 presented a set of challenges at LBL. The first challenge was the completion of the two remaining American Recovery and Restoration Act projects at LBL. The first project was the installation of 17 replacement trail bridges across LBL. This project will enhance dispersed recreation opportunities by providing year round safe trail access. Thirteen of the bridges were installed in 2011 with the last few slated for completion in early 2012. The second project was the construction of a sewage treatment plant at Wranglers Campground. This plant would replace a failing system and insure continued equestrian camping opportunities at LBL. Construction was completed and the treatment plant became operational in May of 2011.

Another series of challenges for LBL was the effects of the three major storm events that brought wind damage, dumped large amounts of rain on LBL, and high lake level flooding for flood control. The first wind event in early spring brought severe wind damage and heavy rain damage across LBL. The most significant wind damage occurred to Wranglers Campground and the Wranglers Trails. The heavy rain did significant damage to the roads and trails across all LBL. A second wind and rain event did significant damage to Rushing Creek Campground and Redd Hollow Backcountry Area as well as the roads and trails. As a result of the storms in this region and the heavy rains north of LBL, TVA and the Corps of Engineers decided to close the spillways of Lake Barkley and Kentucky Lake to reduce severe flooding to the north. Both lakes reached the highest lake levels ever recorded in the management of LBL, almost 370 feet. This played havoc with the recreation facilities, especially the trails system. There was major cleanup and infrastructure repair in 27 developed recreation sites and almost all of the trails on LBL. Working closely with the maintenance contractor, Swift and Staley, the Forest Service began a rapid cleanup and repair of all recreation facilities and trails which was completed just before the Memorial Day holiday weekend. The only sites that remained closed until July 1 were Rushing Creek and Redd Hollow.

2011 Recreation Program

The 2011 recreation program of work continued on in conjunction with the storm cleanup, repairs, and the ARRA project planning. LBL made progress on achieving objective 7a in July with an approved 32 point plan for the future management of the backcountry, lake access, and day use areas across LBL. The approved plan will begin a phased implementation in 2012. LBL also held public meetings in campgrounds to help develop a revised seasonal camping program. This new program will be implemented in 2012. Differential pricing for campsites was introduced to entice users to camp during the week or other times when demand is lower.

Progress on achieving objective 7b was made with the completed construction of 2.5 miles of a paved bike and hike trail along Hwy 68/80. LBL also completed planning for the rest of the nine mile bike and hike trail from Road 160 to Fenton. Funding was obtained from the Federal Highway Administration and construction began in September of 2011. When completed there will be a continuous trail across LBL along Hwy 68/80 that will continue across the two new bridges once they are completed.

Work continued in our cooperative effort with the state of Kentucky in the 68/80 improvement project in mitigating disturbance to the dispersed and developed recreation facilities located in the right-of-way. Construction of the new entrances to Fenton and Devil's Elbow recreation areas off the new highway was completed. The traffic flow into Fenton Campground was revised and Devils Elbow Backcountry Area was significantly modified. Work still remains on the accessible fishing trail and parking lot at Devil's Elbow.

Site plans were begun for Rushing Creek Campground and Energy Lake Campground. These plans outline the current and future management of these facilities.

In 2011, LBL reissued the Motor Vehicle Use Map (MVUM) with minor changes from the 2010 map.

Deferred Maintenance

The deferred maintenance (DM) backlog was addressed with the installation of a replacement accessible gatehouse at Hillman Ferry Campground, and new well house in A loop at Hillman Ferry Campground.

The total deferred maintenance at recreation sites for FY11 is \$8,783,875. The difference between FY 10 and FY 11 is \$991,622. The difference added to the previous reported DM reduction is \$6,446,733. Thus, since FY05, \$6,446,733 has been reduced from the deferred maintenance backlog. Unfortunately, all LBL facilities are now six years older and maintenance costs tend to increase as they age.

Trails/OHV

The trails program continues to provide dispersed opportunities across LBL. Work was completed on 42 trail bridges and over 200 miles of trail.

