



Monitoring and Evaluation Report Land Between The Lakes National Recreation Area Fiscal Year 2012



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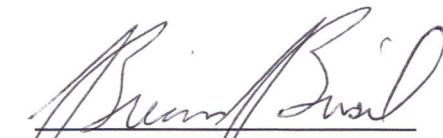
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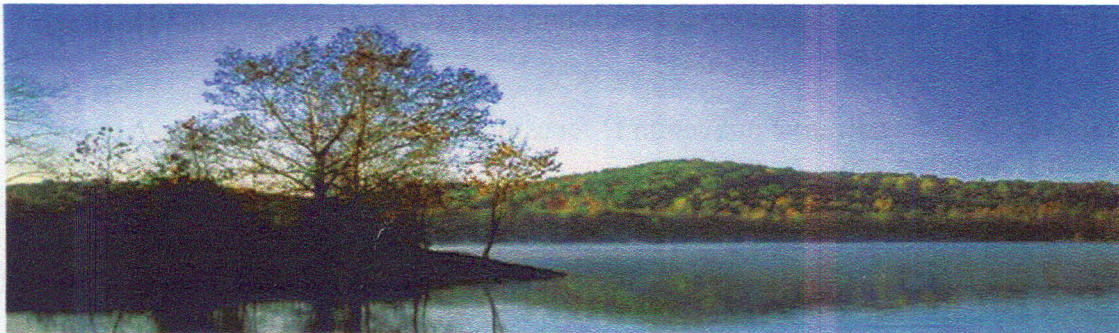
A. Forest Supervisor's Certification

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 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.


BRIAN H. BEISEL
Acting Area Supervisor

2/19/2013
Date



Land Between The Lakes undeveloped shoreline.

B. Introduction

This Monitoring and Evaluation (M&E) report provides a comprehensive report of the last fiscal year's efforts implementing the Area Plan. We include accomplishments and trends at the U.S. Forest Service (FS) Land Between The Lakes (LBL) National Recreation Area (NRA) in FY12.

The report emphasizes the findings and conclusions 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 serves 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.

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.

Citizens have a stake in understanding management effects and effectiveness at LBL. Only by hearing from our stakeholders and owners of the public land, can we know whether we are providing the information and program benefits desired. 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 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 FY12 trends and evaluations. M&E reports for FY2005-FY2011 are available on the LBL website at <http://www.lbl.org/LRMPPlanning.html>.

Some highlights of the FY2012 M&E report include:

- Adjusted to a dramatic decrease in appropriated funds as part of the nation-wide effort to reduce the federal budget; expect this trend to continue in upcoming years
- Provided dispersed and developed recreation opportunities to more than 1.4 million visitors
- Educated over 245,000 visitors at environmental education facilities
- Partnered with more than 75 organizations to achieve LBL's mission
- Completed the Demumbers Creek Environmental Assessment covering approximately 3,700 acres of forest management, prescribed burning, roads, and watershed improvements
- Accomplished 5,427 acres of hazardous fuel reduction
- Accomplished more than 15,000 acres of habitat improvement through vegetation management
- Managed over 6,000 acres openlands and applied approximately 1,400 acres silvicultural treatments for wildlife habitat improvement
- Constructed new accessible bathhouses in Piney Campground to improve camper experiences while reducing maintenance costs
- Identified more than \$1 million in viable ideas for cost savings and revenue increasing opportunities through public meetings and on-line public input processes
- Completed the biomass utilization projects and delivered wood chips to the sites
- Restored 120 acres of the Turkey Bay Off Highway Vehicle area using bioengineering techniques
- Completed the third draft of the Heritage Programmatic Agreement to manage the heritage resources into the future
- Benefitted from 111,953 volunteer hours in all program areas
- Posted former church and school sites in partnership with the former residents of the area
- Connected LBL to the gateway communities on the east and west shore by completing the Central Hardwoods Scenic Trail, a 10 mile, multi-surface, accessible bike and hike trail

This year, LBL staff responded effectively and quickly to the Eggner's Ferry bridge collapse; served immediately as part of the unified command team; and provided a law enforcement presence to control the scene. LBL aggressively mitigated travel and work shifts for employees; hosted community events to view the damage and later, to view the ongoing repair operations. This tragedy led to many challenges that were managed by the staff with little negative effect to overall visitation. LBL staff demonstrated once again their resiliency in maintaining the program of work during emergencies.

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

Implementation of the Area Plan continued during the seventh full year resulting in integration of the priority programs – recreation, environmental education, and resource stewardship. These areas drive the program of work.

An interdisciplinary team completed the environmental assessment for the Demumbers Bay Project, approximately 3,700 acres in the northern part of LBL. The project will provide for

regenerating shortleaf pine and canebrakes, opening the forest canopy, and a driving loop for our visitors to learn about resource management. Implementation has begun in this project area.

LBL treated over 1,000 acres of oak grassland and general forest with timber harvest or cut and leave treatments. In addition, LBL completed open land management on more than 6,000 acres and hazardous fuel reduction on more than 5,000 acres. These efforts support a diversity of plant and animal communities enabling sustainable levels of habitat and wildlife populations that support recreation activities for our visitors.

The new Central Hardwoods Scenic Trail opened providing a 10-mile multi-surface, accessible bike and hike trail. This trail connects LBL to the gateway communities on the east and west side. This interdisciplinary project has already provided additional benefits to the trails, education, and heritage programs through interpretive signs along the trail. In addition, native species restoration will be seen in the future from this trail for visitors to enjoy and experience multiple habitats.

Heritage

Heritage staff recorded or identified over 200 heritage sites while conducting twenty compliance projects in 2012 as part of the integrated project workload (See Table 1.1). Heritage staff also performed work for six timber projects and six prescribed fire projects including post-burn surveys, three road improvement projects, and 365 acres of the 4,430 acres needed to investigate potential impacts of the proposed Pisgah Environmental Assessment (EA). Recreation projects included compliance work for three new bath houses at Piney Campground and Phase II excavations for the Central Hardwoods Scenic Trail. Heritage staff also completed 123 acres of open lands survey.

Heritage Project List FY12		
Prescribed Burns		
<i>Postburn Surveys</i>	<i>Monitored</i>	<i>Recorded</i>
Crossroads: Carmack SW Block	0 site locations, 0 cemeteries	14 sites
Crossroads: Carmack Block A	0 site locations, 1 cemetery	10 sites
Crossroads: Carmack Block B	3 site locations, 0 cemeteries	18 sites
Crossroads: St. Stephens Fields	1 site location, 1 cemetery	7 sites
Crossroads: Hildreth NW Block	10 site locations, 4 cemeteries	23 sites
Timber	Survey	Sites Recorded and Excluded
Devils Backbone (fieldwork complete)	450 acres: 357 ST	3 sites recorded: 3 excluded
Grace Creek Salvage Sale Report	Fieldwork completed in 2011	1 new site recorded: 1 excluded and 5 previously recorded sites monitored
Pisgah EA (fieldwork in progress)	365 of 4,430 acres complete 6 acres of open lands 312 ST	0 sites recorded of 86 identified during background research

<i>Timber Sale Monitoring</i>	<i>Identified</i>	<i>Protection</i>
Water Your Plants	8 sites	5 excluded: 3 monitored
John Wayne	5 sites	3 excluded: 2 monitored
Prior West	4 sites	3 excluded: 1 monitored
Demumbers: Wildlife Stand Improvement (WSI)	5 sites	5 monitored
Engineering	Survey	Sites Recorded
FS Rd 214 Culvert Replacement	~0.1 mile (spot location)	1 excluded
FS Rd 130 Bridge Replacement	~0.1 mile (spot location)	0 identified
FS Rd 237 Improvement	0.75 miles	1 excluded
Recreation	Survey	Sites Recorded
Central Hardwoods Scenic Trail	Phase 2 excavations	1
Piney Bathhouses	21 ST	0 identified
Communications		
Communication Upgrade 1: Wranglers, Energy, Nature Station	5 miles: 159 ST	11 sites recorded: 2 excluded
Communication Upgrade 2: Hillman (fieldwork completed)	11 miles: 259 ST	2 sites recorded: 2 excluded
2012 Open Lands Survey	123 acres completed	

ST – Shovel Test

Table 1.1. Summary of 2012 Integrated Resource Management Projects

The priority among the integrated workload during 4th quarter was two projects that will provide a critical upgrade to the communications infrastructure and connect the administration building to Wranglers Campground, Energy Lake Campground, Woodland Nature Station and Hillman Ferry Campground. (See Figure 1.1.) Compliance investigations resulted in formal site recording of 13 sites. We provided an alternative to the proposed route in order to protect the integrity of four historic sites.

We completed another 815 acres of shovel test investigations for timber projects during 2012. With four active timber contracts ongoing throughout the year, we monitored the condition of twenty-two heritage sites designated as exclusion or monitoring zones to be protected from adverse impacts.

This year LBL completed 5,271 acres of prescribed burns. We provided protection measures for six cemeteries and fourteen historic sites during fire implementation. Post-burn surveys following those prescribed burns resulted in the formal recording of seventy-two historic sites after fire effects reduced vegetation and improved visibility of site features for proper documentation.



Figure 1.1. Overview photograph showing a small portion of the project area for the communication upgrade to Hillman Ferry Campground. The investigation consisted of 418 shovel tests spread across this terrain.

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

Land Between The Lakes continues to serve as the keystone in Western Kentucky and Tennessee tourism industry through partnerships and community engagement. Land Between The Lakes helps to generate over \$650 million in tourism dollars for the region by working with citizen

groups, community businesses, private corporations, non-profit groups, tourism organizations, and other government agencies.

Memberships included:

- Chamber of Commerce (10)
 - Hopkinsville-Christian Co., KY
 - Cadiz-Trigg Co., KY
 - Grand Rivers, KY
 - Lake Barkley-Lyon Co., KY
 - Marshall Co., KY
 - Murray-Calloway Co., KY
 - Paducah Area, KY
 - Paris-Henry Co., TN
 - Stewart Co., TN
 - Clarksville Area, TN
- Tourism Organizations (5)
 - Kentucky Western Waterlands (KWW) (www.kentuckylakebarkley.org)
 - Kentucky Federal Agency Tourism Council (KFATC) (<http://federal.tourism.ky.gov/>)
 - Kentucky Travel Industry Association (KTIA) (www.KTIA.com)
 - LBL Lakes Region Tourism Coalition (www.visitlbl.com)
 - Middle Tennessee Tourism (www.middletennesseetourism.com)

Conference exhibits included:

- Travel South Showcase with the LBL Lakes Region Tourism Coalition in February reaching out to tour bus operators bringing tourist to Land Between The Lakes as a destination or stop along the way to another area
- The 2012 Southeastern Equestrian Trails Conference held in Lexington, KY last July – we served as the Forest Service sponsor while the Regional Office managed the onsite booth exhibit staffing
- The National Wild Turkey Federation Convention and Sports Show in February in Nashville where we focused on environmental education opportunities along with hunting and fishing

Our most poignant partnering came at a time of crisis with the sudden closing of the western artery to Land Between The Lakes. On January 25, 2012, a Delta Mariner cargo ship collided with the Eggner's Ferry Bridge ripping out an entire section of the bridge. This bridge connected Land Between The Lakes with visitors from Aurora, Murray, Mayfield, and Benton in Kentucky along with Cape Girardeau in Missouri and other surrounding communities. For a period of time, the Coast Guard had to close Kentucky Lake and the Tennessee River from recreational boating along the span of the bridge. For safety reasons we closed our most popular boat ramp at Fenton, and barricaded US Highway 68 at the Woodlands Trace Scenic Byway. Due to community interest, we opened the area for public viewing while the highway still dangled off the bow of the cargo ship on February 4. Close to 2,000 people visited Land Between The Lakes to specifically view the scene. The bridge reopened on May 25, 2012, to everyone's relief including many staff members forced to go around to get to work.

