



An Evaluation of Biological Inventory Data Collected at Abraham Lincoln Birthplace National Historic Site

Vertebrate and Vascular Plant Inventories

Natural Resource Report NPS/CUPN/NRR—2009/135



ON THE COVER

Narrow cultivated valley surrounded by rich forested slopes on the Knob Creek Unit at Abraham Lincoln Birthplace National Historic Site (ABLI), Inset Photos Hoary Bat (*Lasiurus cinereus*), Eastern mole (*Scalopus aquaticus*), and Eastern Box Turtle (*Terrapene carolina*) from ABLI.

Photographs by: Erin Lunsford Jones, Mark Gumbert, and John R. MacGregor

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Executive Summary

An important function of the National Park Service (NPS) is protecting and maintaining the biological diversity found within parks. In an effort to assist parks in documenting vascular plants and vertebrates, the NPS Inventory and Monitoring Program (I&M) provided funding and technical assistance through its 32 I&M Networks. Abraham Lincoln Birthplace National Historic Site (ABLI) is within the Cumberland Piedmont Network (CUPN). In cooperation with ABLI, CUPN compiled existing information on vertebrates and vascular plants (i.e., species lists with related attribute and spatial data) and initiating additional field investigations in an effort to document 90% of the species of vertebrates (amphibians, birds, fish, mammals and reptiles) and vascular plants believed to occur on ABLI. All data were entered and certified in NPSpecies, the NPS master database for documenting the occurrence and status of species.

Based on the number of organisms categorized as Present in Park (i.e., documented) and Probably Present (high confidence of occurrence in park but undocumented), 95% of ABLI's vertebrates and vascular plants are documented. However, the fact that some expected amphibians went undetected is of note considering increasing reports of declines within this group. No, federally listed threatened or endangered organisms were documented on ABLI. However, 87 non-native organisms were documented on the park including 21 with a high Invasive Species Impact Rank. As a result, non-native species are potentially the most immediate threat to the overall ecological health and biological diversity of the park. Additional findings, based on a review of the available data for ABLI, are discussed in this report.

Introduction

As part of the National Park Service's effort to "improve park management through greater reliance on scientific knowledge," a primary role of the Inventory and Monitoring (I&M) Program is to collect, organize, and make available natural resource data and to contribute to the Service's institutional knowledge by facilitating the transformation of data into information through analysis, synthesis, and modeling. In pursuit of that endeavor, the I&M Program's Cumberland Piedmont Network (CUPN) recently completed multiple efforts to inventory the vertebrate species and vascular plants at Abraham Lincoln Birthplace National Historic Site (ABLI). These efforts included cataloging all existing data, followed up by additional field investigations. The primary goal of these efforts was to document 90% of the vertebrate and vascular plant species believed to occur in the park. This report provides a summary of results. Results are also briefly discussed within the context of future inventory efforts, long-term monitoring, and management.

A natural resource **inventory** is an extensive point-in-time effort to determine location or condition of a resource, including the presence, class, distribution, and status of plants, animals, and abiotic components such as water, soils, landforms, and climate. **Monitoring** differs from inventory in adding the dimension of time, and the general purpose of monitoring is to detect changes or trends in a resource.

Methods

Prior to the initiation of any field investigation, an effort was made to assemble extant data on species occurrence at ABLI. This included searches of reference databases and vouchers, as well as a site visit to the park (Nichols et al. 2000). Based on the limited findings, inventories for vertebrate and vascular plant groups at ABLI were determined to be incomplete or non-existent. As such, inventories of birds (Monroe 2005), fish (Zimmerman 2007), mammals (Gumbert et al. 2006), amphibians and reptiles (MacGregor 2007), and vascular plants (Jones and Pyne 2008) were conducted on the park.

NPSpecies is the National Park Service's master database for documenting the occurrence and status of species in more than 270 national park units containing significant natural resources. Data gathered from the initial reviews at ABLI and recent inventories were organized and entered in NPSpecies.

Recent inventory reports for ABLI are available on the CUPN Intranet website <http://www1.nrintra.nps.gov/im/units/CUPN/>

Organism names were linked to the available evidence (reference, observation and/or voucher), quality checked, and made ready for a review by individuals with expertise in the various taxa groups. The purpose of these reviews was to assign a park status (e.g., Present in Park, Probably Present, False Report, etc.) and complete a series of checklist fields for each organism (i.e., abundance, residency, nativity and cultivation). Upon completion of this step, data were considered certified and uploaded to a master, online version of NPSpecies (<https://science1.nature.nps.gov/npspecies/web/main/start>), which is currently restricted to NPS users and contractors. In an effort to improve user functionality, the Natural Resource Program Center is working on an initiative to integrate and streamline information management tools for

natural resources within the NPS. This initiative is referred to as IRMA (Integration of Resource Management Applications), and NPSpecies is the first large application to be converted with a test launch scheduled for 2008. Thus, it is anticipated the full compliment of data will be accessible to parks in a streamlined and more user friendly environment in the near future. A prototype portal for IRMA is now accessible at <http://inp2300fcspeco1/Portal/Home.mvc>. From this portal NPS users can navigate to the I&M tab and search, view, or download certified species lists from NPSpecies. Although very bare-bones in scope and content, this prototype represents a framework for future steps. The portal is available to NPS only, and records flagged as "sensitive" are not posted.

Results

Searches for past data and completion of recent inventory efforts resulted in 11 references, 486 vouchers, and 2,737 observations being entered into NPSpecies for ABLI. Based on a review of this evidence, 782 organisms were categorized as Present in Park or Probably Present (Table 1). An additional 126 organisms were categorized as Unconfirmed or Encroaching. Unconfirmed organisms were included on the park list primarily due to historic and/or weak evidence supporting its existence on the park. Encroaching includes those organisms known to occur in the region, but unlikely to occur on the park at least presently.

Currently 82% of the organisms on the park's local list are documented (i.e., categorized as Present in Park). However, if only Present in Park and Probably Present (i.e., undocumented but very high confidence of occurrence in the park) are included in the calculation, then the percentage of documented organisms rises to 95%. Thus, based on current data, the percentage of documented organisms occurring on ABLI is likely between 82 and 95%. The I&M goal was to document 90% of organisms occurring on parks.

In some instances, taxa on ABLI's local list have only been identified to the species level, such as the white-tailed deer (*Odocoileus virginianus*). While in other instances, they have been identified to the subspecies or variety level, such as the western earth snake (*Virginia valeriae elegans*) or northern red oak (*Quercus rubra* var. *rubra*). Therefore, the term organism (as opposed to species) is generically used throughout this report to refer to unique taxa at the species level or below.

Of the 745 organisms documented, reviewers assigned a general abundance category (e.g., common, rare, etc.) to 367 (49%) (Table 2). Reviewers believed additional information was needed before an abundance category could be assigned to the remaining 378 (51%) organisms.

Table 1. Count of organisms by Park Status categories at ABLI (NPSpecies 2008).

Park Status ¹	Bird	Fish	Mammal	Amphibian	Reptile	Vascular Plant	Total
Present in Park	115	10	30	15	13	563	746
Probably Present	16		7	1	8	4	36
Encroaching				3	4		7
Unconfirmed	9		8	8	2	92	119

¹ Refer to Appendix A for definitions of Park Status categories.

Table 2. Count of organisms by Abundance categories at ABLI (NPSpecies 2008).

Abundance Category¹	Bird	Fish	Mammal	Amphibian	Reptile	Vascular Plant	Total
Abundant	2	7	3			6	18
Common	53	1	15	7	3	48	127
Uncommon	35	2	6	3	1	74	121
Rare	15		6			74	95
Occasional	5					1	6
Unknown	5			5	9	360	379

¹Refer to Appendix A for definitions of Abundance categories.

Residency values (e.g., breeder, migrant, resident, etc.) were assigned for all documented organisms with the exception of 19 organisms that were categorized as unknown (18 birds, one mammal). Unknown residency values were assigned primarily because it was unclear as to whether or not the organism bred on the park.

ABLI's local list includes 100 non-native organisms (i.e., 11% of total). Eighty-seven of these organisms are currently known to occur in the park (i.e., Present in Park). Of the 100 non-native organisms, four are birds, two are mammals, and the remaining 94 are vascular plants. Two additional organisms, the coyote (*Canis latrans*) and red fox (*Vulpes vulpes*), were assigned a nativity of Unknown. This is due to the fact that there is currently some dispute amongst the scientific community as to whether these species are native to the region.