Of the 92 total bridges on LBL, 13 were replaced, 19 were repaired or maintained, and 10 were decommissioned:

- 13 Replaced - Canal Loop 2, North/South (NS)6, NS9, NS12, NS24, NS25, NS25.5, Tharpe Road, Barrett Creek, Brandon Branch, Ft. Henry 1 (Rd 400), Ft. Henry 2 (openland), Brandon Spring Facility behind dining hall
- 8 Brought to standard - NS13 (new decking) and NS19 (installed handrails), 6 located at Brandon Spring
- 10 Decommissioned - NS11, 5 at Hematite , 4 at Brandon Spring
- 11 Bridges were repaired: various forms of routine maintenance were performed



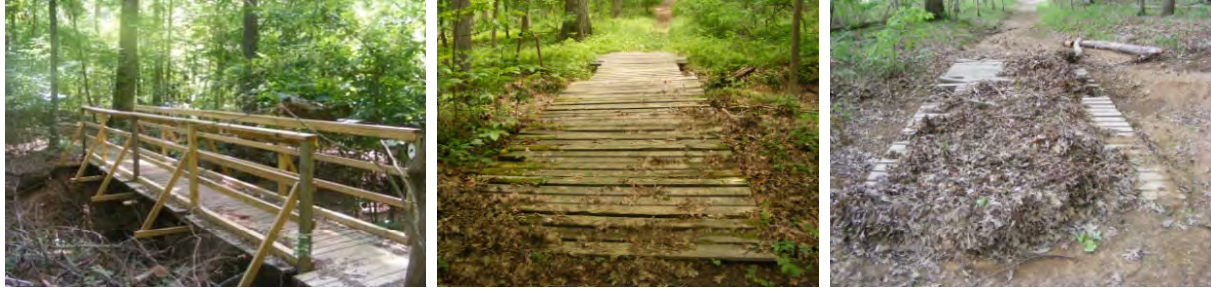


Figure 17. Trail Bridges Installation and Maintenance

A total of 5.38 miles of trail re-routes were flagged and groundtruthed. These re-routes will alleviate various fall-line and/or high maintenance sections of both the N/S Trail and Canal Loop Trail. The re-routes will accompany other projects planned within upcoming EA's. Two miles of trail re-routes were opened:

- Opened ¼ mile re-route at North Welcome. Volunteers relocated a portion of the N/S Trail outside of the boundaries of a homesite.
- Opened re-route around former NS Trail bridge #11
- Opened re-route accompanying new Bridge #24 and Brush Arbor Camp connector.



Figure 18. Re-routes Flagged/Re-routes Opened/Blue-Gray

Installation of large interpretive displays depicting the history of the site was part of the revival of Blue/Gray Trail at Ft. Henry this fiscal year. Portions of the former trail were cleared from Boswell Road out to a lake vista. Overgrown brush and flood debris were cut back and removed.

The trails program is able to accomplish much of its trail work with the assistance of Volunteers:

- OHV Spring Workday – April 16th
- National Trails Day – June 6th
- National Public Lands Day – September 24th
- Marshall County, KY Safety Day – September 30th
- Fall Trail Workday – October 15th

Special Events



Figure 19. Special Events

The 2011 National Adventure Race (Checkpoint Zero, LLC – Taylors, SC) was very successful during September. The race consisted of kayaking, running, biking, and orienteering. This was the first race of its kind on LBL and the race organizers and competitors were excited about discovering a great place for such opportunities. This year, LBL approved the first special use permit for an outfitter/guide (North Corps Outfitters, LLC - Paducah, KY).

Some of the SUPs that were re-issued include LBL Challenge Adventure Race, White Lightning Mountain Bike Race, Jeep Jamboree, 12 Hours on the Canal Loop Mountain Bike Race, LBL 200 Dual-Sport Motorcycle Ride, ATV Safety Institute (ASI) seminars, and various Ft. Campbell Special Forces trainings.