This disaster had us working closely with the Kentucky Transportation Cabinet, emergency officials, the U.S. Coast Guard, local government leaders, elected officials, the Governor's Office and other state and local dignitaries. In addition, everyone worked well with the media and public causing the Land Between The Lakes' brand to travel around the world through traditional channels and through the new media with citizen reporters. YouTube videos included parodies (<http://www.youtube.com/watch?v=l6YebFGeluA&feature=colike>) (http://www.youtube.com/watch?v=4C_1pj75v5k), physical feats (<http://www.youtube.com/watch?v=7yR5ItlkoaM>), and testimonials (<http://www.youtube.com/watch?v=mtcZo4uEEaU>).

To the credit of our recreation staff and law enforcement personnel, we have an improved integration of our emergency response efforts between county, state, and federal resources. We strengthened these working relationships through active membership on the Trigg County Emergency Planning Committee. The success of our unified command during the response to the bridge collapse confirmed the importance of this effort.

In February of 2012, Land Between The Lakes hosted the second annual *Sustainable Business Seminar* for local citizens interested in learning about small business development. We partnered with Murray State University, The Tennessee Department of Tourism Development, and the Kentucky Cabinet for Economic Development. We saw a 50 percent decline in attendance caused by the bridge closure; an equal number to the attendees the previous year traveling from the west side of Kentucky Lake. We feared this west side decline might foreshadow a decline by visitors in all our programs when the new season opened in March. Our fears were quickly squelched with overall visitation rising 20% that first month and continuing strong throughout the year. Refer to the figures later on in this section.

We strengthened our relationship with Ft Campbell this year through multiple efforts:

- We conducted a familiarization tour for staff members in their outdoor recreation program starting at Brandon Spring Group Center with homemade cinnamon rolls, stopping for lunch and a guided tour at Lake Barkley Resort, and ending with a backyard presentation at the Nature Station.
- We recruited at the Ft. Campbell Job Fair promoting Forest Service careers to over 1,500 attendees; partnered with Law Enforcement promoting 25 open positions
- With the Friends of Land Between The Lakes group we promoted recreation activities at Land Between The Lakes to military families at the *Ft. Campbell Passport to Safety* event in June; Smokey Bear attended to the delight of event goers

As the lead Forest to the Great Onyx Job Corps Center, Land Between The Lakes

- Invited the Center Director to be a member of our Leadership Team
- Spoke at the May 2012 graduation – inviting graduates to pursue Forest Service careers
- Initiated a project that provides work for students at both Great Onyx and Golconda Job Corps Centers; gates are to be built that require onsite installation offering experience working in a forest environment

Smokey Bear attended community events and festivals in FY12 often riding in our fire engine during parades.

Friends of LBL and Environmental Education (EE) Partnerships

Environmental Education (EE) staff continued to work with partners for planning and delivering environmental education at Land Between The Lakes throughout the year.

Friends of LBL serve as our primary partner for implementing the EE Master Plan. Our friends group also maintains working relationships with other government agencies and non-government organizations in our EE mission.

We developed a new, local Forest Service Memorandum of Understanding with Headstart at Highland Rim in middle Tennessee under the national agreement. We secured teaching materials for their students from our headquarters in Washington, D.C. As part of this agreement, we trained over 30 pre-school teachers in the Woodsy Owl curriculum in Erin, TN. They plan to incorporate Woodsy's environmental education messages into their lesson plans throughout the year. In addition, teachers agreed to give us feedback on progress and recommendations for improvement. These Erin teachers also plan to organize annual visits to the Woodlands Nature Station for their students.

More Kids in the Woods: Our Soccer Kids in the Woods project continued in FY12 with a group of over 30 players coming to Brandon Spring Group Center for soccer training and time out in nature. They went on stream stroll, beaver walk, night walk, etc. This new twist was met with enthusiasm and was enjoyed by all so we expect to continue this project in future years. Soccer Academy members are practicing stewardship as they help recycle plastic water bottles on the soccer fields this fall.

We continue to work with many organizations, including 4 state parks, 15 conservation organizations, 6 universities and colleges, 7 federal and state agencies, 10 local organizations, 7 children's organizations, and 5 professional organizations. Appendix 2 contains a list of the organizations.

Partnerships, Agreements and Memoranda of Understanding (MOU)

Partnerships, agreements, and MOUs provide critical resources that augment facilities and services provided for recreation, natural resource management, and Environmental Education at Land Between The Lakes. While partnerships 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 our Friends of Land Between The Lakes (www.friendsoflbl.org) continues to provide critical support for us to accomplish the LBL mission. The FY12 Friends of LBL major accomplishments include:

- Acquired a new Konica-Minolta Mediaglobe II digital projection system for the Golden Pond Planetarium and two new programs for a total investment of almost \$40,000.00 through a bequest.

- Expanded programming at the Golden Pond Observatory to gain maximum benefit from the new telescope and other minor improvements made at this facility.
- Realized an increase in visitation in excess of 10% at the Golden Pond Planetarium and Observatory due to equipment upgrades and improved and expanded programming.
- Managed over 300 volunteers to engage them in projects which produced more than 11,000 hours of service to LBL. Projects included trail work, shoreline cleanup, assistance at special events, and Elk-Bison Prairie monitoring. Groups of college students, scout troops, and individuals from the region and across the United States participated. Combining these hours with those of campground hosts, apprentices and interns; totaled over 111,000 hours of service valued at more than 2.3 million dollars.
- Secured ten benches (valued at \$3,000) along the new Central Hardwoods Scenic Trail through sponsors.
- Developed cooperative partnerships with six sponsors for the School Field Trip Grant Program bringing an additional \$5,850 to the program.
- Represented LBL and Friends of LBL at three consumer shows and regional special events, at numerous meetings of chambers of commerce and tourism promotion organizations, and gave presentations on Land Between The Lakes to several civic organizations. Friends of LBL Executive Director served as officer and/or director in two of the regional tourism promotion organizations.
- Attended four public engagement meetings regarding future changes at Land Between The Lakes to help gather and evaluate public opinion.
- Employed interpretive staff for the Woodlands Nature Station, 7 people; The Homeplace, 7 people; and the Brandon Spring Group Camp food service and housekeeping, 9 people; and the Golden Pond Planetarium and Observatory, 3 people.
- Delivered educational programs to over 40,000 visitors each at the Woodlands Nature Station and The Homeplace. Program participation at the Golden Pond Planetarium and Observatory exceeded 22,000, a two-fold increase over FY11 participation.
- Staffed five visitor information centers at Land Between The Lakes. These information clerks, 13 total, interacted with as many as 1.4 million visitors during the year.
- Solicited in-kind and cash contributions (valued at \$8,700) from businesses and individuals to enhance visitor experiences at seven (7) special events.

Partnering with the National Wild turkey Federation

Land Between The Lakes for a fourth 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 5,500 acres of wildlife openings, croplands, hayfields, and native warm season grassland on Land Between The Lakes. With NWTF we monitored a grassland species of viability concern, the Henslow's sparrow. This partnership helps provide for wildlife habitat diversity, hunting, and wildlife viewing opportunities at a minimal cost.

National Wild Turkey Federation also completed biomass utilization and wildlife stand improvement with revenue generated from timber salvage operations in the John Wayne project area.

Heritage

We made significant progress during consultation for the Heritage Programmatic Agreement (PA) in 2012. The 3rd draft is currently under review by 16 consulting parties with signatory responsibilities. We posted the review draft to the LBL website for public access. The consultation process of the PA continues to strengthen the relationships with partnering representatives.

In addition to the momentum gained in Tribal relations through PA consultation, heritage staff once again attended the annual To Bridge A Gap conference in 2012, jointly hosted by Southern Region Tribes and the USFS, to continue improving our government to government consultation with tribal nations. The Area Supervisor also worked closely with heritage staff and consulting tribes to refine the project notification and consultation processes.

Heritage staff continues to work with the public to assist with cemetery clean-up efforts when possible. This year certified sawyers removed downed trees in four cemeteries. In most cases the public had already cleaned up the majority of the trees in each cemetery, but they were not comfortable removing the larger and more dangerous trees.

Staff had the pleasure of working with local university students again this year. Students from Eastern Illinois University, Southern Illinois University and Murray State University learned responsible resource management and the importance of heritage resources while gaining hands on experience in various techniques of fieldwork. We taught the students excavation techniques, collection of spatial data using survey grade GPS equipment, identification of historic and prehistoric artifacts, and metal detection.



Figure 2.1. Students uncovered a leather horse harness during a metal detector investigation. Heritage and timber staff members share experiences in integrated resource management practices with students.

Natural Resource Management

Land Between The Lakes continued our resource management partnerships in FY12. Land Between The Lakes continued to work 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 Land Between The Lakes. Partners include Kentucky and Tennessee state wildlife agencies, Department of Defense, Nature Conservancy, US Fish & Wildlife Service, and others. Our Area Supervisor served as a co-chair of the Central Hardwoods Joint Venture Management Board, as a member of the Tennessee Forestry Association Public Lands Committee, and Tennessee Rural Development Committee.

In 2009, Land Between The Lakes National Recreation Area received funding from the American Recovery and Reinvestment Act for two “wood to energy” biomass demonstration projects to help local communities. These alternative heat source projects are benefiting a Lyon County public school and Trigg County public health facility through utilization of woody biomass technology. Salvage and storm damaged small diameter timber, from Land Between The Lakes, is being processed into chips to use in each facilities’ state of the art biomass boilers. These boilers are 80% efficient. We completed our first year of a five year agreement to supply chips to the two boiler operations.

The forest management staff continued to engage members of the forestry community at the local, state, and national level. Forest staff also served on the Kentucky Prescribed Fire Council, which included state, federal, non-profit, and private sector partners. These numerous resource management partnerships help Land Between The Lakes share expertise, information, and resources to manage natural resources as effectively and efficiently as possible while also sharing and learning with others.