NatureServe, in cooperation with The Nature Conservancy and NPS, developed a protocol to rank the impact of non-native invasive vascular plants (Morse et al. 2004). Through a series of standardized questions, non-native species are evaluated and assigned an Invasive Species Impact Rank (I-Rank) based on impact to native species and natural biodiversity. I-Ranks are categorized as high, medium, low, or insignificant. Twenty-one of the non-native vascular plants on ABLI's local list received an overall I-Rank score that included the high category (Table 3). All are known to occur in the park (i.e., Present in Park).

Table 3. Non-native plants, occurring on ABLI, with an Invasive Species Impact Rank (I-Rank) containing high ,

Preferred Common Name	Species	Overall I-Rank	Ecological Impact ¹	Management Difficulty ²	I-Rank Reasons Summary
Japanese barberry	<i>Berberis thunbergii</i>	High/Medium	High/Medium	Insignificant	A serious problem in New England where it can form thick stands that eliminate all native understory plants. Initially thought to invade mostly disturbed sites, it is now known to invade high quality habitats.
musk thistle	<i>Carduus nutans</i>	High/Low	Medium/ Insignificant	High/Medium	Persistent annual or biennial of open areas, including prairies, grasslands, roadsides and areas of disturbance in dense woods. Prolific seed production and seeds that can remain viable for up to 15 years.
oriental bittersweet	<i>Celastrus orbiculata</i>	High/Medium	Medium/Low	Medium	Reduces system-wide light levels and alters community structure and composition by overtopping existing vegetation and shading lower layers.
spotted knapweed	<i>Centaurea biebersteinii</i>	High/Medium	Medium	High/Low	A non-native species in nearly every state in the United States, spotted knapweed, referred to as an aggressive invader that easily invades disturbed areas.
autumn olive	<i>Elaeagnus umbellata</i>	High	High	Low	Reported to alter ecosystem processes by fixing nitrogen in the soil, it also alters community structure and composition by creating dense thickets and shading other species.
English ivy	<i>Hedera helix</i>	High/Medium	Medium	Medium/Low	<i>Hedera helix</i> is shown to negatively affect forest biodiversity, especially in the Pacific Northwest. It is also a popular landscaping plant. There is no guaranteed method for either keeping it out of natural areas or removing it once it has become established.
Chinese privet	<i>Ligustrum sinense</i>	High/Medium	Medium	Low	Alters community structure and composition by creating a dense shrub layer that shades plant species in lower layers.
tall fescue	<i>Lolium arundinaceum</i>	High/Medium	Medium	High/Medium	A non-native species that has escaped from cultivation throughout the United States and is currently known from nearly every state in the country. It threatens several natural communities.

Table 3. Non-native plants, occurring on ABLI, with an Invasive Species Impact Rank (I-Rank) containing high (continued).

Preferred Common Name	Species	Overall I-Rank	Ecological Impact ¹	Management Difficulty ²	I-Rank Reasons Summary
meadow fescue	<i>Lolium pratense</i>	High/Low	Medium/Low	High/Low	Occurs in every U.S. state except Hawaii. a tall coarse perennial grass that grows in heavy clumps and often forms dense stands that may crowd out native species. It produces allelopathic substances that inhibit the growth of competition.
Japanese honeysuckle	<i>Lonicera japonica</i>	High/Medium	Medium	High/Medium	Extremely negative consequences for forest communities and forest structure with few effective control methods known.
Amur honeysuckle	<i>Lonicera maackii</i>	High	High/Medium	Medium	Thickets of this species exhibit significant canopy disturbance reducing species richness and abundance and inhibiting native tree seedlings. It has already reached much of its invasive range potential in the United States occurring in most states.
Nepalese browntop	<i>Microstegium vimineum</i>	High/Medium	Medium	High/Medium	Established in most eastern states, slow to invade undisturbed vegetation but spreads quickly and forms dense monocultures in disturbed areas.
white mulberry	<i>Morus alba</i>	High/Medium	Medium/Low	Medium/Low	Impacts of this species largely occur at the native species level except where stands are dense and prevent native forest regeneration. This species spreads/carries disease that kills native red mulberry.
princesstree	<i>Paulownia tomentosa</i>	Medium/Low	Medium/Low	Low	An aggressive invader of many types of disturbed areas in the eastern U.S. that is apparently able to infest some some high-quality native species habitats.
reed canary grass	<i>Phalaris arundinacea</i>	High	High	High/Medium	This species can form dense, persistent, monotypic stands of creeping rhizomes in a thick sod layer in wetlands, moist meadows and riparian areas.
narrowleaf plantain	<i>Plantago lanceolata</i>	High/Low	High/Low	High/Low	Occurs in every U.S. state and the District of Columbia. Commonly occurs in disturbed areas.
Canada bluegrass	<i>Poa compressa</i>	High/Low	Medium/Low	High/Low	Occurring in every U.S. state except Florida. Often occurs in disturbed areas and seems to require disturbance to establish. However, it also occurs in communities of conservation concern.

Table 3. Non-native plants, occurring on ABLI, with an Invasive Species Impact Rank (I-Rank) containing high (continued).

Preferred Common Name	Species	Overall I-Rank	Ecological Impact ¹	Management Difficulty ²	I-Rank Reasons Summary
roughfruit cinquefoil	<i>Potentilla recta</i>	High/Medium	High/Low	Medium/Low	Occurring in every U.S. state except Utah, Arizona, and New Mexico. First established in the Northeast and the Great Lakes region.
sweet cherry	<i>Prunus avium</i>	High/Low	High/Low	Medium/Low	Reproduces on its own throughout northeastern and midwestern North America and Pacific Northwest, along fencerows, roadsides, and in open woods.
Johnsongrass	<i>Sorghum halepense</i>	High/Medium	Medium/Low	High/Medium	Johnson grass has been shown to severely inhibit pioneer grass species which normally appear in abandoned fields and can persist in almost pure stands for many years. The massive size (up to 3 m tall) of this plant creates difficulties for the establishment of other plants. Control is difficult and costly.
narrowleaf cattail	<i>Typha angustifolia</i>	High/Medium	High/Medium	Medium	Can form dense, nearly single-species communities in shallow, freshwater marshes and ponds and boggy soil. It produces a dense rhizome mat and thick litter layer, which reduces opportunities for other plants to establish.

¹ A subcategory of Overall I-Rank score that addresses organism's negative impacts on native plant and animal populations and communities.

² A subcategory of Overall I-Rank score that addresses difficulty of control.

A total of 32 organisms (Table 4) on ABLI's local list currently meet at least one of the following criteria:

- Listed on Kentucky State Nature Preserves Commission's (KSNPC) list of rare biota
- Listed by the U.S. Fish and Wildlife Service under the auspices of the U.S. Endangered Species Act of 1973, as amended
- Ranked as Critically Imperiled or Imperiled at the global level by NatureServe and its network of member programs
- Ranked as Critically Imperiled or Imperiled at the state level by NatureServe and its network of member programs

These include fourteen plants, twelve birds, five mammals, and one reptile. It should be noted that the state heritage program status (i.e., KSNPC) for all 12 birds on ABLI is specific to breeding populations. However, it is unlikely that any of these 12 actually breed on ABLI. Of the remaining 20 organisms, six are documented (i.e., Present in Park). The remaining organisms are largely unconfirmed meaning verifiable evidence of their existence on the park is lacking and they may or may not occur within park boundaries.

There were no federally listed threatened or endangered species documented on ABLI. However, both the Indiana bat (*Myotis sodalis*) and gray bat (*Myotis grisescens*) occur within the region and are currently listed as Unconfirmed on ABLI.

Table 4. Organisms on ABLI's local list which possess a state heritage program rank and/or other designated conservation status (State Heritage Conservation Status, State Rank of S2 or higher, Global Rank of S2 or higher, and/or a Federal Status).