Hunting

An online paper-free quota hunt application process was developed for use on LBL during 2009. Since 2010 quota hunt applications have been processed using this online system. While many hunters prefer having this type of online application system, many other applicants have problems with this system which requires some degree of computer use knowledge and recordkeeping. Problems and related troubleshooting of these issues requires more staff time than was originally expected; however, the system still saves some time and money when compared to the previous paper application process.

Thousands of hunters continue to apply for quota hunts for deer and turkey on LBL. Deer quota hunt harvests were 18% higher in 2010 (FY2011) than during the previous year. Turkey quota hunt harvest numbers were good, and almost identical to the previous year. The number of hunters that applied for quota hunts during 2011 was down slightly, approximately 4% below last year's numbers. See following Table and Graph.

Species And Year	Quota Hunt Applications	Number Harvested During Quota Hunts
Deer		
2006	12,312	843
2007	12,414	731
2008	11,965	796
2009	10,166	544
2010	9,307	641
2011	9,032	Not available until Jan 2012
Turkey		
2006	2724	164
2007	2583	117
2008	2629	113
2009	2292	114
2010	2407	130
2011	2232	132

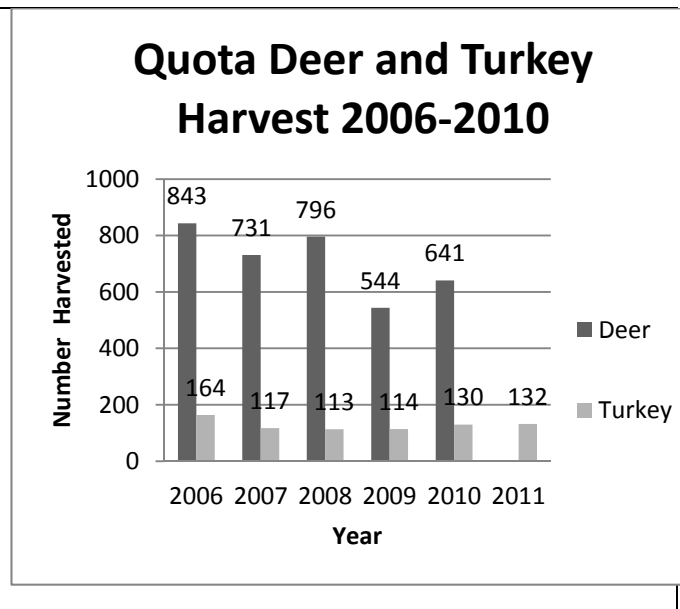


Figure 20. Quota Hunt Results

Environmental Education Program

Dispersed Environmental Education (EE) includes programs presented off-site, away from our EE facilities. In fiscal 2011, 294 visitors enjoyed Eagle Tours via van or boat. They enjoyed seeing eagles in the wild and learning their history and successful re-establishment at LBL.

Interpretive panels about beavers and their contribution to wetlands were designed and fabricated for placement at Hematite Lake and Brandon Spring Group Center. They have not been installed however, due to the spring flooding and the need to restore the areas intended for their placement. We anticipate many families and students will be able to see them in 2012. The Prescribed Burn interpretive panels continue to be used as burns are conducted in public areas. These panels help us interpret the burns to visitors long after the staff has left the area.

In 2012 an interdisciplinary team will further discuss how to implement the Northern Nature Watch concept plan. We hope to have visitors enjoying the Empire Point area by the end of fiscal year 2012. The Nature Watch Series of programming was discussed under Goal 3 of this report.

Other off-site programs include Outreach in the nearby communities (library events, senior citizens, other agency camps, & state parks). In 2011, 1,678 people were reached with natural and cultural history programs.



Figure 21. Interpretive Panels

Heritage Program

As we begin to plan and design recreational and educational elements of the heritage program, we have been centered around a theme of “Gone but not Forgotten: All About Discovery”.

Although the people are gone now, remnants of their lives remain. Many heritage opportunities will by necessity be dispersed; where visitors can “discover” the history of the area as they enjoy the landscape others once called home. The human history of LBL has left its mark even if it takes some looking (and help) to find it.