We completed habitat improvement and species monitoring as described under Goal 5 in partnership with non-profit groups, governmental organizations, and local universities, including:

- National Wild Turkey Federation (NWTF)
- Kentucky Department of Fish and Wildlife (KDFWR)
- Tennessee Wildlife Resources Agency (TWRA)
- Friends of Land Between The Lakes
- Austin Peay State University
- Murray State University

2012 Land Between The Lakes (LBL) Visitation

Land Between The Lakes still hosted a significant number of “regional events” and weekend programs (<http://www.lbl.org/CALGate.html>) that contributed greatly to area visitation. Visitation to these events and programs continued to grow and contribute economically to the local area.

Overall visitation was up by 12.5% in FY12 compared to FY11 (Figures 2.2, 2.3, and 2.4). Visitation gains can be contributed to many factors. One big factor that we believe had a major effect on overall visitation this year was the great spring weather, and the local schools’ spring break schedules not all coinciding with each other, which gave us a big jump heading into the summer. The Eggners Ferry Bridge outage did not negatively impact overall visitation this year and brought international attention to LBL.

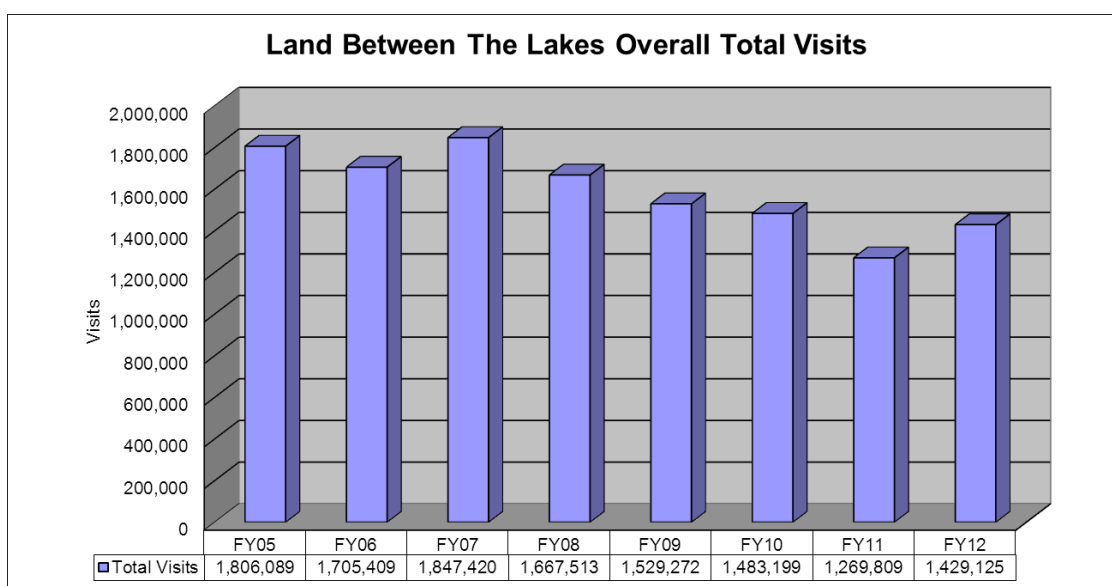


Figure 2.2. Land Between The Lakes Visitation

While some progress has been made, it is too costly and difficult to quantify any significant market segment visitation trends in comparison to numbers of related resource stewardship projects completed. Early signs indicate initial efforts are being met with reasonable success. In targeted LBL recreational facilities where Environmental Education is deeply rooted, as in the case of the day-use facilities, The Homeplace and Woodlands Nature Station, participation has increased slightly or stayed steady each fiscal year since our Area Plan-inspired focus (Figure 2.3).

% Change from Previous Year							
Participation/Visitation	FY06	FY07	FY08	FY09	FY10	FY11	FY12
	(% change)	(% change)	(% change)	(% change)	(% change)	(% change)	(% change)
The Homeplace (Admissions)	7	9	-2	4	-3	-8	9.5
Woodlands Nature Station (Admissions)	8	10	0	10	2	-7	7
Brandon Spring Group Center (Overnights)	9	2	-6	-4	-9	6	0

Figure 2.3. Environmental Education Facility Participation in Programs¹

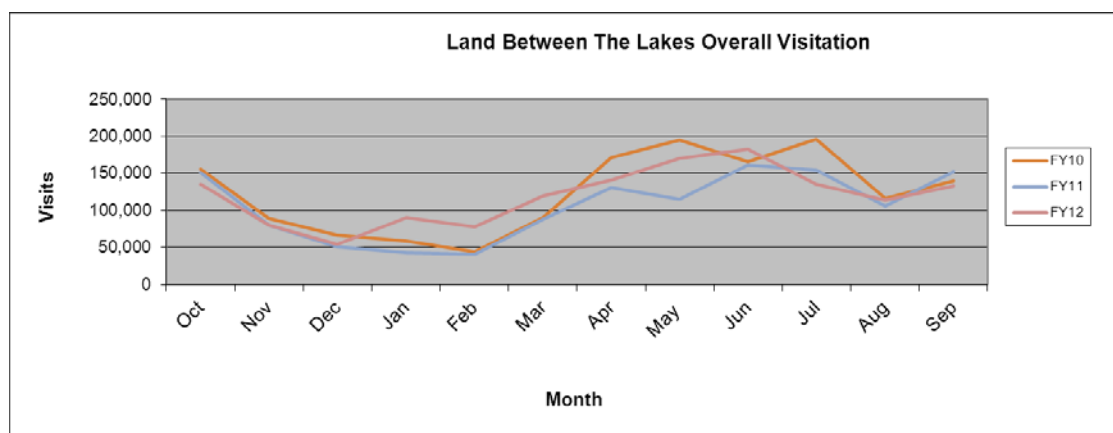


Figure 2.4. Land Between The Lakes Overall Visitation²

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

² Overall visitation is derived from traffic counts.

Goal 3:	Utilize a variety of methods and opportunities to provide an Environmental Education 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 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 recycle; use re-usable water containers; recycle fishing line; and, respect Off Highway Vehicle (OHV) trail boundaries in Turkey Bay. For example, young riders at Turkey Bay OHV Area practice safe riding techniques and learn sustainable riding practices on the Turkey Trot Trail.

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 the Woodlands 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

This year the Forest Service and Friends of LBL worked together to facilitate another Eagle Scout project. This project resulted in the installation of 4 bat roosting boxes at Wranglers Campground. The campground manager is pursuing alternate methods of insect pest control under the Respect the Resource program. The boxes could potentially host 300 bats each. An interpretive sign talking about the benefits of bats will be installed so campers can learn about bats. Wranglers campground successfully attracted a purple martin colony with hopes of reducing the fly population associated with equestrian use. Chemical control methods are being reduced in favor of these natural insect predators.

Under the banner of “Respect the Resource”, LBL continued to recycle and increase the opportunities to keep recyclables out of trash headed for landfills in 2012. In addition to the plastic, aluminum, glass and battery totals in Figure 3.1, 154 pounds of tires (from shoreline cleanup) and 1,841 pounds of electronics were recycled during FY12.

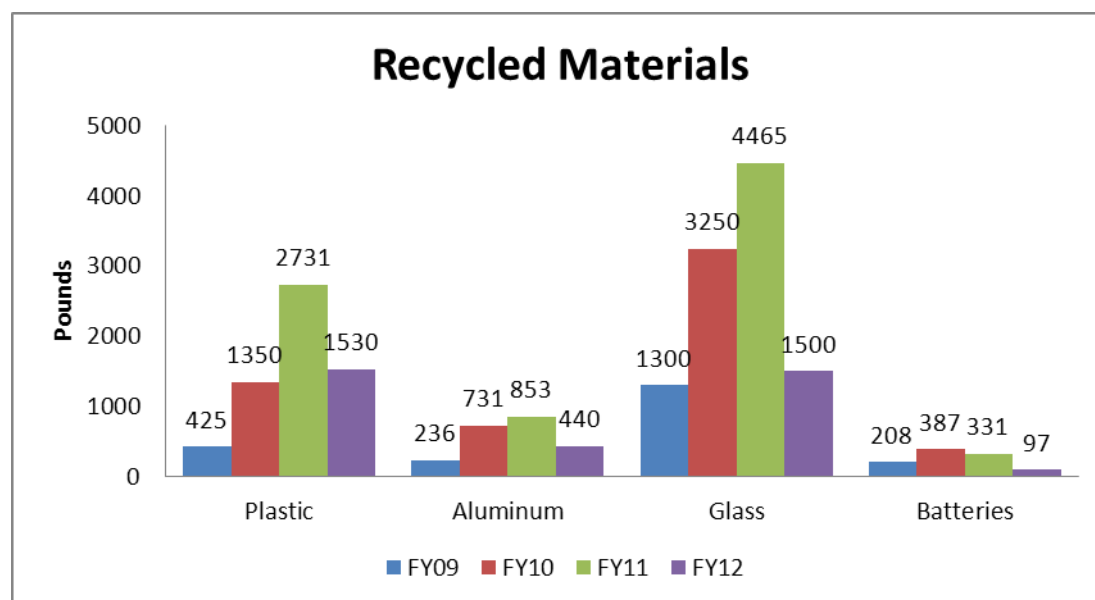


Figure 3.1. Recycled Materials

In August of 2012, LBL received the permanent, full time use of a new, multi-compartment recycling trailer as a direct result of our MOU with the West Kentucky Recycling Corporation. The state of Kentucky awarded the trailer to the corporation (Trigg County) through a solid waste and recycling grant. We will use the trailer to encourage more recycling in campgrounds, special events and other areas in support of local county requirements to divert increasing amounts of material from local landfills. We immediately put the trailer to use at Piney Campground during the annual “LBL 200” motorcycle event as well as the annual “Campers Fair”. We also set up a recycling booth at Campers

Fair to encourage campers to participate in recycling and learn about new products made from recycled materials.

We held one shoreline cleanup in support of the Respect the Resource program this year. On National Public Lands Day in September, 27 volunteers collected 566 pounds of trash at Pisgah Point in just under 2 hours. We recycled 299.5 pounds or (52%) of that total. A quick and efficient system of separating recyclables from trash made it possible to divert even more material from local landfills.



Figure 3.2. Visitors and volunteers recycle materials through the Respect the Resource Program.

Volunteers

Our volunteer program provides another form of education through public participation. In FY 2012, volunteers contributed 108,346 hours collecting trash, building and installing bat houses, 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. On Saturday, June 2, 8 volunteers put in 45.5 hours and completed about 1,000 feet on the new trail from Lake Barkley to Kentucky Lake for National Trails Day. One family who helped has three generations of LBL volunteers! This year our volunteer recognition consisted of more intimate events at each facility.