Common Name	Scientific Name	Park Status ¹	State Heritage Program Conservation Status ²	Rounded State Rank ³	Rounded Global Rank ⁴	Federal Status ⁵	Short-term Trend ⁶
Sharp-shinned Hawk	<i>Accipiter striatus</i>	Present in Park	S	S3B,S4N	G5		E = Stable
Henslow's Sparrow	<i>Ammodramus henslowii</i>	Unconfirmed	S	S3B	G4		AD = Severely declining to declining
Brown Creeper	<i>Certhia americana</i>	Present in Park	E	S1B,S4N	G5		DE = Declining to stable
Northern Harrier	<i>Circus cyaneus</i>	Probably Present	T	S1B,S4N	G5		E = Stable
Blackburnian Warbler	<i>Dendroica fusca</i>	Present in Park	T	S1B	G5		
Least Flycatcher	<i>Empidonax minimus</i>	Present in Park	E	S1B	G5		E = Stable
Dark-eyed Junco	<i>Junco hyemalis</i>	Present in Park	S	S2B,S5N	G5		
Osprey	<i>Pandion haliaetus</i>	Probably Present	T	S2B	G5		F = Increasing
Rose-breasted Grosbeak	<i>Pheucticus ludovicianus</i>	Present in Park	S	S3B	G5		E = Stable
Red-breasted Nuthatch	<i>Sitta canadensis</i>	Present in Park	E	S1B	G5		
Golden-winged Warbler	<i>Vermivora chrysoptera</i>	Present in Park	T	S2B	G4		D = Declining
Canada Warbler	<i>Wilsonia canadensis</i>	Present in Park	S	S3B	G5		
Southern Maidenhair Fern	<i>Adiantum capillus-veneris</i>	Unconfirmed	T	S2	G5		F = Increasing
Spinulose Shieldfern	<i>Dryopteris carthusiana</i>	Present in Park	S	S3	G5		
Umbel-like Sedge	<i>Carex tonsa var. rugosperma</i>	Present in Park	T	S2	T5		
Scarlet Indian-paintbrush	<i>Castilleja coccinea</i>	Unconfirmed	E	S1	G5		
Gray Dogwood	<i>Cornus racemosa</i>	Present in Park	N	S2	G5		

Table 4. Organisms on ABLI's local list which possess a state heritage program rank and/or other designated conservation status (State Heritage Conservation Status, State Rank of S2 or higher, Global Rank of S2 or higher, and/or a Federal Status).

Common Name	Scientific Name	Park Status ¹	State Heritage Conservation Status ²	Rounded State Rank ³	Rounded Global Rank ⁴	Federal Status ⁵	Short-term Trend ⁶
Blue Mud-plantain	<i>Heteranthera limosa</i>	Unconfirmed	S	S2	G5		
Roundhead Bushclover	<i>Lespedeza capitata</i>	Unconfirmed	S	S3	G5		
Plains Muhlenbergia	<i>Muhlenbergia cuspidata</i>	Present in Park	T	S2	G4		
Thread-like Naiad	<i>Najas gracillima</i>	Unconfirmed	S	S2	G5		D = Declining
Spiral Pondweed	<i>Potamogeton spirillus</i>	Unconfirmed	N	S1	G5		
Catawba Rhododendron	<i>Rhododendron catawbiense</i>	Present in Park	N	S2	G5		
Rough Dropseed	<i>Sporobolus clandestinus</i>	Unconfirmed	T	S2	G5		
Barrens Silky Aster	<i>Symphyotrichum pratense</i>	Unconfirmed	S	S3	G4		
Northern Fox Grape	<i>Vitis labrusca</i>	Present in Park	S	S2	G5		
Rafinesque's Big-eared Bat	<i>Corynorhinus rafinesquii</i>	Unconfirmed	S	S3	G3		DE = Declining to stable
Least Weasel	<i>Mustela nivalis</i>	Unconfirmed	S	S2	G5		
Gray bat	<i>Myotis grisescens</i>	Unconfirmed	T	S2	G3	Endangered	E = Stable
Indiana bat	<i>Myotis sodalis</i>	Unconfirmed	E	S1	G2	Endangered	CD = Rapidly declining to declining
Evening Bat	<i>Nycticeius humeralis</i>	Unconfirmed	S	S3	G5		
Slender Glass Lizard	<i>Ophisaurus attenuatus</i>	Encroaching	N	S2	G5		E = Stable

¹ Refer to the Appendix for definitions of Park Status categories.

² The official endangerment status the state heritage program has assigned to this species. E=A taxon in danger of extirpation and/or extinction throughout all or a significant part of its range in Kentucky. T=A taxon likely to become endangered within the foreseeable future throughout all or a significant part of its range in Kentucky. S=A taxon that should be monitored due to various concerns related to its continued viability. N=None.

³ The rounded NatureServe conservation status, developed by NatureServe and its network of member (state) programs, of a species from a state/province perspective, characterizing the relative imperilment of the species. S1=Critically Imperiled, S2=Imperiled, S3=Vulnerable, S4=Apparently Secure, S5=Secure, B=Breeding population, N=Non-breeding population. Refer to <<http://www.natureserve.org/explorer/nsranks.htm>> for additional information on ranks.

⁴The rounded NatureServe conservation status, developed by NatureServe and its network of member programs, of a species from a global (i.e., rangewide) perspective, characterizing the relative imperilment of the species. G1=Critically Imperiled, G2=Imperiled, G3=Vulnerable, G4=Apparently Secure, G5=Secure. Refer to <<http://www.natureserve.org/explorer/ranking.htm>> for additional information on ranks.

⁵U.S. Endangered Species Act: Current status of the taxon as designated or proposed by the U.S. Fish and Wildlife Service (USFWS) or the U.S. National Marine Fisheries Service, and as reported in the U.S. Federal Register in accordance with the U.S. Endangered Species Act of 1973, as amended.

⁶Code that best describes the observed, estimated, inferred, or suspected short-term trend in population size, extent of occurrence, area of occupancy, number of occurrences, and/or viability/ecological integrity of occurrences (whichever most significantly affects the NatureServe global conservation status). A=Severely declining (decline of >70% in population size, range, area occupied, and/or number or condition of occurrences), B=Very rapidly declining (decline of 50-70%), C=Rapidly declining (decline of 30-50%), D=Declining (decline of 10-30%), E=Stable (unchanged or remaining within $\pm 10\%$ fluctuation), F=Increasing (increase of >10%), U=Unknown (short-term trend unknown), (null): Rank factor not assessed.

Discussion

It is recognized that a species list will never be 100% complete and accurate from every potential reviewer’s perspective at any given time. But, some attributes of recent inventory efforts point to the thoroughness with which these efforts were conducted on ABLI. For instance, although no truly rare migratory birds were discovered, most of the migratory species that might be expected to utilize the park were documented (Monroe 2005). This is noteworthy considering ABLI’s small size and the short duration many migrants will spend in a specific area. Also, mammal surveys documented 11 new Larue County records (Gumbert et al. 2006). Thus, efforts were not focused solely on detection of organisms ‘known’ from the area. Based on the species area curve jack-knife method, Jones and Pyne (2008) estimated that between 92.5% and 100% of the vascular plant species currently within park boundaries were documented. Note, the conservative estimate of 92.5% exceeds the I&M Program’s goal of documenting 90% of the species believed to occur in the park.

While the overall number of organisms designated as Present in Park or Probably Present is smaller for ABLI than most parks in the CUPN network (Table 5), this should not be interpreted to mean the park lacks diversity or biological importance. Jones and Pyne (2008) noted the park’s dissected geology and numerous microclimates resulted in a large number of community types relative to its small size. Thus, the length of ABLI’s local list is more a reflection of its size (when compared to other parks) than a general lack of diversity.

Table 5. Number of organisms designated as Present in Park or Probably Present in Cumberland Piedmont Network Parks (NPSpecies 2008).

Park	Bird	Fish	Mammal	Amphib.	Reptile	Vascular Plants	TOTALS	Park Size (ac.)
ABLI	131	10	37	16	21	567	782	341
CARL	102	15	34	21	22	605	799	264
CHCH	175	19	46	23	22	966	1,251	8,178
COWP	96	7	19	23	32	554	731	842
CUGA	156	29	49	26	16	968	1,244	20,437
FODO	177	13	29	21	29	785	1,054	558
GUCO	76	14	19	19	27	413	568	220
KIMO	122	19	28	22	34	686	911	3,945
LIRI	147	40	33	28	28	994	1,270	13,691
MACA	167	79	48	28	33	1,269	1,624	52,809
NISI	149	22	22	21	39	440	693	988
RUCA	130	5	25	17	14	542	733	309
SHIL	186	51	43	26	28	809	1,143	3,969
STRI	152	46	27	13	21	633	892	709

¹ Refer to Appendix C for a graphical representation of these data.