While all of the following projects are still very much in their early stages, they all have one theme in common: discovering the human history of LBL on and through the landscape:

- Church and school marker posts-discovery across the landscape
- Woodlands Trace Wildlife Gardens: Footprints of the Past-native species plantings within the footprints of buildings within the former Model community



Figure 22. Model Baptist Church foundation: preliminary test of native species plantings for the Woodlands Trace Wildlife Gardens: Footprints of the Past project.

- Hillman National Heritage Trail: Star Lime Works Historic District-self-guiding interpretation



Figure 23. One of the signs for the Star Limeworks Historic District interpretation along the Hillman National Heritage Trail.

- Bike/Hike Trail: numerous dispersed heritage sites and experiences possible
- Building Adoption: “Hidden Treasures”
- Ft. Henry Turnout Trail-Heritage and Trails staff in partnership with Ft. Donelson: new interpretive signs and roughed in trail from proposed turnout on FS Rd 233 (Boswell Landing Road)



Figure 24. New trail to Ft. Henry interpretation overlook (new sign in background by lake).

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

Goal 8, Monitoring and Evaluation Narrative

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>). The Area Plan also supports the Region 8 Strategic Framework of restore, protect, and respond. The planning information, assumptions, and provisions of the Area Plan remain scientifically valid.

This year LBL met or exceeded 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. Table 10 displays key accomplishments for the last five full

fiscal years of the 2004 Area Plan implementation. Of note in FY2011, acres of enhanced inland lake habitat increased two-fold; volume of timber sold reached over 6,500 CCF, over twice the volume as last year; NNIS treated acres increased by about 50%; and recreation targets were on track.