<u>Year</u>	<u>Volunteer Hours</u>
2012	108,346
2011	103,189
2010	123,579
2009	106,824
2008	112,827
2007	92,014
2006	93,047
2005	104,686

Table 3.1. Volunteer Hours

Environmental Education

Over 245,000 people visited our EE facilities in FY 2012 (See Table 3.2). The experiences visitors receive and how they incorporate these outdoor recreation and environmental education experiences into their lives serves as our main mission. Our efforts foster children wanting to get out into the woods, onto Land Between The Lakes and into nature. We believe this to be 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. School field trips bring learning outside where the intense, vibrant experiences anchor the knowledge gained. Teachers brag that experiences at LBL enhanced their classroom studies all year long.

Facility and Contacts	FY 08	FY 09	FY 10	FY 11	FY 12
<u>Brandon Spring Group Center</u>					
# attended	7,683	6,820	6,644	6,958	7,157
Groups	113	104	87	108	109
Programs	508	474	482	461	585
<u>Woodlands Nature Station</u>					
# attended	33,489	37,622	40,135	41,526	44,764
# at off site	525	1,117	3,491	1,278	511
Students	6,540	5,160	5,312	6,294	6,561
<u>Golden Pond Planetarium & Visitor Center</u>					
Visitors	94,975	84,586	78,415	94,381	71,258
# attended shows	15,117	19,388	15,545	9,127	19,034
Students	5,376	2,904	2,640	2,695	2,909
<u>Homeplace 1850 Farm</u>					
# attended	34,046	35,537	34,645	34,436	37,791
# at off site	500	845	425	400	782
Students	5,682	4,507	4,015	5,354	5,901
<u>Elk & Bison Prairie</u>					
# visitors	93,026	93,750	80,798	63,839	84,415

Table 3.2. Participation in EE Programs at Facilities

The Soccer Kids into the Woods project continued into 2012 with over 30 soccer kids plus some parents camping out at Brandon Spring for 2 days. These soccer players continued their learning by recycling plastic water bottles at the soccer fields. They relished the new experiences of a stream stroll, beaver walk, night walk and campfire program.

Campground interpretive programs reached 113 children of camping families at Piney Campground with messages about nature, recycling and taking care of public lands.

The Oak Grassland was a topic of discovery in May, as we took a group of 4-H kids out to the southern Oak Grassland Demonstration area. They learned about fire, succession, forest management, and forest restoration.

The Environmental Education Team reached out to teachers at a MSU symposium in June where 20 primary school teachers learned about the value of outdoor education and field trips to LBL in our interactive presentation: "Get Outside to Learn".

A formal partnership (MOU) with the Highland Rim (Middle Tennessee) Head Start was developed under the national MOU. See the discussion under Goal 2.



Figure 3.3. Teachers on Field Trips Studying Outdoor Education

Public input was sought and used to develop some alternatives for the Golden Pond Complex including our visitor center and planetarium. An interdisciplinary team worked through the suggestions and ideas for a 30 year vision.

Our field trip grant program encourages new schools and classes to bring students on single and multi-day trips to LBL. Table 3.3 shows the numbers and dollars for the program. This year seven new school groups came to Brandon including one through the grant program. Three of those new groups already have reservations for 2013!

Fiscal Year	# of Schools/Groups	# of Students	\$ from LBL	\$ from other FS	\$ from grants and donations	Total \$ allocated
2006	16/19	1,249			12,000+	13,078
2007	17/21	1,444		10,000	3,000	13,078
2008	21/32	2,493	5,000	5,000	12,000	12,580
2009	20/25	1,983			16,000	16,123
2010	22/24	1,771			17,271	17,271
2011	22/24	2,121			7,900	18,124
2012	26/29	2,380	5,750	0	14,096	19,846

Table 3.3. Field Trip Grant Program

Heritage Education

This year we utilized Passport In Time (PIT), the Forest Service volunteer archaeology and preservation program. PIT volunteers contribute to vital environmental and historical research on public lands as they work alongside our professional archaeological staff. We are overwhelmingly proud of the success due to the highly motivated PIT volunteers who traveled from all over the country to work with us. We conducted systematic excavations at the former site of the Golden Pond Independent School, which later became the John and Mamie Turner Home Site. Working with such a wonderful group of volunteers (Figure 3.4) was the highlight of 2012 for heritage staff. We appreciate the positive feedback they provided about their experience.



Figure 3.4. Utilized Forest Service volunteer program, a Passport In Time (PIT) to conduct systematic excavations for compliance of the Central Hardwoods Scenic Trail project.

Numerous heritage educational opportunities are still in the works and have made significant progress in 2012. Waynette Westerfield, a LBL heritage volunteer, continues her work in helping us improve the availability of educational material through the LBL website. Her attention to detail has been imperative as she organizes the material needed to create an interactive map that provides access to photos, background information on former communities, schools, and church locations. She also prepared oral histories to make available for download on the LBL website.

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 Forest Service, Land Between The Lakes National Recreation Area (LBL, NRA) is making steady progress in reducing erosion and sediment transport to improve watershed conditions.

Watershed Improvement

We chose two “Functioning at Risk”, “Watershed Condition Class 2” watersheds from the 2011 watershed analysis:

- Dry Creek/Cumberland River (Turkey Bay OHV Area)
- Ledbetter Creek/Kentucky Lake (Prior Creek Project Area)

We performed analysis for Watershed Condition Indicators; Aquatic Physical, Aquatic Biological, Terrestrial Physical and Terrestrial Biological, each with its own set of indicators. We developed Watershed Restoration Action Plans (WRAP) for 22,651 acres of Forest Service land in the Dry Creek/Cumberland River watershed and the 8,178 acres in the Ledbetter Creek/Kentucky Lake watershed. Implementation of WRAP projects will improve “Functioning at Risk”, “Watershed Condition Class 2” watersheds to, “Fully Functioning”, “Watershed Condition Class 1” within 3 years.

LBL received \$260,000 in restoration funds from the Regional Office for the Ledbetter Creek/Kentucky Lake Watershed Restoration Action Plan (WRAP) for work in the Turkey Bay OHV Area. We completed 120 acres of erosion restoration activities in this watershed. Our trails program activities included illegal OHV route closures and these restoration activities:

- Installed 432 sediment logs
- Installed 990 sediment mats totaling 12.6 miles
- Sowed 2,700 lbs. of native warm and cool season grass seed
- Used bioengineering techniques.

The 120 acres of restoration in the Ledbetter Creek/Kentucky Lake Watershed benefited an additional 260 acres down slope from the restoration activities by reducing sediment transport and improving water quality. This resulted in 380 acres of watershed condition improved and moving the watershed closer to a fully functioning watershed rating.



Figure 4.1. Restoration in Turkey Bay OHV Area

We used Watershed Restoration Action Plan (WRAP) funds to treat nonnative invasive species (NNIS) on 184 acres of the Dry Creek/Cumberland River Watershed (Prior Creek) located in the Central Eastern section of LBL. This treatment will move the watershed closer to a fully functioning watershed rating.

Additionally, over 1,000 acres of oak grassland and general forest were treated with timber harvest or cut and leave treatments and 214 acres of Timber Stand Improvement were conducted for watershed improvement in the Dry Creek/Cumberland River Watershed (Prior Creek).

In 2012, seven impaired road culverts were replaced resulting in improved stream channels, stream bank stability, aquatic friendly passages, and riparian area functions. Only 31 % of roads were maintained to standard, falling short of our annual goal of 75%.

Riparian values and soil and water resource considerations were implemented through Best Management Practices (BMP) and design criteria. We maintained 98 miles of trails to standard, improved 15 miles of trails to standard, and created 11 miles of new trail during FY12. Maintaining and improving trails to standard leads to reduced erosion and sediment transport thus reducing deposition in creek channels and riparian areas and improved water quality.

The Forestry Program implemented a new silvicultural treatment for LBL using herbicides in forested areas. We treated around 205 acres of forest within the Demumbers Creek project area in the Cumberland River Watershed. We thinned the forest edge around open lands via stem injection (hack and squirt) herbicide treatment and also treated non-native invasive species found in this transition zone. You can find more information on our treatment in Goal 5.

In 2012, we conducted 17 prescribed fires in nine Level 6 Watersheds resulting in 5,271 acres managed for Improved Watershed Condition. The Level 6 Watersheds we treated by prescribed fire include:

- McNabb Creek – Cumberland River – Crossroads Project Area
- Bards Lake – Cumberland River – Homeplace Fields
- Demumbers Creek – Cumberland River – Crossroads Project Area
- Dry Creek – Cumberland River – Wranglers Campground
- Crooked Creek – Cumberland River – Energy Lake Campground
- Panther Creek – Kentucky Lake – Piney Campground
- Turkey Creek – Kentucky Lake – Buffalo Trail Project Area and Redd Hollow Area
- Ledbetter Creek – Kentucky Lake – Turkey Bay OHV Area
- Pisgah Creek – Kentucky Lake – Hillman Ferry, Smith Bay, and Sugar Bay Campgrounds

Water Monitoring

Watershed Watch volunteers monitor two sites on tributaries draining into Lake Barkley and Murray State Hancock Biological Station monitors 12 sites on Kentucky Lake and its tributaries.

Both groups monitor for physical, chemical, and biological characteristics. Results from these sites have indicated good water quality.

Begun in July 1988, the long-term monitoring program encompasses 12 primary sites and a number of embayments on the lower 90 miles of Kentucky Lake. Monitoring sites have been selected so that both the mainstream and shallower embayments are sampled. Primary monitoring occurs at 16-day intervals coinciding with the overpass of the Landsat Thematic Mapper (TM) satellite. Objectives of the monitoring program include documentation of long-term changes, spatial variability in water quality, and integration of field observations with remotely sensed data. Physicochemical parameters in the database include Specific Conductance, Total Nitrogen, Oxidation/Reduction Potential (ORP), Hydrolab/Grant YSI Profiles, pH Dissolved Oxygen, Phytoplankton, Alkalinity, Phosphate (Ortho) P, Light and Euphotic Depth, Turbidity, Phosphorus (total), Primary Production (14C), Chloride, Silica, Chlorophyll, Lake Elevation and Discharge, Ammonia, Sulfate, Nitrate, Conductivity, Secchi depth, etc.

Since 1995, Hancock Biological Station, Murray State University has monitored Ledbetter Creek and its embayment, an agricultural/rural watershed, and Panther Creek and its embayment, a pristine/forested watershed. Panther Creek is considered the baseline for monitoring in the watershed. In addition to the physicochemical parameters listed under the Kentucky Lake monitoring program, data are available on discharge, hyporheic chemistry, benthos, and algae.

In 2010 The Clean Water act 303(d) list included Hematite Lake due to “Impaired use(s): Warm Water Aquatic Habitat (Nonsupport) and Pollutant(s): Nutrient/Eutrophication Biological Indicators; Oxygen, Dissolved. Suspected Sources: Agriculture; Source Unknown.” This designation requires the Kentucky Department of Environmental Protection Division of Water to develop a monitoring plan. Due to lack of resources, a plan has not been developed by the state.

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

Prescribed fire is used as a tool for habitat improvement and hazardous fuels reduction. We burned 5,387 acres this year in the Crossroads area, near the Homeplace, facilities, and Turkey Bay OHV Area. We treated most of the prescribed fire acres in the Crossroads area this year.