Future Inventory Efforts

While significant strides have been made in documenting the presence of vertebrate species and vascular plants (as noted above), it is anticipated that additional survey efforts will result in an increase in the number of organisms documented on ABLI. Table 5 shows ABLI as having one of the highest counts of mammals (37) within the CUPN network. However, seven of these are

currently designated as Probably Present (i.e., very high confidence of presence in the park, but recent verifiable evidence is lacking). Additionally, two federally endangered species (Indiana bat and gray bat) are currently listed as Unconfirmed at ABLI. Gumbert et al. (2006) noted quality foraging and roosting habitat exists within the park for these species. Thus, opportunities for future mammal inventory efforts have a high probability of documenting additional organisms, in addition to providing important management information to the park (i.e., potentially documenting the presence of federally listed species).

Monroe (2005) completed a thorough inventory of birds at ABLI. While some potential organisms (primarily migrants) were not detected, extensive effort may be required in order to document these, due to the park's small size and the generally short duration migrants typically spend on the park. Some could take multiple years if not decades of effort before being found (Monroe 2005). Considering that most of the undocumented birds on ABLI's local list are migrants, having little to no impact on management, and the amount of effort that may be required, efforts to document these additional birds should likely be a low priority. A more immediate focus, and one that could potentially affect management, would be to determine whether any of the 18 organisms currently possessing an unknown residency value breed on the park.

The southeastern region of the United States has the richest herpetofaunal (i.e., amphibian and reptile) biodiversity on the continent (Gibbons 1997). Depending on environmental variables and time of year, some herpetofauna can be easily found. For example, large breeding choruses of many frogs can be heard on warm, rainy nights in the spring. But, these situations are the exception. Overall, this group can be extremely difficult to inventory and can take years, even decades, to document the occurrence and/or distribution of some species (Gibbons 1997). MacGregor (2007) noted several expected species of amphibians and reptiles were not found on ABLI and could "think of no good reason why they were not found during the survey." These included relatively common species within the region surrounding ABLI such as cave salamander (*Eurycea lucifuga*), Jefferson salamander (*Ambystoma jeffersonianum*), northern red salamander (*Pseudotriton ruber*), spotted salamander (*Ambystoma maculatum*), prairie kingsnake (*Lampropeltis calligaster*), black kingsnake (*Lampropeltis getula nigra*), milk snake (*Lampropeltis triangulum*), northern redbelly snake (*Storeria occipitomaculata*), and brown snake (*Storeria dekayi*) to name a few. Considering the significant expertise of the principal investigator and the overall length of the expected but undocumented list, follow-up efforts for this group would seem appropriate. Because many amphibian populations have shown precipitous declines in recent decades including in national parks and other protected areas (Drost and Fellers 1996, Bank et al. 2006), this finding (or lack thereof) is of particular note. As such, additional efforts to document these 'expected' organisms deserves attention.

The group with the highest number of Unconfirmed organisms is vascular plants with 92. However, the only source within the ABLI dataset for the majority of these records (>95%) is county level distribution maps obtained from the Biota of North America Program (BONAP). This means that while verifiable evidence for the organism may be available for the county, there is no direct evidence for its occurrence on the park. Thus, targeting these organisms for confirmation may not result in many additions to the park's flora. A more pressing and perhaps more fruitful endeavor is to obtain vouchers for all organisms determined to be Present in Park.

Currently, 54 vascular plants were determined to be Present in Park by NatureServe even though a voucher was not available. The basis for this determination was a credible report (i.e., primarily McKinney 1993) stating the organism was observed. McKinney collected many of these organisms. However, to date, CUPN staff has been unable to determine the location/repository for these specimens.

A survey of the fish fauna was conducted by Zimmerman (2007). However, a missing element from that report was some indication as to the completeness of the effort. A future need is to have an individual with expertise on the local fish fauna to review Zimmerman's report and make some assessment as to whether additional species should be expected to occur on ABLI. If additional organisms are thought to be Probably Present follow-up surveys may be warranted.

Monitoring

CUPN's current list of high priority vital signs includes two plant related monitoring protocols planned for implementation on ABLI (i.e., Vegetation Communities and Invasive Plants). However, with the exception of efforts on Mammoth Cave National Park, no vertebrate species or vertebrate groups are included on CUPN's current list of highest priority vital signs. Monitoring efforts for vertebrates at ABLI are also not being conducted by the park, another NPS program, or other federal or state program (Leibfreid et al. 2005). The stated reason for the initial low prioritization given to most vertebrate groups by individuals included in the vital sign ranking process was due largely to a lack of inventory data (Leibfreid et al. 2005). This limitation has been addressed in large measure by the completion of recent inventories.

The problem of declining amphibian populations has drawn significant attention as credible reports of diminishment or disappearance from many areas have been received. In 1997 the National Park Service listed amphibian declines as among its highest priority research and information needs (Dodd 2003). While biodiversity is declining worldwide, amphibians have received special attention due to (1) increases in reports of population declines and extinctions, (2) causes seemed to be occurring simultaneously and over great distances, and (3) declines were being reported in protected, natural areas (Collins and Storfer 2003). The latter is particularly alarming as it raises concerns that traditional methods of species conservation (i.e., habitat protection) do not appear to be effective for all species. Climate change, disease, and environmental pollution are just some of the factors that have been implicated as contributing to this global phenomenon. Monitoring the effects of climate change is a recent initiative of the Department of the Interior.

Due to their ties with both aquatic and terrestrial environments, and sensitivity to environmental stresses, amphibians are considered good indicators of general ecosystem health. The fact that some species of amphibians, such as northern dusky salamander (*Desmognathus fuscus*) and northern red salamander (*Pseudotriton ruber*) went undetected during recent inventory efforts at ABLI should not be easily overlooked. While most amphibian declines reported in the literature have involved anurans (i.e., frogs and toads), declines and potential extinctions of dusky salamanders are being reported from areas where they were once considered common and widespread (Bank et al. 2006, Means and Travis 2007). Pool breeding amphibians are also in a precarious position at ABLI considering no breeding pools were detected on the Birthplace Unit and only one on the Boyhood Home Unit during recent inventory efforts (MacGregor 2007). In

short, while every ecosystem component or every organism within it cannot be monitored, a strong case could presently be made for pursuing opportunities to monitor amphibians at ABLI.

Management

Recent inventories have revealed that ABLI supports a diverse array of vascular plants and vertebrates. As noted, the data have been consolidated into NPSpecies for use in park planning and management decisions. An additional step to be taken with these data is identification of management priority species. This would likely include sensitive species, highly invasive exotics, and poached species, among others. CUPN staff has conducted some initial reviews of ABLI's data and are available to assist the park in reviewing its local list and designating priority species.

Some limitations beyond the park's immediate management control were noted within the various inventory reports. For instance, the park offers some edge habitat that can be attractive to migratory birds, but the park's small size can make it difficult to find significant warbler (and other migrant) flocks within park boundaries, even during peak migration (Monroe 2005). Edge species are also among the most abundant species on the park during the breeding season (Monroe 2005). By contrast, species that prefer large contiguous tracts of woodland, such as Hooded Warbler (*Wilsonia citrina*) and Ovenbird (*Seiurus aurocapilla*), or large grassland areas for breeding will likely never be supported in large numbers on ABLI. Fragmentation or lack of connectivity with adjacent natural habitats was also noted as a management concern for more sedentary species as isolated populations are limited in their ability to recover from low or depleted numbers. Many of the threats facing biodiversity today, such as global warming, acid deposition, disease, and others also fall outside the park's immediate management control.

Jones and Pyne (2008) state, "invasive species may be the biggest single threat to the overall ecological health of the park at this point." Numerous non-native species have already been documented on the park, but other "seriously invasive species" such as garlic mustard (*Alliaria petiolata*) have not been detected from the park but are known from the region. Early detection and control efforts are recommended by Jones and Pyne (2008). Early detection of invasive plants is a high priority vital sign scheduled for development and implementation by CUPN on ABLI.