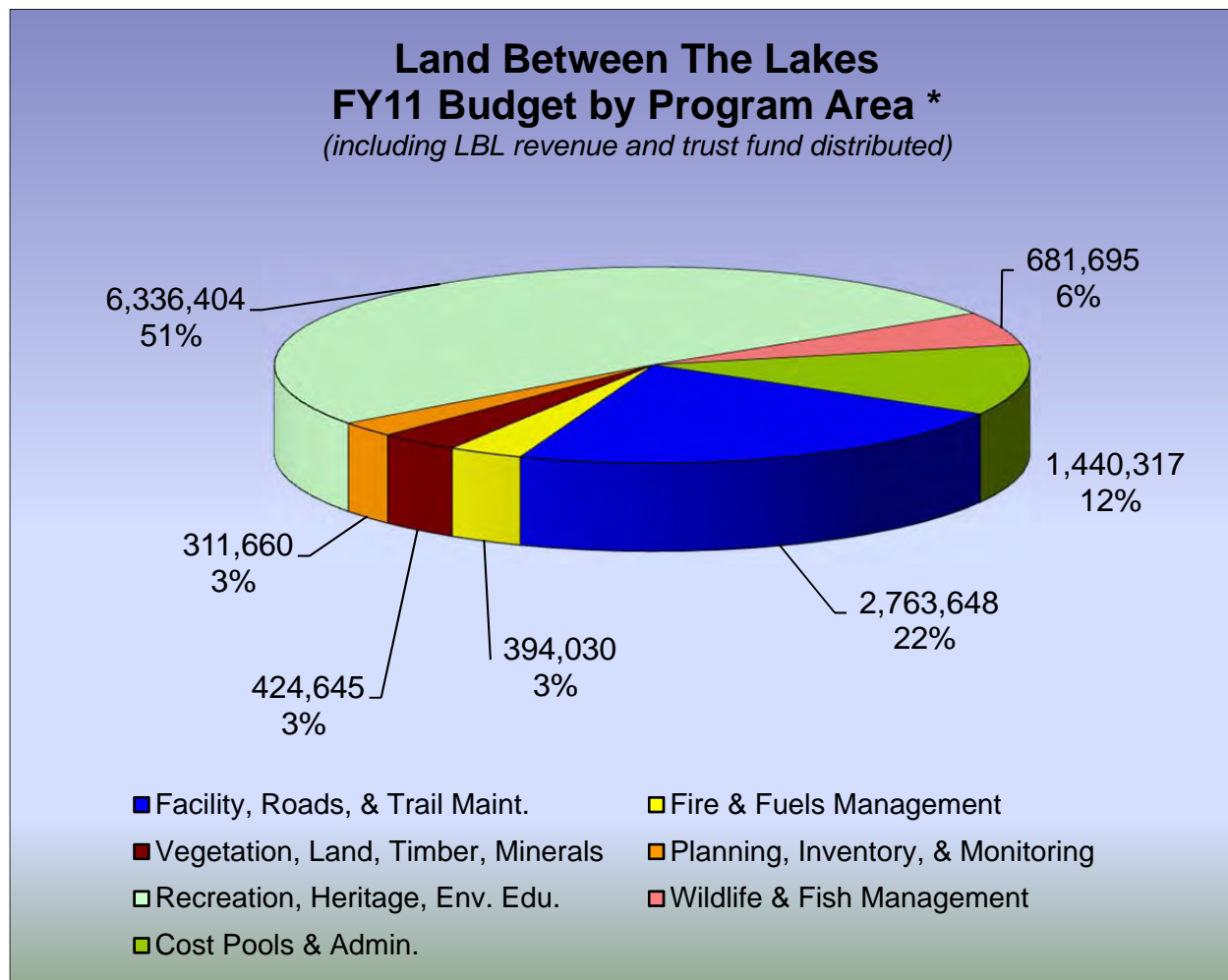


Figure 25. FY11 Budget for LBL

The Budget for LBL in FY11 compares well with the projections in the Area Plan and indicates LBL remains on track with projections. LBL's annual operating budget remains approximately \$12.7 million: \$8.4 million in federal appropriations and \$4.3 million in revenue. Nearly half of the budget was applied to the Recreation, Environmental Education, and Heritage programs at LBL. Approximately 22% was allocated to facilities, roads, and trails maintenance to support and provide this array of opportunities (see Figure 25.) 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. The prediction of lower budgets for federal agencies in the next few years, particularly related to maintenance functions, is cause for concern and will require the involvement and creativity of the public and LBL staff. Some reduction in services seems inevitable. Activities at LBL were reduced in the middle of the year due to significant floods and storm damages, but by the

end of the fiscal year activities were appearing more traditional in use and visitation. LBL successfully continued the management of several American Recovery and Reinvestment Act projects spread throughout the Recreation Area.

In FY11, Volunteers contributed over 103,189 hours of volunteer service, which correlates to over 49 people-years of service, or \$2,204,117 worth of service. 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 FY11 was over \$2.9 million.

Table 10. LBL Key Accomplishments

Specific National Objective (Target)	Unit of Measure	FY07 Accompl.	FY08 Accompl.	FY09 Accompl.	FY10 Accompl.	FY11 Accompl.
Miles of high clearance system roads receiving maintenance	Mile	0	0	0	0	14
Miles of passenger car system roads receiving maintenance	Mile	220	231	293	0	147
Miles of road decommissioned	Mile	0	3	2.3	0.5	0
Total trail system miles meeting standard	Mile	--	--	294	329	179
Miles of system trail improved to standard	Mile	15	18	19	18	17
Miles of system trail receiving maintenance to standard	Mile	20	13	275	200	183
Number of recreation, interpretive, and conservation education products provided to standard	Product	--	--	--	--	--
Number of interpretive and conservation education plans implemented	Plan	1	1	1	1	1
Priority Heritage assets managed to standard	Asset	1	2	3	4	5
Recreation site capacity (number of People At One Time) operated to standard	PAOT (Core) (Integrated)	2,500,000 --	2,500,000 --	2,525,000 ---	2,525,000 3,130,661	2,600,000 3,288,379
Number of wildlife interpretation and education products	Product	44	44	42	42	42
Acres of inland lake habitat enhanced	Acre	86	61	112	107	266
Acres of inventory data collected or acquired meeting corporate standards	Acre	3,000	14,500	117,470	52,785	9,878