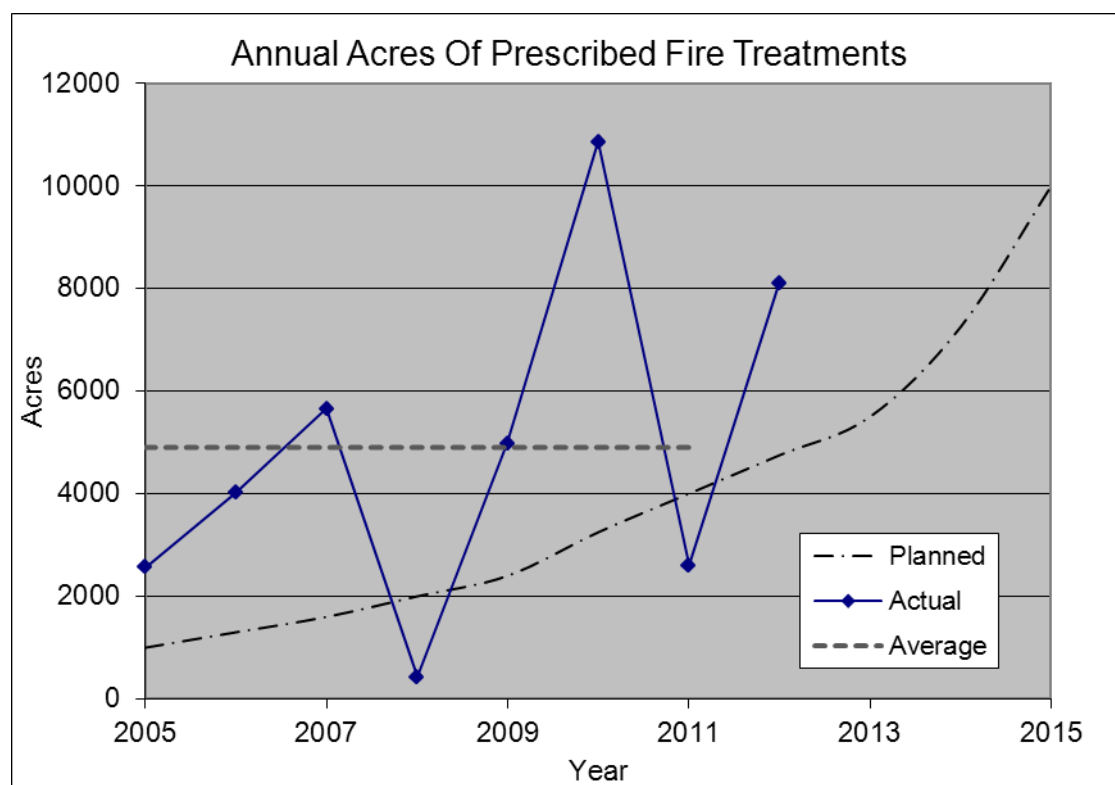


Figure 5.1. Acres Prescribed Fire Treatments

Severe drought contributed to six wildfires (546 total acres) ranging in size from 0.1 to 323 acres. The largest wildfire occurred near the Fort Henry trails. The next largest fire occurred on 221 acres in the Nickell Branch area. The remaining fires were one acre or less in size.

Open Lands

We completed open land management on a total of 6,338 acres to enhance wildlife habitat diversity. (http://www.lbl.org/pdf/11_12LBLHabitatMap.pdf)

In 2011, we took 14 acres in the Barnes Hollow area out of cultivation and began preparations to convert these field acres to warm season grasses. We applied herbicide in fall 2011 and again in spring 2012 followed by a no-till wildlife planting to help keep weed competition down. However, due to the extreme drought conditions, our efforts to control non-native invasive species (NNIS) such as Johnson grass and foxtail failed. Johnson grass is a warm season grass that has deep roots. The extreme drought conditions favored this species allowing it to out-

compete the wildlife plantings. Due to increased cost to control the NNIS, we placed the two fields back into cropland in the interim under a special use cropland farming permit.

In 2011 we removed 19.5 acres in the median of Highway 68/80, Elbow Creek area (Kentucky) from cultivation. We completed herbicide treatments and established a winter rye cover crop in fall 2012 to prepare this area for canebrake, restoration of a native grass rare community type. The planting of cane within this area has been delayed until spring 2013 due to extreme drought conditions during the spring and fall seasons of 2012. Because we could not establish cane as planned, the winter rye cover crop was rolled down using a roller crimper, a new way of killing the crop without using herbicides. We then planted buckwheat and sunflowers using the no-till method. The rolled down rye helps to provide a mulch layer that breaks down into the soil and builds soil health while also forming a barrier for non-native species and locking in moisture to the soil surface. The late spring plantings helped provide vegetation diversity, continued to help control non-native invasive species, and provided food for pollinator species while building soil health and controlling erosion.

In 2011 we began preparing another 32 acres of cool season grass (fescue) hayfield in the Rayburn Hollow area (Tennessee) for conversion to native warm season hayfields. The extreme drought conditions in 2012 delayed conversion of these acres to 2013. Similar to the fields in the median of Highway 68/80, we planted buckwheat on the hayfields in late spring for the same benefits mentioned above. Since we implemented the Area Plan 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; zero acres in 2011 and 2012).

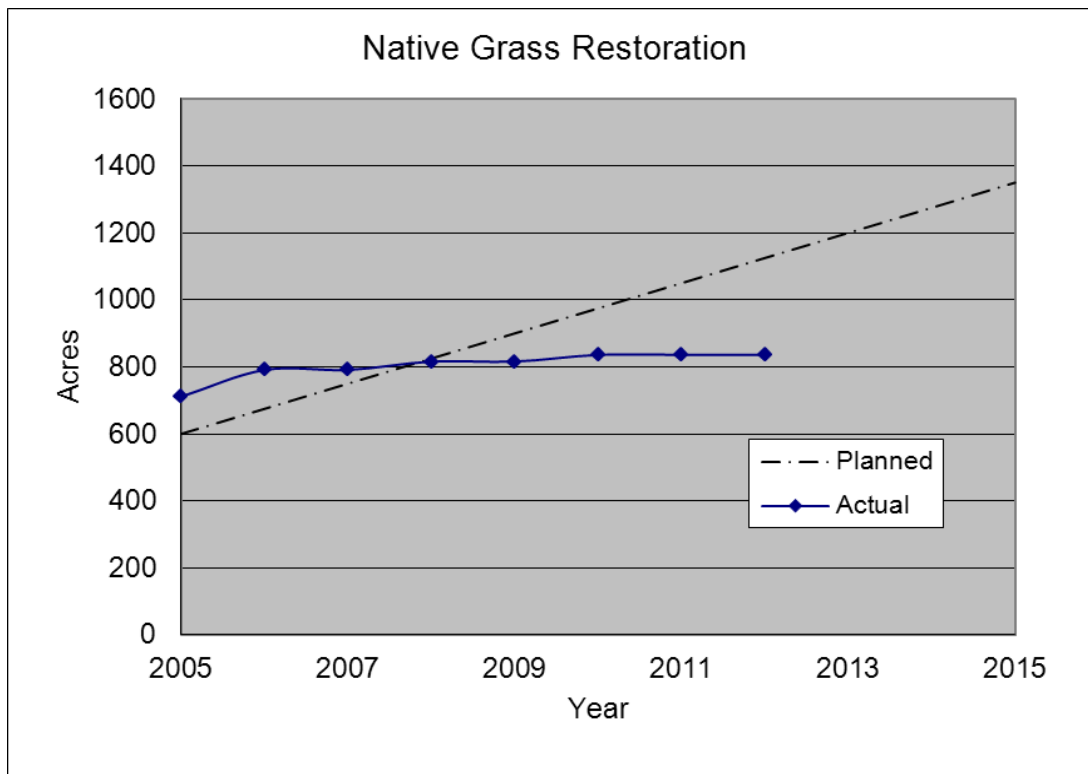


Figure 5.2. Native Grass Restoration

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 2012, we treated 432 acres within open lands 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 varied across the areas treated. The rate ranged from 25-90% success.

We completed an additional 205 acres of silviculture hack and squirt herbicide treatments in the Demumbers Creek project area. The purpose of this treatment was to thin the hardwoods adjacent to open land areas and to improve stand health and vegetation diversity. The herbicide application included the treatment of non-native invasive tree and shrub species such as:

- Illinois mimosa (*Albizia julibrissin*)
- Princess tree (*Paulownia tomentosa*)
- Tree of Heaven (*Ailanthus altissima*) and
- Privet species (*Ligustrum japonicum* and *L. sinense*)
- Autumn Olive.

Species of Concern:

Price's Potato Bean

Background:

We established permanent monitoring plots 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 in Tennessee. We collected baseline survey data in 2005 and 2006 at all the sites. At the time of the baseline surveys, we identified the sites 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 and shrub competition. 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) in 2008 we drafted a plan for the recovery of Price's potato bean on LBL that included canopy removal from these sites. In 2009 we accomplished canopy removal on three of the four Kentucky sites for a total of three acres threatened and endangered terrestrial habitat improvement. The shade tree removal proved to be a big success with flowering clusters and bean pods produced at all treated sites. The US Fish and Wildlife Service (USFWS) and Forest Service staff collected beans from 188 pods

produced on nine vines at one of the sites. At this site, we planted approximately 290 seeds uphill of the existing plants the day of collection in efforts to expand the plant population. None of the seeds produced vines in 2010, 2011, or 2012. The failure of the seeds to produce is not fully understood. The recovery efforts for this species and its habitat include research and understanding of *Apios pricieana* reproduction needs. Of the seeds collected at this site in 2009, the USFWS kept approximately 170 seeds and planted them 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 Kentucky site about 7 seeds had been collected in fall 2009. These seeds were also planted in spring 2011 and the success was poor overall.

2012 Update:

During 2012 we surveyed stem, flower, and pod production in July at all existing population sites in LBL. The extreme drought conditions caused vines observed in April, to shrivel up and die by mid-summer. Overall stem and flower counts decreased considerably from observations in 2009 through 2011 years. We observed flowering at only one site with one vine for a total of 4 clusters. A total of 9 vines produced from seeds planted at two Kentucky sites in 2011 were still apparent in July.

We accomplished girdling of trees and removal of some smaller trees this year within a 5 acre area of the Tennessee site. Changes to the understory growth will be more noticeable during the next growing season. Some trees that had been girdled in early spring lay on the ground by July.

Monitoring of populations and habitat conditions will continue 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>.

We continue to monitor winter occurrence, nesting sites, and nesting success. We monitor in partnership with the Kentucky Department of Fish and Wildlife Resources (KDFWR), Tennessee Wildlife Resources Agency (TWRA), U.S. Fish and Wildlife Services plus their partners, and volunteers through Friends of Land Between The Lakes.