The two most globally rare natural communities identified on ABLI are associated with exposed limestone. The xeric Central Limestone Glade (G2G3), located on the Boyhood Home Unit is considered at risk on ABLI due to the potential for eastern red cedar (*Juniperus virginiana* var. *virginiana*) invasion. Jones and Pyne (2008) recommend reintroducing fire in the woodlands around these glades to combat this threat. The other noted community is the Highland Rim Limestone Cliff/Talus Seep (G3) found on the northern boundary of the Boyhood Home Unit. Due to its proximity to the park boundary, Jones and Pyne (2008) recommended considering the establishment of a permanent buffer to protect this unique site. It was further recommended that development in this area be monitored closely to ensure no unintended impacts occur.

A specific beneficial action noted for vertebrates in the inventory reports is the establishment of additional fishless ponds (Gumbert 2006, MacGregor 2007). Vernal pools provide numerous

benefits for wildlife ranging from breeding sites for amphibians to watering sites for bats and other wildlife.

Additional management recommendations can be found in the various inventory reports for ABLI.

Summary

Following is a summary of the inventory, monitoring and management items discussed within this report (Table 6). As already noted, this list was developed by CUPN staff and is based on staff expertise and reviews of recent inventory reports and other data contained in NPSpecies for ABLI. This list should not be viewed as all inclusive or in any way usurping park management’s own evaluations. It is CUPN’s hope that this review will facilitate greater use and understanding of data collected under the auspices of the I&M Program.

Table 6. Summary of findings/recommendations assembled by CUPN staff for ABLI, based on staff expertise and a review of recent inventory reports and other NPSpecies data.

Category	Finding/Recommendation
Inventory	<ul style="list-style-type: none"> • Continue efforts to document mammals included on the park’s potential species list that were not detected during recent inventory efforts. • Continue efforts to document amphibian and reptiles included on the park’s potential species list that were not detected during recent inventory efforts. • Continue efforts to locate missing plant vouchers (i.e., McKinney 1993). • Evaluate results of recent fish inventory to determine if additional survey effort is warranted.
Monitoring	<ul style="list-style-type: none"> • Further evaluate the need and opportunities to conduct long-term monitoring of amphibians on ABLI.
Management	<ul style="list-style-type: none"> • Identify species of management concern. • Prioritize early detection and control of invasive organisms. • Consider reintroducing fire in the woodlands around the xeric Central Limestone Glade community to combat woody encroachment. • Monitor development around the Highland Rim Limestone Cliff/Talus Seep community and consider the establishment of a permanent buffer to protect this unique site. • Consider the establishment and/or maintenance of additional fishless ponds on the park.

Literature Cited

- Bank, M.S., J.B. Crocker, S. Davis, D.K. Brotherton, R. Cook, J. Behler, and B. Connery. 2006. Population decline of northern dusky salamanders at Acadia National Park, Maine, USA. *Biological Conservation* 130:230-238.
- Collins, J.P. and A. Storfer. 2003. Special Issue: Amphibian declines. *Diversity and Distributions* 9:89-98.
- Corn, P.S. 2005. Climate change and amphibians. *Animal Biodiversity and Conservation* 28:59-67.
- Dodd, C.K. 2003. Monitoring amphibians in Great Smoky Mountains National Park, U.S. *Geological Survey Circular* 1258.
- Drost, C.A. and G.M. Fellers. 1996. Collapse of a regional frog fauna in the Yosemite area of the California Sierra Nevada, USA. *Conservation Biology* 10:414-425.
- Gibbons, J. W. 1997. Discovering hidden biodiversity: Lessons from five decades of herpetological research. *Proceedings of the Seventh Symposium on the Natural History of Lower Tennessee and Cumberland River Valleys*. A. F. Scott, S. W. Hamilton, E. W. Chester and D. S. W. (Eds.). Clarksville, TN: 1-7.
- Gumbert, M., P. Thomas and K. McDonald. 2006. *Mammals of Abraham Lincoln Birthplace and Boyhood Home National Historic Sites, Larue County, Kentucky*.
- Jones, E.L. and M. Pyne. 2008. *Vascular Plant Inventory and Plant Community Classification for Abraham Lincoln National Historic Site*. Durham, North Carolina: NatureServe.
- Leibfreid, T.R., R.L. Woodman, and S.C. Thomas. 2005. *Vital signs monitoring plan for the Cumberland Piedmont Network and Mammoth Cave National Park Prototype Monitoring Program: July 2005*. National Park Service, Mammoth Cave, Kentucky, USA. 125 pp. plus appendices.
- MacGregor, J. 2007. *Results of an Amphibian, Reptile, and Turtle Survey of Abraham Lincoln Birthplace and Boyhood Home National Park, Kentucky*.
- McKinney, L. E. 1993. *The flora and vegetation of Abraham Lincoln Birthplace National Historic Site 1993*. Kentucky State Nature Preserves Commission. Cooperative Agreement no. CA-5530-2-9003
- Means, D.B. and J. Travis. 2007. Declines in ravine-inhabiting dusky salamanders of the Southeastern US coastal plain, *Southeastern Naturalist* 6:83-96.
- Monroe, M. S. 2005. *Bird Inventory for Abraham Lincoln National Historic Site*. Mark S. Monroe, Hodgenville, KY

Morse, L.E., J.M. Randall, N. Benton, R. Hiebert, and S. Lu. 2004. An invasive species assessment protocol: Evaluating non-native plants for their impact on biodiversity. Version 1. NatureServe, Arlington, VA.

Nichols, B., J.R. Jenkins, K. Langdon and T. Leibfreid. 2000. Study plan for vertebrate and vascular plant inventories in Cumberland Piedmont and Appalachian Highlands Networks. U.S. Department of Interior, National Park Service.

NPSpecies - The National Park Service Biodiversity Database. 2008. Secure online version. <https://science1.nature.nps.gov/npspecies/web/main/start> (last accessed 28 October 2008).

Zimmerman, J. C. 2007. Seasonal Variations in Fish Assemblages of Small WarmWater Streams in Four Southeastern National Parks. Thesis. University of Tennessee, Knoxville, TN.

Appendix A. NPSpecies Data Dictionary.

Park Status	The current status of each species in each park.	Applicable only to organisms with the <i>Local List</i> checkbox checked. The possible values reflect a combination of confidence, and availability and currency of verifiable evidence in NPSpecies.
Present in Park	Species' occurrence in park is documented and assumed to be extant.	Extremely high confidence that the species is currently in the park. A current, verifiable reference, voucher or observation is included in NPSpecies.
Probably Present	Park is within species' range and contains appropriate habitat. Documented occurrences of the species in the adjoining region of the park give reason to suspect that it probably occurs within the park. The degree of probability may vary within this category, including species that range from common to rare.	Very high confidence that the organism is currently in the park. Verifiable evidence may exist in NPSpecies, but is not considered current enough to elevate the status to Present in Park. Efforts should be made to obtain current, verifiable evidence in NPSpecies to elevate the Park Status to "Present in Park". If reasonable efforts to obtain current, verifiable evidence are unsuccessful, then the Park Status should be changed to Unconfirmed, Historic, Encroaching or False Report as applicable.
Unconfirmed	Included for the park based on weak ("unconfirmed record") or no evidence, giving minimal indication of the species' occurrence in the park.	Any confidence from very low to high that the organism is currently in the park. Verifiable evidence may exist in NPSpecies, but it is not considered sufficient enough to elevate the status to Probably Present, nor current enough to elevate the status to Present. Efforts should be made to obtain current, verifiable evidence in NPSpecies to elevate the Park Status to "Present in Park". If reasonable efforts to obtain current, verifiable evidence are unsuccessful, then the Park Status should be changed to Historic, Encroaching or False Report as applicable.
Encroaching	The species is not documented in the park, but is documented as being adjacent to the park and has potential to occur in the park.	Extremely low confidence that the organism is currently in the park, but extremely high confidence that the organism is currently adjacent to the park. Verifiable evidence may exist in NPSpecies documenting the occurrence in the park, but it is not current. Potential invasive organisms are good candidates for this Park Status designation, either before they enter a park or after they have been eliminated from a park.
Historic	Species' historical occurrence in the park is documented, but recent investigations indicate that the species is now probably absent.	Extremely low confidence that the organism is currently in the park. Verifiable evidence exists in NPSpecies, but is not current. Extinct, extirpated or eliminated species are candidates for a Historic <i>Park Status</i> designation.