Specific National Objective (Target)	Unit of Measure	FY07 Accompl.	FY08 Accompl.	FY09 Accompl.	FY10 Accompl.	FY11 Accompl.
Acres of non-threatened/ endangered terrestrial habitat enhanced	Acre	5,370	6,964	5,343	7,889	4,443
Soil and water resource acres improved	Acre	19	879	20	92	37
Volume of Regular Timber Sold	ccf	2,638	2,173	3,037	1,665	6,513
Number of forest special projects permits issued	Permit	23	21	22	15	44
Annual monitoring requirements completed	Number	12	12	12	12	13
Landscape scale or Ecosystem assessments completed	Assessment	0	1	1	1	1
Highest priority acres treated annually for noxious weeds and invasive plants on NF lands	Acre	264	354	494	498	771
Land use authorizations administered to standard	Authorization	29	49	22	42	32
Number of non-wildland/urban interface acres treated	Acre	--	--	--	--	--
Number of acres treated to reduce the risk of catastrophic wildland fire	Acre	--	--	--	--	--
Total Acres Treated with Fire	Acre	5,278	291	4,984	10,866	4,681
HF Acres Treated	Acre	4,858	65	64	6900	2,600
FN Other Acres Treated	Acre	420	226	54	3966	2,081
Number of land use proposals and applications processed	Application	10	12	5	16	12
Recreation Special use Authorizations Administered to Standard	Authorization	390	330	321	303	259
T&E and non-T&E Habitat Enhanced	Acre	1,383	65	6,539	900	9,848
Stewardship	Acre	--	1,310	4,427	4,402	4,984

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: September 2011 (Decision Date)

Status: This effort began in 2010. Public input was gathered during FY07, crafted during FY08; a proposal was circulated to the public for comment in 2009. A second set of proposed changes were circulated to the public July – September 2010. LT approved recommendations in 2011. The original item is complete. Potential budget cuts in facility maintenance may require additional actions and considerations. A public involvement process, building on the work done for this action item is needed, well ahead of potential decisions.

2. 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 FY12. The draft reports were made available to the public during FY10. Revisions to the draft were made as a result of a meeting with the consulting parties that was held during late summer FY11.

3. Action: Implement the Area Plan strategies associated with the State Natural Area in the Devil's Backbone area in Tennessee by completing an EA to promote shortleaf pine regeneration. (FY07)

Responsibility: Environmental Stewardship Department Staff

Completion Date: April, 2012 (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 as a priority in FY12. A prescribed fire was conducted in April 2010 under a CE decision.

4. 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, 2011

Status: Timber sale (Crockett Creek) offered but did not sell in 2008. Crockett Creek timber sale was sold in FY09 and timber was harvested during FY10. EE materials will be developed from monies generated by the timber harvest. This action item will be viewed as complete when the self guided auto trail brochure is underway.

5. Action: Provide support to the Highway 68/80 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 FY2011; Support September 2011; Golden Pond Visitor Center master plan FY 2011.

Status: Support to highway improvement will continue into FY12

6. 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, 2013

Status: Discussions were initiated with members of the public during FY10. This action item will be combined with the ecological landscape action item below.

7. 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 was developed and the implementation began in FY11. This will be largely dependent on the technology selected to convert the woody biomass to energy.

Scoping for Grace Creek and Hurricane Creek salvage sale CEs was complete during FY10.

Decisions on these CEs are expected in early 2012. At the time of this report, chips have been delivered to Lyon County and the boiler will be tested in January 2012. The boiler system at Trigg County hospital will be ready to receive chips in early 2012. This item is now complete.