Within the LBL and surrounding lake areas; during the January 2012 midwinter survey, we counted 76 bald eagles along the Kentucky and Tennessee shorelines of Kentucky Lake and Lake Barkley (68 adults and 8 immature). In the May 16, 2012, Midwinter Eagle Survey Report, KDFWR avian biologist stated that winter weather conditions in early 2012 within the Great Lakes region and in Kentucky likely led to a moderate count of wintering eagles in the

Commonwealth in comparison to counts in recent years. Normal to mild weather conditions were reported during the survey period in Kentucky. Table 5.1 provides the counts on the LBL shoreline.

Table 5.1. LBL Midwinter Eagle Counts and number of eagles sighted during 2006 through 2012 aerial surveys on LBL shoreline.				
2008	2009	2010	2011	2012
87	77	118	27	28

Bald eagle fledging success in LBL has been monitored since 1984 when the first successful nesting of bald eagles occurred in Tennessee (Table 5.2). 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.

Table 5.2: Eaglets Fledged at LBL through the 2012-nesting season; Monitoring began in Kentucky in 1989 and in Tennessee in 1984					
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	19
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					
*** LBL TN nests were not monitored for fledgling success except for one nest site.					

TWRA aerially surveyed 4 nest sites in Tennessee in early March and prior to the KDFWR aerial nesting season survey flown in March. Only two of the four nests checked by TWRA were active with adult bald eagles present. During the KDFWR aerial survey, 27 nests were checked for nesting activity that included 7 Tennessee sites. Adults were observed with chicks on 8 nests; adults were incubating eggs on 5 nests, 7 nests were empty, and 7 old nests were not found in the areas surveyed. Based upon ground surveys, the fledgling nest success for thirteen nests was a total of 19 chicks with ten of the nests (15 chicks) in Kentucky and three nests (4 chicks) in Tennessee. In May 2012 part of a nest in Kentucky fell out of the tree. As a result we sent an eight week old fledgling to be rehabilitated. Of the nests surveyed during May in Tennessee, one nest was found to have two dead fledglings that appeared to be eight weeks old.

Bats

Following three years of baseline mist net surveys from 1993-1995, LBL-wide surveys for bats have occurred every five years. The 2010 M&E report contains a summary of the most recent studies. We have also conducted project-specific surveys, which covered relatively small areas at LBL. We have captured ten different bat species in surveys on LBL:

- gray
- red
- eastern pipistrelle
- evening
- little brown
- northern long-eared
- big brown
- hoary
- silverhaired
- Seminole

Gray bats are the only endangered species that we have confirmed on LBL. Indiana bats (E), Rafinesque's big-eared bats (RFS), and southeastern myotis (RFS) have not been captured on LBL.

In response to white nose syndrome moving southward in the Eastern U.S. and into the midwest, we completed three years of mobile transect acoustical surveys in 2009-2011. We used Anabat™ acoustical recording systems. Also, we conducted stationary acoustical surveys in 2010 as part of our five-year monitoring program. The long-awaited software to analyze the Anabat™ data became available in summer of 2011; however, after scanning LBL and other data files with the new software, several questions about interpretation of the results became immediately obvious. Questions have continued with subsequent releases into 2012. Acoustical surveys have been discontinued until the acoustical data on hand can be adequately analyzed and interpreted. Currently researchers at Austin Peay State University are analyzing LBL acoustical data files with the latest software release. Results are pending.

The next five-year bat surveys are scheduled to be done in 2015.

Turkeys

Wild Turkeys serve as 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 calendar year 2012, we spotted an average 39% of hens with poults, averaging three poults per hen. These figures fall much lower than the previous two years: 6.5% below the 20-year average of hens per poult and 27% below the 20-year average for number of poults per hen. An early spring warm-up with normal rains seemed to produce early broods that did not seem to survive through the summer. The prolonged drought and above average heat during the summer reduced the amount of food and cover available for young poults and placed them under extended environmental stress.

Forestry

Forest Inventory

The forest management program at LBL inventoried approximately 2,429 acres (Table 5.3) in the Pisgah Area (compartment 47) to meet the Goals and Objectives of the 2004 Area Plan. We will use this data to develop integrated vegetative management treatments for this project area to increase acres in the mature forest with canopy gaps, mature oak woodland, shortleaf pine, mid-aged and regenerating forest types as stated in the plan.

Prescription Area	Acres Inventoried
General Forest	2,397
Core Areas	32
Total Acres	2,429

Table 5.3: Forest Inventory data collection accomplished during FY 12.

Treatment

The forest management program continues to expand with multiple treatment activities throughout LBL directed to meet the objectives in the Area Plan for forest structure. This year we restored over 1,000 acres of oak grassland and general forest with timber harvest or cut and leave (herbicide) treatments.

LBL managed six timber sale contracts during the fiscal year of which three finished cutting and removing timber. Two sales are now closed, the Road Enhancement sale and the John Wayne Salvage sale. The three timber sales, listed in the table below (Table 5.4), were awarded to local logging companies during FY12.

Sale Name/Silvicultural Treatment	Acres Treated
John Wayne Salvage	203
Hurricane Creek	247
Demumbers Creek	346
Herbicide Use (Hack and Squirt)	205
Biomass Utilization (Wood Chips)	400
Total Acres	1,401

Table 5.4: FY12 Forest thinning and silvicultural treatments accomplished.

The John Wayne salvage sale resulted from a major wind event that crossed our region in April. We awarded this sale via stewardship authority to the National Wild Turkey Federation. A desired result of using stewardship contracting was the completion of service items such as the biomass utilization and wildlife stand improvement herbicide treatment being accomplished.



Figure 5.3. Skid trail and thinning operation within the John Wayne timber salvage sale.



Figure 5.4 Stem injection herbicide treatment within the Demumbers Creek project area.



Figure 5.5 Tree thinning within the first timber sale located in the Demumbers Creek project area.



Figure 5.6 Shortleaf pine seedling growth measured in the second growing season (2012) after the 2010 prescribe fire with competing broadleaf vegetation in the background



Figure 5.7 Wood chips (biomass) generated from the John Wayne Timber Salvage Sale.

The Hurricane and Demumbers Creek timber sales are the first portions of the 2009 ice storm assessment to be treated. These two sales encompass just under 800 acres and will generate over 7,000 CCF of volume for local wood production. This ranks as the most timber sold since the Forest Service has managed the recreation area.

Forest management also implemented two new silvicultural treatments on forest vegetation at LBL. The first treatment involved the use of herbicides within forested (non-open land) areas. We treated approximately 205 acres of forest within the Demumbers Creek project area via stem injection (hack and squirt) herbicide treatment (Figure 5.4). This project developed in an effort to thin the forest edge around open lands and to also treat non-native invasive species found in this transition zone. The second treatment included the integration of biomass utilization into timber sale activity (Figure 5.7). Biomass (wood chips) generated from the John Wayne salvage sale will be utilized in the newly constructed biomass boiler systems at the Trigg County Hospital and the Lyon County High School.

We completed the environmental assessment (EA) for the Demumbers Creek Project. We started implementation to create approximately 800 acres oak woodland, 700 acres open mature oak forest, and about 300 acres of regenerating oak and shortleaf pine forest types this FY (Figure 5.5). We continued planning for the treatment of forest vegetation in the Devil's

Backbone and the Pisgah Project areas. These projects were selected due to locations and impacts to recreation facilities, wildlife habitat improvement needs, and forest health. These projects will treat up to 4,000 acres and remove over 25,000 CCF of timber in meeting LBL's objectives of promoting sustainable scientific based forest management and working with local small businesses in the forest industry. We project the completion of the Devil's Backbone project to be completed in FY13. This project was put on hold back in 2009 due to other forest management projects related to ice storm damaged areas of LBL. This project was given priority after many ice storm related projects were advancing. The subsequent vegetative response to the 2010 Devil's Backbone prescribe burn also contributed to the need to capitalize on the development of shortleaf pine regeneration and other forest structure types within the project area (Figure 5.6).

Sporadic weather events are not the only concerns for forest health at LBL. Oak decline along with other forest pests and pathogens can have an effect on LBL's predominantly oak-hickory forest. Susceptibility to oak decline is of great relevance due to ice storm damage of 2009, multiple wind events in 2011, and drought conditions in 2012. Storm damage to more than a third of the crown will reduce photosynthetic capability to a point where root function is compromised. These factors can incite and contribute to forest health concerns with respect to resilience and successional development. It can also leave oaks more predisposed to *armillaria* root rot, *hypoxylon* canker, and various insects including the two-lined chestnut and red oak borers.

We found no overt signs of an oak decline breakout in FY12, although we have observed an increased mortality of older trees throughout LBL, especially among tree species within the red oak family.

LBL foresters placed twenty-seven gypsy moth traps in the forest, and did not find any moths. A new exotic insect of concern is the Emerald Ash Borer (EAB). We also placed EAB traps throughout LBL, with a focus on high use recreational areas as infestation can possibly develop from firewood brought in from outside of LBL. EAB was not detected in LBL. Though no insects were found, we continue to use insect traps 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



We partnered with two neighboring counties on two different biomass utilization demonstration projects to convert woody biomass to energy – the Lyon County School and the Trigg County Hospital. Both systems began operating in FY12. Land Between The Lakes National Recreation Area secured funding from the American Recovery and Reinvestment Act for these two “wood to energy” biomass demonstration projects to help local communities. The two counties contracted separately for their boiler systems. The hospital system suffered some downtime due to motor burn outs. We worked various solutions and no motor burn outs have occurred since we adjusted the rotating arm that sweeps the chips into the auger this summer. It

is up and running. We have a five-year agreement to supply wood chips for both systems. In this way we will monitor the progress and continue reporting the results.

In FY12, the Demonstration Lab continued to focus on internal projects.

Our experiment with differential pricing in our campgrounds during week days did not increase usage. It was determined that our already low rates did not offer enough incentive to affect decisions and added to confusion for both customers and staff. We abandoned plans to move forward with differential pricing.

Another camping experiment included operating our popular Energy Lake Campground year round. Although talk and research supported this move to year-round operations, usage was slim. Visitors can camp all year at Wranglers Campground centrally located on our property. Going forward we decided to focus on winter camping at Wranglers for our customers.

We introduced electric staff cars in our campgrounds this year beginning with Wranglers. It appears that we will be moving forward for additional electric cars. Electric cars reduced noise pollution as an added benefit along with reduced maintenance and operation costs.

Having lived with many years of our campers requesting to bring and use their golf carts into our developed camp grounds, we decided to allow usage as a test year. We experienced a bumpy start with many underage drivers. Once everyone began to follow the rules, this program seems to be successful and we are evaluating plans for next season.

This year began our transition from traditional marketing and communication efforts to inbound marketing – a strategy that developed as a result of social media. Inbound marketing places you where your customers expect you to be without looking. The inbound marketing strategy focuses on providing unique, relevant, and current content to site visitors; designing websites to conform to the standards of Google, Bing, and Yahoo search engines; and integrating your site with interesting social media conversations with customers and knowledge sharing links. Where our customers expect us to be is on their smartphones and listed in their internet searches for outdoor recreation and environmental education destinations in addition to land and wildlife management.