Appendix A. NPSpecies Data Dictionary (continued).

False Report	Species previously reported to occur within the park, but current evidence indicates that the report was based on a misidentification, a taxonomic concept no longer accepted, or some other similar problem of interpretation.	Extremely low confidence that the organism is currently in the park. Evidence exists in NPSpecies, but it cannot be sufficiently verified.
NA	Not Applicable - Park-Status does not apply to the scientific name for the park.	<p>The NA value prevents null values from appearing in NPSpecies and applies to 2 primary situations:</p> <ol style="list-style-type: none"> 1) An outdated scientific name that is not used in the locale of the park for an organism, but is in NPSpecies for a park because of the inclusion of vouchers, observations or names linked to references. Note that outdated names are reconciled in NPSpecies with the LOCAL CLASSIFICATION system. 2) Vouchers, observations or names linked to references have not been identified at the species level or lower, but are included in NPSpecies with the name of a higher taxonomic rank than the species level. The names of these higher level taxonomic ranks will disappear from NPSpecies if the evidence of the respective name are identified to the species level or lower, and are changed appropriately in NPSpecies.
Abundance	The current abundance of each organism in each park.	Applicable only to organisms with the <i>Local List</i> checkbox checked and a <i>Park Status</i> of "Present". The values attempt to balance abundance with suitable habitat, and temporal/behavioral considerations. In practice, the entered value should apply (although there are numerous exceptions) to the abundance in the most suitable habitat of the organism, and at the time that the organism is engaged in its principle behavior in (e.g. breeding, migrating, hibernating, etc.), or most important behavior to, the park. A future generation of NPSpecies will address the coding of <i>Abundance</i> (and associated <i>Residency</i>) to separate out the temporal and behavioral aspects. The Data Source field for Abundance is available to provide a citation that specifically addresses abundance in more detail.
Abundant	<p>Animals: May be seen daily, in suitable habitat and season, and counted in relatively large numbers.</p> <p>Plants: Large number of individuals; wide ecological amplitude or occurring in habitats covering a large portion of the park.</p>	

Appendix A. NPSpecies Data Dictionary (continued).

Common	Animals: May be seen daily, in suitable habitat and season, but not in large numbers. Plants: Large numbers of individuals predictably occurring in commonly encountered habitats but not those covering a large portion of the park.	
Uncommon	Animals: Likely to be seen monthly in appropriate season/habitat. May be locally common. Plants: Few to moderate numbers of individuals; occurring either sporadically in commonly encountered habitats or in uncommon habitats.	
Rare	Animals: Present, but usually seen only a few times each year. Plants: Few individuals, usually restricted to small areas of rare habitat.	
Occasional	Animals: Occurs in the park at least once every few years, but not necessarily every year. Plants: Not applicable.	
Unknown	Abundance unknown.	
NA	Not Applicable – Abundance does not apply to the scientific name in the park.	All names on a park's list that do not have a <i>Park Status</i> of Present should have a <i>Residency</i> of NA.
Residency	Current residency classification for each ANIMAL species in each park.	Applicable only to ANIMALS with the <i>Local List</i> checkbox checked and a <i>Park Status</i> of "Present". The values attempt to balance temporal and behavioral considerations. In practice, the entered value should apply (although there are numerous exceptions) to the residency of the organism at the time that the organism is engaged in its principle behavior (e.g. breeding, migrating, hibernating, etc.) in, or most important behavior to, the park. A future generation of NPSpecies will address the coding of Residency (and associated Abundance) to separate out the temporal and behavior aspects. The Data Source field for Residency is available to provide a citation that specifically addresses Residency in more detail.
Breeder	Population reproduces in the park.	
Resident	A significant population is maintained in the park for more than two months each year, but it is not known to breed there.	
Migratory	Migratory species that occurs in park approximately two months or less each year and does not breed there.	
Vagrant	Park is outside of the species' usual range.	
Unknown	Residency status in park is unknown.	

Appendix A. NPSSpecies Data Dictionary (continued).

NA	Not Applicable – Residency does not apply to the scientific name in the park.	All names on a park’s list that do not have a <i>Park Status</i> of Present should have a <i>Residency</i> of NA.
Nativity	Nativity classification for each organism for each park.	Applicable only to organisms with the <i>Local List</i> checkbox checked. If the park-status of an organism is not “Present in Park”, then nativity represents the nativity if the organism were eventually confirmed in the park.
Native	The organism is native, or would be native, to the park (either endemic or indigenous).	
Non-Native	The organism is not native, or would not be native, to the park (neither endemic nor indigenous).	Cultivated organisms as defined under the <i>Cultivation</i> field are also considered non-native.
Unknown	Nativity is unknown relative to the park.	
NA	Not Applicable	Applies to names that do not represent organism names for the locale of the park.
Cultivation	Cultivation classification for each non-native organism in each park.	Applicable only to organisms with the <i>Local List</i> checkbox checked, a <i>Park Status</i> of "Present" or "Probably Present" and a <i>Nativity</i> of Non-Native. Cultivation is intended to distinguish between non-native organisms that were introduced as part of a park’s mission, and non-native organisms that occur in the park naturally. Cultivation was not intended to apply to organisms that are cultivated for landscape purposes and have not persisted into the natural environment, for example plants in gardens or terrariums, or animals in enclosures. In general, NPSSpecies was not intended to include controlled, “domestic” organisms.
Cultivated	A non-native species that is currently cultivated in the park.	
Persistent	A non-native species that persists in the park (either reproducing or non-reproducing) from a previous cultivation in the park.	
Not Cultivated	A non-native species that is not currently cultivated in the park.	
Unknown	A non-native species for which the cultivation in the park is currently unknown.	
NA	Not Applicable – Cultivation does not apply to the non-native scientific name in the park.	All names on a park’s list that do not have a <i>Park Status</i> of Present or Probably Present and a <i>Nativity</i> of Non-native should have a <i>Cultivation</i> of NA.

Appendix B. Abraham Lincoln Birthplace National Historic Site (ABLI) Local List (Source: NPSpecies 10/28/2008).

Organisms sorted alphabetically by group (i.e., amphibians, birds, fishes, mammals, reptiles, and vascular plants) and Latin name.

Scientific Name	Common Name	Park Status ¹
Amphibians		
<i>Acris crepitans</i>	northern cricket frog	PIP
<i>Ambystoma barbouri</i>	streamside salamander	E
<i>Ambystoma jeffersonianum</i>	Jefferson salamander	U
<i>Ambystoma maculatum</i>	spotted salamander	U
<i>Ambystoma opacum</i>	marbled salamander	E
<i>Ambystoma tigrinum</i>	eastern tiger salamander	PIP
<i>Bufo americanus</i>	American toad	PIP
<i>Bufo fowleri</i>	Fowler's toad	PP
<i>Desmognathus fuscus</i>	northern dusky salamander	U
<i>Eurycea cirrigera</i>	southern two-lined salamander	PIP
<i>Eurycea longicauda</i>	longtail salamander	PIP
<i>Eurycea lucifuga</i>	cave salamander	U
<i>Gastrophryne carolinensis</i>	eastern narrowmouth toad	U
<i>Hyla chrysoscelis</i>	Cope's gray treefrog	PIP
<i>Notophthalmus viridescens</i>	red-spotted newt	PIP
<i>Plethodon dorsalis</i>	northern zigzag salamander	PIP
<i>Plethodon glutinosus</i>	northern slimy salamander	PIP
<i>Pseudacris crucifer</i>	spring peeper	PIP
<i>Pseudacris feriarum</i>	upland chorus frog	E
<i>Pseudotriton diastictus</i>	midland mud salamander	U
<i>Pseudotriton ruber</i>	northern red salamander	U
<i>Rana catesbeiana</i>	bullfrog	PIP
<i>Rana clamitans</i>	green frog	PIP
<i>Rana palustris</i>	pickerel frog	PIP
<i>Rana sphenocephala</i>	southern leopard frog	PIP
<i>Rana sylvatica</i>	wood frog	PIP
<i>Scaphiopus holbrookii</i>	eastern spadefoot	U
Birds		
<i>Accipiter cooperii</i>	cooper's hawk	PIP
<i>Accipiter striatus</i>	sharp-shinned hawk	PIP
<i>Agelaius phoeniceus</i>	red-winged blackbird	PIP
<i>Ammodramus henslowii</i>	Henslow's sparrow	U
<i>Ammodramus savannarum</i>	grasshopper sparrow	U
<i>Archilochus colubris</i>	ruby-throated hummingbird	PIP