8. Action: Complete proposals for demonstration and restoration of the ecological landscape of approximately 340,000 acres in western Kentucky and Tennessee that is inclusive of Land Between The Lakes National Recreation area (LBL) and consistent with the Area Plan. Terrestrially, this means, restoring the canebrakes, riparian areas, warm season grasslands, oak-grasslands, oak-hickory barrens, savannahs and woodlands, oak-hickory forests, shortleaf pine forests, and mesophytic forests mosaic that once moved within this landscape. Aquatic restoration would include wetland restoration/mitigation, addressing historic stream channelization, head cutting, aquatic organism passage and restoring historical flows to the

channels by the creation of grasslands, barrens, savannahs and woodlands on a landscape scale. (FY10)

Responsibility: Environmental Stewardship Department Staff

Completion Date: September 30, 2011

Status: A proposal for the Collaborative Forest Landscape Restoration Project (CFLRP) was completed in FY10 and was revised during FY11 and remains unfunded. Assessment of watershed condition class was completed during FY11. Funding will be pursued, and the proposal updated, as new information is received. LBL will continue to submit the overall proposal for CFLRP funding while implementing those projects that can be done using appropriated or partner funding. This item is complete.

9. Action: Complete an Economic Impact Study to understand the economic impact specific visitor groups have on the outlying communities (Day use vs. overnight), and compare groups within uses (example: Nature Station vs. Homeplace -- Wranglers Campground vs. Hillman Ferry Campground) (FY10).

Responsibility: Business Performance Department Staff

Completion Date: September 30, 2012

Status: Progress on the design of this study is expected during FY12.

F. Appendices

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

Partnerships

Friends of LBL Partners in support of our EE mission:

State Parks: Kentucky Dam Village; Lake Barkley State Resort Park; Paris Landing State Park; and Kenlake State Resort Park.

Conservation Organizations: Ducks Unlimited; National Wild Turkey Federation; Monarch Watch; North American Butterfly Association; North American Bluebird Society; Purple Martin Conservation Association; National Audubon Society; National Wildlife Federation; Frogwatch AZA; Operation Rubythroat; Red Wolf Coalition; Living Lands & Waters; Kentucky Waterwatch; Cumberland River Compact; and Kentucky Bowfishermen.

Universities & Colleges: Murray State University; University of Kentucky Extension; Purdue University; Austin Peay State University; Southern Illinois University; and University of Tennessee, Martin.

Federal Agencies: Natural Resource & Conservation Service; Tennessee National Wildlife Refuge; Clarks River National Wildlife Refuge; US Fish & Wildlife Service; Monitoring Avian Productivity and Survivorship (MAPS); Partners in Flight; and National Park Service.

State Agencies & Local Organizations: Kentucky Department of Fish & Wildlife Resources; Tennessee Wildlife Resources Agency; Tennessee Aquarium; Louisville Zoo; Nashville Zoo; Chattanooga Nature Center; Caldwell County Conservation District; Marshall County Public Library; Logan County Public Library, Western Kentucky Amateur Astronomers.

Children's Organizations: West Kentucky 4-H; Boy Scouts of America; Trigg County High School Environment Club; Girl Scouts of America; Joshua Tree Home Educators Association.

Professional Organizations: National Association for Interpretation; Region 3 of National Association for Interpretation; Kentucky Association of Environmental Education; Tennessee Environmental Education Association, and North American Association for Environmental Education.

Appendix 3

Eaglets Fledged at LBL

Eaglets Fledged at LBL through the 2010-nesting season. (Kentucky 1989-2011 and Tennessee 1984-2011)					
Year	Totals	Year	Totals	Year	Totals
1984	1	1994	6	2004	14
1985	1	1995	4	2005	16
1986	0	1996	6	2006	12
1987	2	1997	4	2007 (Species Delisted)	22
1988	2	1998	5	2008	21
1989	4	1999	14	2009**	Unknown
1990	4	2000	18	2010**	8
1991	4	2001*	7	2011***	16
1992	2	2002	15	2012	
1993	4	2003	20	2013	
Total Eaglets Fledged:					
* 2001, insufficient staff to monitor nests due to LBL transfer to Forest Service; ** 2009 and 2010, weather related events diminished ability to monitor nest sites and assess fledging success; and *** LBL TN nests were not monitored for fledgling success except for one nest site.					