The Area Plan set an objective of serving between three and six demonstration customers each year, on average. In FY12, 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 matters. This includes participating in the Central Hardwoods Joint Venture to support bird populations by developing four general habitat types: grasslands, grass-shrublands, forest-woodlands, and wetlands.

Although no products were exported to other units in FY12, we believe our internal emphasis to find innovative ways to reduce costs and increase visitation and revenue paved the way for other public land managers to help with their budget reduction planning.

Short History of Land Between The Lakes Demonstration Lab

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 Land Between The Lakes Demonstration Lab conducted 14 projects which have served all levels of the Agency. In order to further expand the types of demonstrations we undertake, Land Between The Lakes established a request for proposals to all FS units in FY10. Of the proposals received, the Demonstration Board submitted three 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.

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.”</p> <p>[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	<p>32. Have dispersed recreational and EE opportunities at LBL been enhanced? (Duplicate question for Measures 32-35)</p>
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	<p>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.</p>
What It Tells Us	<p>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.</p>

Goal 7, Monitoring and Evaluation Narrative

2012 Recreation Program

The 2012 recreation program of work continued in conjunction with high visitation and use of recreation facilities across LBL, despite the Eggner's Ferry bridges being closed for five months due to a cargo ship accident. This accident effectively closed our west side entrance artery.

LBL made progress on achieving realignment of dispersed opportunities with the implementation of a 32 point alternative for the future management of the backcountry, lake access, and day use areas across LBL. We closed Bacon Creek Campground and boat ramp and added the Fords Bay Boat Access area as a developed recreation area. We will close Rushing Creek and Jones Creek Campgrounds next year.

We completed site plans for Wranglers Campground and started one for Energy Lake Campground. These plans outline the current and future management of these facilities.

Through an innovative partnership with the public, we addressed budget reductions in facilities and maintenance this year and anticipated future reductions. We identified more than \$1 million in viable ideas by the public through a combination of potential cost savings and revenue increasing opportunities. The feedback process used to finalize the immediate actions included a web based comment process. We received no substantive objections.

Deferred Maintenance

We addressed the deferred maintenance backlog by replacing the 1980 bath houses in Piney Campground by installing accessible bathhouses in Black Oak and Chestnut loops. We also completed plans for four additional accessible bathhouses at Piney.

Trails

Restoration activities on 120 acres continued in the Turkey Bay OHV Area (Turner Hollow and Turkey Creek watersheds) as described under Goal 4 above. We maintained 98 miles of LBL's trails to standard during FY 2012. We decommissioned two facility bridges, F-1 at Fenton Campground and AR-4 at the archery range. We brought two trail bridges (N/S-19 and N/S 24) to standard.

We expanded sustainable off highway vehicle recreation opportunities by developing the Turkey Bay Rock Garden and Kids' trail. Approximately 150 tons of surge stone was placed to harden the Turkey Trot Kids' trail and 320 tons of overburden rock was placed for jeep rock crawling opportunities.



Figure 7.1. Rock Placement in Turkey Bay OHV Area

We created 11 miles of new trail during FY12 with Central Hardwoods Scenic Trail as part of the mitigation for the 68/80 highway. The new trail is 6 foot wide and constructed of manufactured sand. LBL used Trails Unlimited along with local staff to build the trail. We installed seven new trail bridges. We installed approximately 30 open bottom arch culverts and 120 feet of Sutter retaining wall on the trail. We also created six trailheads and two new parking lots/trail access points. All 11 miles are considered improved to standard.



Figure 7.2. Construction of Central Hardwoods Scenic Trail



Figure 7.3. Installation of trail bridges.



Figure 7.4. Installation of open bottom arch culverts

The construction of the new trail provided opportunities for LBL to host nine detailers from other National Forests to learn new trail construction techniques. The details ranged in length from two to ten weeks.

LBL hosted the following activities and trainings this year:

- Four Alternative Spring Break Groups completed trail rehabilitation on hiking and biking trails.
- A staff writer for the St. Louis Post featured an article on off highway adventures after visiting Turkey Bay. Trails staff cooperated in filming a segment at Turkey Bay of “Round About U” for Murray State University.
- Approximately 60 people from the Southern Region attended the Forest Service’s Southern Research Stations off-roading and boating safety course at LBL.
- Thirteen students attended the Wilderness First Responder Refresher Course at LBL.
- Twelve operators representing four different National Forests trained on the Sweco/Sutter dozers at LBL



Figure 7.5. Sweco/Sutter Dozer Training

A beaver pond that flooded Honker Trail was mitigated by installing a pond leveler. We installed an interpretive panel highlighting the beaver activity along the trail.



Figure 7.6. Pond leveler installation at beaver dam.

Special Events

LBL continues to serve as a preferred location for many special events organized by our communities:

- The LBL Challenge
- Race to the Canal
- White Lightning
- 12 hours of the Canal
- Niner Bikes Demo
- LBL 200 combined with the Husqvarna Demo day
- Jeep Jamboree
- Canal Trail Runners Marathon
- Ft. Henry Trail Re-enactors
- Various motorized and non-motorized military trainings
- ASI ATV trainings

Over 1,800 recreationists participated in the special events during FY12.



Figure 7.7. Special events

KY Lake Bass Club, Aurora Knights of Columbus, and US Forest Service sponsored the 35th Annual Special Populations Fishing Tournament June 2 at Honker Lake. There were 75 participants and caregivers. Pictured are the three top finalists.



Figure 7.8. Special populations fishing tournament finalists

Hunting

An online paper-free quota hunt application process was developed for use on LBL and has been used since 2009. The system is preferred by many hunters and saves staff time and money when compared to the previous paper application process. Staff continues to respond to hunters' issues during the application process.

Thousands of hunters continue to apply for quota hunts for deer and turkey on LBL. See Table and Graph below. Deer quota hunt harvests were 16% lower in fall of 2011 than during the previous year, but similar to 2009 harvest numbers. Turkey quota hunt harvest numbers were very good, and increased 32% higher than the previous year. The number of hunters that applied for quota hunts during 2011 was down slightly, approximately 2.5% 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	537
2012	8779	627
Turkey		
2006	2724	164
2007	2583	117
2008	2629	113
2009	2292	114
2010	2407	130
2011	2232	132
2012	2261	174

Figure 7.9a. Quota Hunt Results

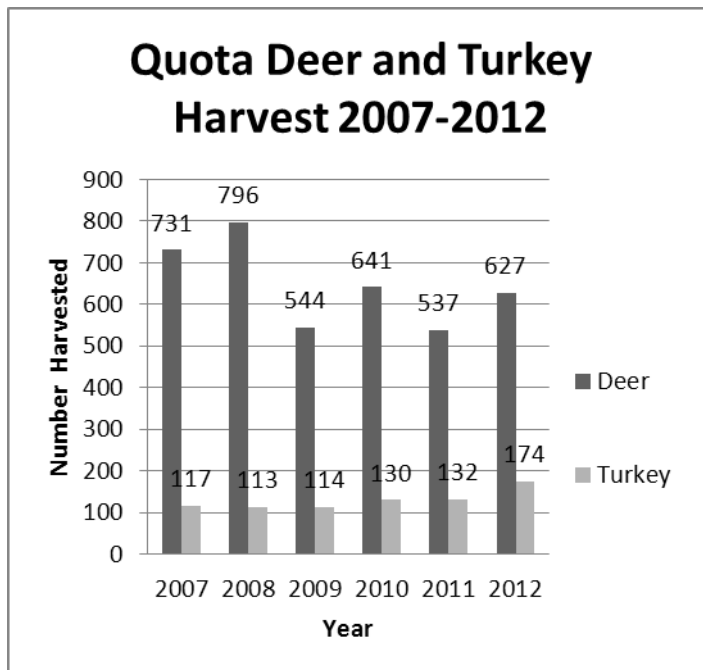


Figure 7.9b. Quota Hunt Results

Environmental Education Program

Dispersed Environmental Education (EE) includes programs presented off-site, away from our EE facilities. In fiscal 2012, 394 visitors enjoyed Eagle Tours via van or boat (100 more than in 2011). They enjoyed seeing eagles in the wild and learning their history and successful re-establishment at LBL.

We installed interpretive panels about beavers and their contribution to wetlands at Hematite Lake and Brandon Spring Group Center in 2012. Since then, over 1,500 people have been able to read them. The Prescribed Burn interpretive panels continue to be used as we conduct burns in public areas. These panels help interpret the burns to visitors.

We installed an interpretive panel about the Hurricane Creek salvage sale, along Road 117 so the public can learn more about forest management and natural changes in the forest, biodiversity and response to climate change.

Northern Nature Watch progressed in 2012 from a conceptual plan to nearly completing Phase I. We officially named it Woodlands Nature Watch Area. The Empire and Bobcat Points sections will be open in November. Explanatory panels have been fabricated and will be installed at each location. Large boulders will keep vehicles in the parking area. Visitors can now stroll down to the lake and enjoy the plethora of wildlife in these newly opened areas.

Nature Watch Series of intensive programs was plagued with bad weather and unforeseen cancellations. In response, programs have been revamped and we are trying some different approaches. More than 50 people came out at various times to explore LBL, discover pelicans, warblers, herons and winter migrants. They all had a great time for the serious naturalist.

Off-site programs included outreach in the nearby communities at library events, senior citizens gatherings, other agency camps, and state parks. In 2012, interpreters reached 1,293 people with natural and cultural history programs in the community.

Heritage Program

We remained focused on the theme developed in 2011 of “Gone but not Forgotten: All About Discovery” in the continuation of developing recreational and educational elements of the heritage program. Our goal is to provide opportunities for the discovery of the human history of LBL throughout the landscape. Many of our heritage discovery projects are moving into the implementation stage. The church and school marker post discovery project is under way. We purchased all of the marker posts (Figure 7.10) and installed a few in partnership with Between the Rivers, Inc., an organization of former residents.



Figure 7.10. The Yale school marker post after installation.

The Woodlands Trace Wildlife Gardens: Footprints of the Past project also moved forward during 2012. In this project we delineate the footprints of buildings within the former Model community by planting native species flowers. We tested seeding the footprint of the Model Baptist Church and monitored the success throughout the year (Figure 7.11). We noted positive results with selective weeding and mowing around the footprint. For the next phase we will be planting seeds to represent the footprint of the Model Post Office.



Figure 7.11. Planting native species within the footprint of Model Baptist Church as part of the Woodlands Trace Wildlife Gardens: Footprints of the Past project.