Scientific Name	Common Name	Park Status ¹
<i>Baeolophus bicolor</i>	tufted titmouse	PIP
<i>Bombycilla cedrorum</i>	cedar waxwing	PIP
<i>Bubo virginianus</i>	great horned owl	PIP
<i>Buteo jamaicensis</i>	red-tailed hawk	PIP
<i>Buteo lineatus</i>	red-shouldered hawk	PIP
<i>Buteo platypterus</i>	broad-winged hawk	PIP
<i>Caprimulgus carolinensis</i>	chuck-will's-widow	PIP
<i>Caprimulgus vociferus</i>	whip-poor-will	PIP
<i>Cardinalis cardinalis</i>	northern cardinal	PIP
<i>Carduelis pinus</i>	Pine siskin	PIP
<i>Carduelis tristis</i>	american goldfinch	PIP
<i>Carpodacus mexicanus</i>	house finch	PIP
<i>Carpodacus purpureus</i>	purple finch	PIP
<i>Cathartes aura</i>	turkey vulture	PIP
<i>Catharus fuscescens</i>	veery	PIP
<i>Catharus guttatus</i>	hermit thrush	PIP
<i>Catharus minimus</i>	gray-cheeked thrush	PIP
<i>Catharus ustulatus</i>	swainson's thrush	PIP
<i>Certhia americana</i>	Brown Creeper	PIP
<i>Chaetura pelagica</i>	chimney swift	PIP
<i>Chordeiles minor</i>	common nighthawk	PIP
<i>Circus cyaneus</i>	northern harrier	PP
<i>Coccythraustes vesperinus</i>	evening grosbeak	PP
<i>Coccyzus americanus</i>	yellow-billed cuckoo	PIP
<i>Colaptes auratus</i>	northern flicker	PIP
<i>Colinus virginianus</i>	northern bobwhite	PIP
<i>Columba livia</i>	rock dove	PP
<i>Contopus virens</i>	eastern wood-pewee	PIP
<i>Coragyps atratus</i>	black vulture	PIP
<i>Corvus brachyrhynchos</i>	american crow	PIP
<i>Cyanocitta cristata</i>	blue jay	PIP

Appendix B. Abraham Lincoln Birthplace National Historic Site (ABLI) Local List (Source: NPSpecies 10/28/2008). (continued).

Scientific Name	Common Name	Park Status ¹
<i>Dendroica caerulescens</i>	black-throated blue warbler	U
<i>Dendroica castanea</i>	bay-breasted warbler	PIP
<i>Dendroica cerulea</i>	cerulean warbler	PP
<i>Dendroica coronata</i>	yellow-rumped warbler	PIP
<i>Dendroica discolor</i>	prairie warbler	PIP
<i>Dendroica dominica</i>	yellow-throated warbler	PIP
<i>Dendroica fusca</i>	blackburnian warbler	PIP
<i>Dendroica magnolia</i>	magnolia warbler	PIP
<i>Dendroica palmarum</i>	palm warbler	PIP
<i>Dendroica pensylvanica</i>	chestnut-sided warbler	PIP
<i>Dendroica petechia</i>	yellow warbler	PP
<i>Dendroica pinus</i>	pine warbler	PP
<i>Dendroica striata</i>	blackpoll warbler	PIP
<i>Dendroica tigrina</i>	cape may warbler	PIP
<i>Dendroica virens</i>	black-throated green warbler	PIP
<i>Dryocopus pileatus</i>	Pileated Woodpecker	PIP
<i>Dumetella carolinensis</i>	gray catbird	PIP
<i>Empidonax alnorum</i>	alder flycatcher	U
<i>Empidonax flaviventris</i>	yellow-bellied flycatcher	PP
<i>Empidonax minimus</i>	least flycatcher	PIP
<i>Empidonax traillii</i>	willow flycatcher	U
<i>Empidonax virescens</i>	acadian flycatcher	PIP
<i>Eremophila alpestris</i>	horned lark	PP
<i>Euphagus carolinus</i>	rusty blackbird	U
<i>Falco sparverius</i>	american kestrel	PP
<i>Geothlypis trichas</i>	common yellowthroat	PIP
<i>Helmitheros vermivorum</i>	worm-eating warbler	PIP
<i>Hirundo rustica</i>	barn swallow	PIP
<i>Hylocichla mustelina</i>	wood thrush	PIP
<i>Icteria virens</i>	yellow-breasted chat	PIP
<i>Icterus galbula</i>	baltimore oriole	PP
<i>Icterus spurius</i>	orchard oriole	PIP
<i>Junco hyemalis</i>	dark-eyed junco	PIP
<i>Lanius ludovicianus</i>	loggerhead shrike	U
<i>Megascops asio</i>	eastern screech-owl	PIP
<i>Melanerpes carolinus</i>	red-bellied woodpecker	PIP
<i>Melanerpes erythrocephalus</i>	red-headed woodpecker	PIP

Scientific Name	Common Name	Park Status ¹
<i>Meleagris gallopavo</i>	wild turkey	PIP
<i>Melospiza georgiana</i>	swamp sparrow	PIP
<i>Melospiza melodia</i>	song sparrow	PIP
<i>Mimus polyglottos</i>	northern mockingbird	PIP
<i>Mniotilta varia</i>	black-and-white warbler	PIP
<i>Molothrus ater</i>	brown-headed cowbird	PIP
<i>Myiarchus crinitus</i>	great crested flycatcher	PIP
<i>Oporornis agilis</i>	connecticut warbler	PP
<i>Oporornis formosus</i>	kentucky warbler	PIP
<i>Oporornis philadelphia</i>	mourning warbler	PP
<i>Pandion haliaetus</i>	osprey	PP
<i>Parula americana</i>	northern parula	PIP
<i>Passer domesticus</i>	house sparrow	PIP
<i>Passerella iliaca</i>	Fox Sparrow	PIP
<i>Passerina cyanea</i>	indigo bunting	PIP
<i>Pheucticus ludovicianus</i>	rose-breasted grosbeak	PIP
<i>Picoides pubescens</i>	downy woodpecker	PIP
<i>Picoides villosus</i>	hairy woodpecker	PIP
<i>Pipilo erythrophthalmus</i>	Eastern Towhee	PIP
<i>Piranga olivacea</i>	scarlet tanager	PIP
<i>Piranga rubra</i>	summer tanager	PIP
<i>Poecile carolinensis</i>	Carolina Chickadee	PIP
<i>Polioptila caerulea</i>	blue-gray gnatcatcher	PIP
<i>Progne subis</i>	purple martin	PIP
<i>Quiscalus quiscula</i>	common grackle	PIP
<i>Regulus calendula</i>	ruby-crowned kinglet	PIP
<i>Regulus satrapa</i>	golden-crowned kinglet	PIP
<i>Sayornis phoebe</i>	eastern phoebe	PIP
<i>Scolopax minor</i>	american woodcock	PIP
<i>Seiurus aurocapilla</i>	ovenbird	PIP
<i>Seiurus motacilla</i>	Louisiana Waterthrush	PIP
<i>Setophaga ruticilla</i>	american redstart	PIP
<i>Sialia sialis</i>	eastern bluebird	PIP
<i>Sitta canadensis</i>	red-breasted nuthatch	PIP
<i>Sitta carolinensis</i>	white-breasted nuthatch	PIP
<i>Sphyrapicus varius</i>	yellow-bellied sapsucker	PIP
<i>Spizella arborea</i>	american tree sparrow	U

Appendix B. Abraham Lincoln Birthplace National Historic Site (ABLI) Local List (Source: NPSpecies 10/28/2008). (continued).