We moved into the next phase of heritage discovery opportunities along the Central Hardwoods Scenic Trail. The Golden Pond Overlook is expected to be complete in 2013. We finalized the interpretive design and selected the contractor to perform the work. Heritage staff worked with trails staff and the communications department to include dispersed heritage site locations on trailhead signs, maps and publications:

- Golden Pond Overlook
- Golden Pond School/John and Mamie Turner Homesite
- Meredith Cemetery
- Golden Pond Fire Tower (formerly Bald Knob, part of Kentucky Woodlands Wildlife Refuge)
- Turner Cemetery
- English Hill
- Loves Evangelical Church
- Fisherman's One Stop at Fenton
- Beginnings of LBL as a recreation destination.

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. We achieved the over-arching strategic goals of the FS through attainment of these targets by each National Forest System unit each year. Table 8.1 displays key accomplishments for the last five full

fiscal years of the 2004 Area Plan implementation. Integrated targets are now being reported as part of our accomplishments and had not in the past. The result of this change in reporting shows very large increases in the number of acres of natural resource improvements (inland lake habitat enhanced, soil and water resource acres improved, T&E and non-T&E habitat enhanced). The actual acres treated are approximately the same numbers as recent years. The threefold increase in wildlife interpretation products came from the addition of the partners environmental education presentations. Trails' and PAOTs' (people at one time) meeting standard accomplishments were reduced due to lower funding than recent years.

Table 8.1. LBL Key Accomplishments

Specific National Objective (Target)	Unit of Measure	FY08 Accomp.	FY09 Accomp.	FY10 Accomp.	FY11 Accomp.	FY12 Accomp.
Miles of high clearance system roads receiving maintenance	Mile	0	0	0	14	0
Miles of passenger car system roads receiving maintenance	Mile	231	293	0	147	108
Miles of road decommissioned	Mile	3	2.3	0.5	0	0
Total trail system miles meeting standard	Mile	--	294	329	179	97.4
Miles of system trail improved to standard	Mile	18	19	18	17	11
Miles of system trail receiving maintenance to standard	Mile	13	275	200	183	98.7
Number of interpretive and conservation education plans implemented	Plan	1	1	1	1	1
Priority Heritage assets managed to standard	Asset	2	3	4	5	6
Recreation site capacity (number of People At One Time) operated to standard	PAOT (Core) (Integrated)	2,500,000 --	2,525,000 ---	2,525,000 3,130,661	2,600,000 3,288,379	1,482,105 3,288,379
Number of wildlife interpretation and education products	Product	44	42	42	42	128
Acres of inland lake habitat enhanced	Acre	61	112	107	266	1,843

Specific National Objective (Target)	Unit of Measure	FY08 Accomp.	FY09 Accomp.	FY10 Accomp.	FY11 Accomp.	FY12 Accomp.
Acres of inventory data collected or acquired meeting corporate standards	Acre	14,500	117,470	52,785	9,878	7,850
Acres of non-threatened/endangered terrestrial habitat enhanced	Acre	6,964	5,343	7,889	4,443	17,811
Soil and water resource acres improved	Acre	879	20	92	37	6,592
Volume of Regular Timber Sold	ccf	2,173	3,037	1,665	6,513	7,615
Number of forest special projects permits issued	Permit	21	22	15	44	31
Annual monitoring requirements completed	Number	12	12	12	13	13
Landscape scale or Ecosystem assessments completed	Assessment	1	1	1	1	1
Highest priority acres treated annually for noxious weeds and invasive plants on NF lands	Acre	354	494	498	771	432
Land use authorizations administered to standard	Authorization	49	22	42	32	43
Total Acres Treated with Fire	Acre	291	4,984	10,866	4,681	8,097
HF Acres Treated	Acre	65	64	6900	2,600	5,172
FN Other Acres Treated	Acre	226	54	3966	2,081	3,125
Number of land use proposals and applications processed	Application	12	5	16	12	10
Recreation Special use Authorizations Administered to Standard	Authorization	330	321	303	259	250
Threatened & Endangered (T&E) and non-T&E Habitat Enhanced	Acre	65	6,539	900	9,848	17,806
Stewardship	Acre	1,310	4,427	4,402	4,984	586

Land Between The Lakes National Recreation Area sought advice from visitors, community members, staff, contractors, and government leaders on ideas to address budget reductions in the facilities and roads maintenance budgets. A team developed creative ideas to address reduced operating budgets in an increasing fiscally-constrained environment. The team used the results of the extensive public involvement process and identified over \$1 million in savings in the next five years through decreased costs and increased revenue.

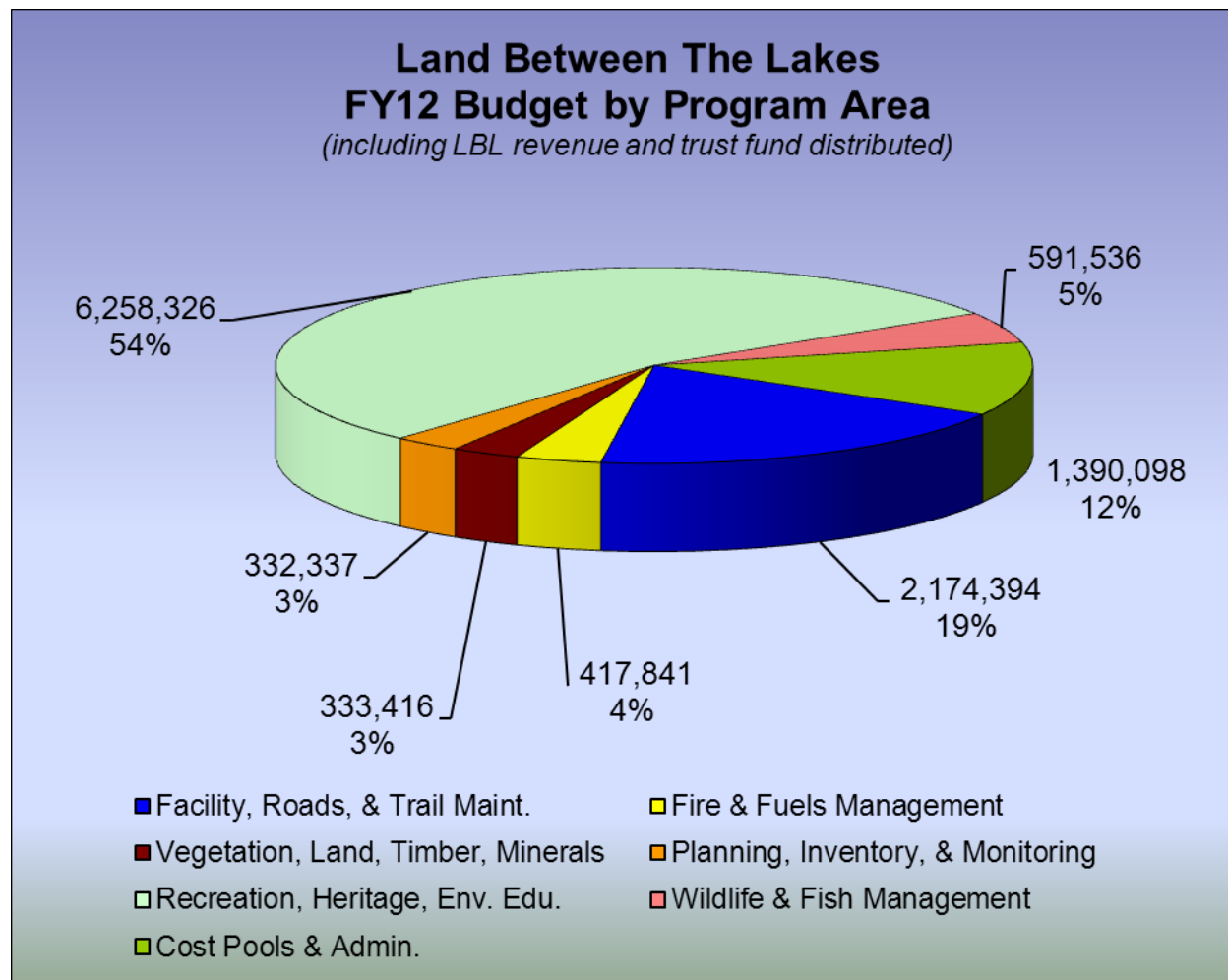


Figure 8.1. FY12 Budget for LBL

LBL's annual operating budget remains approximately \$11.7 million: \$7.6 million in federal appropriations and \$4.1 million in revenue. More than half of the budget was applied to the Recreation, Environmental Education, and Heritage programs at LBL. Approximately 19% was allocated to facilities, roads, and trails maintenance to support and provide this array of opportunities (see Figure 8.1.) The appropriated budget for LBL has been essentially flat since 2000 (about 1% increase).

Taking into account inflation and rising operational costs, along with a Facility Maintenance budget cut by 43%, LBL's ability to reduce the deferred maintenance across the property has decreased. 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. In FY12, we assigned a Budget Reduction team to establish and implement a plan to decrease costs and increase revenue. We will implement this plan starting in FY13.

In FY12, volunteers contributed over 111,953 hours of volunteer service, which correlates to over 50 people-years of service, or \$2,391,316 worth of service. Partnership with the Friends of LBL 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 FY12 was over \$2.9 million.

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. One new action items has 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. Decisions were made in FY12; implementation in FY13 will include a combination of facility closures, changes in maintenance level, and increasing fees. Budget reduction changes will continue into FY14.

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 FY13. 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. FY12, Agreements are expected with KY and TN separately due to different concerns with the State Officials. The two Programmatic Agreements are being reviewed by the Advisory Council on Historic Preservation. Decision expected 2nd quarter of FY13.

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: May, 2013 (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. The IDT completed field data collection for the EA during FY12.

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 continued into FY12. Waiting on funding for remaining mitigation items, expect payment in 2nd quarter of FY13.

7. 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, 2013

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. Central Hardwoods Joint Venture partnered with LBL to model habitat needs for upland birds during FY12.

8. 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, 2013

Status: In FY12 the LBL Business Plan was completed which serves as a step toward the completion of the Economic Impact Study. The Economic Impact Study is on schedule to be completed during FY13, but is dependent on the successful transition of the new Forest Service financial system (FMFI).

Completion Date: September 30, 2013

9. Implement the Area Plan and recommendations from the 2009 Ice Storm Assessment by completing an EA to improve habitat and recreation in the Pisgah Creek area. (FY12)

Responsibility: Environmental Stewardship Department

Completion Date: December 2014 (Decision Date)

Status: The project team began developing proposed actions to be evaluated in the EA.

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

Friends of LBL Partners in support of our Environmental Education mission:

State Parks:

- Kentucky Dam Village
- Lake Barkley State Resort Park
- Paris Landing State Park
- 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
- Kentucky Bowfishermen

Universities & Colleges:

- Murray State University
- University of Kentucky Extension
- Purdue University
- Austin Peay State University
- Southern Illinois University
- 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
- 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
- Highland Rim (middle TN) Headstart
- Futskilz Soccer Training

Professional Organizations:

- National Association for Interpretation
- Region 3 of National Association for Interpretation
- Kentucky Association of Environmental Education
- Tennessee Environmental Education Association
- North American Association for Environmental Education