Scientific Name	Common Name	Park Status ¹
<i>Spizella passerina</i>	chipping sparrow	PIP
<i>Spizella pusilla</i>	field sparrow	PIP
<i>Stelgidopteryx serripennis</i>	northern rough-winged swallow	PIP
<i>Strix varia</i>	barred owl	PIP
<i>Sturnella magna</i>	eastern meadowlark	PP
<i>Sturnus vulgaris</i>	european starling	PIP
<i>Thryothorus ludovicianus</i>	carolina wren	PIP
<i>Toxostoma rufum</i>	brown thrasher	PIP
<i>Troglodytes aedon</i>	house wren	PIP
<i>Troglodytes troglodytes</i>	winter wren	PIP
<i>Turdus migratorius</i>	american robin	PIP
<i>Tyrannus tyrannus</i>	eastern kingbird	PIP
<i>Vermivora celata</i>	orange-crowned warbler	U
<i>Vermivora chrysoptera</i>	golden-winged warbler	PIP
<i>Vermivora peregrina</i>	tennessee warbler	PIP
<i>Vermivora pinus</i>	blue-winged warbler	PIP
<i>Vermivora ruficapilla</i>	nashville warbler	PIP
<i>Vireo flavifrons</i>	yellow-throated vireo	PIP
<i>Vireo gilvus</i>	warbling vireo	PP
<i>Vireo griseus</i>	white-eyed vireo	PIP
<i>Vireo olivaceus</i>	red-eyed vireo	PIP
<i>Vireo philadelphicus</i>	Philadelphia vireo	PIP
<i>Vireo solitarius</i>	Blue-headed Vireo	PIP
<i>Wilsonia canadensis</i>	canada warbler	PIP
<i>Wilsonia citrina</i>	hooded warbler	PIP
<i>Wilsonia pusilla</i>	wilson's warbler	PIP
<i>Zenaida macroura</i>	mourning dove	PIP
<i>Zonotrichia albicollis</i>	white-throated sparrow	PIP
<i>Zonotrichia leucophrys</i>	white-crowned sparrow	PP
Fishes		
<i>Campostoma anomalum</i>	central stoneroller	PIP
<i>Etheostoma flabellare</i>	fantail darter	PIP
<i>Etheostoma lawrencei</i>	orangethroat darter	PIP
<i>Fundulus catenatus</i>	northern studfish	PIP
<i>Luxilus chrysocephalus</i>	striped shiner	PIP

Scientific Name	Common Name	Park Status ¹
<i>Lythrurus fasciolaris</i>	scarletfin shiner	PIP
<i>Phoxinus erythrogaster</i>	southern redbelly dace	PIP
<i>Pimephales notatus</i>	bluntnose minnow	PIP
<i>Rhinichthys obtusus</i>	western blacknose dace	PIP
<i>Semotilus atromaculatus</i>	creek chub	PIP
Mammals		
<i>Blarina brevicauda</i>	northern short-tailed shrew	PIP
<i>Canis latrans</i>	coyote	PIP
<i>Corynorhinus rafinesquii</i>	Rafinesque's big-eared bat	U
<i>Cryptotis parva</i>	least shrew	PIP
<i>Didelphis virginiana</i>	Virginia opossum	PIP
<i>Eptesicus fuscus</i>	big brown bat	PIP
<i>Glaucomys volans</i>	southern flying squirrel	PP
<i>Lasionycteris noctivagans</i>	silver-haired bat	PIP
<i>Lasiurus borealis</i>	eastern red bat	PIP
<i>Lasiurus cinereus</i>	hoary bat	PIP
<i>Lynx rufus</i>	bobcat	PP
<i>Marmota monax</i>	woodchuck	PIP
<i>Mephitis mephitis</i>	striped skunk	PIP
<i>Microtus ochrogaster</i>	prairie vole	PIP
<i>Microtus pennsylvanicus</i>	meadow vole	U
<i>Microtus pinetorum</i>	woodland vole	PIP
<i>Mus musculus</i>	house mouse	PP
<i>Mustela frenata</i>	long-tailed weasel	PP
<i>Mustela nivalis</i>	least weasel	U
<i>Mustela vison</i>	mink	PIP
<i>Myotis grisescens</i>	gray bat	U
<i>Myotis lucifugus</i>	little brown bat	PIP
<i>Myotis septentrionalis</i>	northern bat	PIP
<i>Myotis sodalis</i>	Indiana bat	U
<i>Nycticeius humeralis</i>	evening bat	U
<i>Ochrotomys nuttalli</i>	golden mouse	PP
<i>Odocoileus virginianus</i>	white-tailed deer	PIP
<i>Peromyscus leucopus</i>	white-footed mouse	PIP
<i>Peromyscus maniculatus</i>	prairie deer mouse	U
<i>Pipistrellus subflavus</i>	eastern pipistrelle	PIP

Appendix B. Abraham Lincoln Birthplace National Historic Site (ABLI) Local List (Source: NPSpecies 10/28/2008). (continued).

Scientific Name	Common Name	Park Status ¹
<i>Procyon lotor</i>	raccoon	PIP
<i>Rattus norvegicus</i>	Norway rat	U
<i>Reithrodontomys humulis</i>	eastern harvest mouse	PIP
<i>Scalopus aquaticus</i>	eastern mole	PIP
<i>Sciurus carolinensis</i>	eastern gray squirrel	PIP
<i>Sciurus niger</i>	eastern fox squirrel	PIP
<i>Sorex fumeus</i>	smoky shrew	PIP
<i>Sorex hoyi</i>	pygmy shrew	PIP
<i>Sorex longirostris</i>	southeastern shrew	PIP
<i>Sylvilagus floridanus</i>	eastern cottontail	PIP
<i>Synaptomys cooperi</i>	southern bog lemming	PIP
<i>Tamias striatus</i>	eastern chipmunk	PIP
<i>Urocyon cinereoargenteus</i>	common gray fox	PP
<i>Vulpes vulpes</i>	red fox	PIP
<i>Zapus hudsonius</i>	meadow jumping mouse	PP
Reptiles		
<i>Agkistrodon contortrix</i>	copperhead	PIP
<i>Apalone spinifera</i>	spiny softshell turtle	U
<i>Carphophis amoenus</i>	worm snake	PIP
<i>Chelydra serpentina</i>	common snapping turtle	PIP
<i>Coluber constrictor</i>	black racer	PIP
<i>Diadophis punctatus</i>	ringneck snake	PIP
<i>Elaphe spiloides</i>	black rat snake	PIP
<i>Eumeces fasciatus</i>	five-lined skink	PIP
<i>Eumeces laticeps</i>	broadhead skink	PP
<i>Heterodon platirhinos</i>	eastern hognose snake	PP
<i>Lampropeltis calligaster</i>	prairie kingsnake	PP
<i>Lampropeltis getula nigra</i>	black kingsnake	PP
<i>Lampropeltis triangulum</i>	milk snake	PP
<i>Nerodia sipedon</i>	northern water snake	PIP
<i>Ophedrys aestivus</i>	rough green snake	PP
<i>Ophisaurus attenuatus</i>	eastern slender glass lizard	E
<i>Regina septemvittata</i>	queen snake	E
<i>Sceloporus undulatus</i>	eastern fence lizard	PIP
<i>Scincella lateralis</i>	ground skink	PIP
<i>Sternotherus odoratus</i>	common musk turtle	U

Scientific Name	Common Name	Park Status ¹
<i>Storeria dekayi</i>	brown snake	PP
<i>Storeria occipitomaculata</i>	northern redbelly snake	PP
<i>Tantilla coronata</i>	southeastern crowned snake	E
<i>Terrapene carolina</i>	eastern box turtle	PIP
<i>Thamnophis sirtalis</i>	eastern garter snake	PIP
<i>Trachemys scripta elegans</i>	red-eared slider	E
<i>Virginia valeriae elegans</i>	western earth snake	PIP
Vascular Plants		
<i>Acer negundo</i>	boxelder	PIP
<i>Acer nigrum</i>	sugar maple	U
<i>Acer rubrum</i>	red maple	PIP
<i>Acer saccharinum</i>	silver maple	PIP
<i>Acer saccharum</i>	sugar maple	PIP
<i>Achillea millefolium</i>	common yarrow	PIP
<i>Actaea pachypoda</i>	white baneberry	PIP
<i>Actaea racemosa</i> var. <i>racemosa</i>	black bugbane	PIP
<i>Adiantum capillus-veneris</i>	common maidenhair	U
<i>Adiantum pedatum</i>	northern maidenhair	PIP
<i>Aesculus glabra</i> var. <i>glabra</i>	Ohio buckeye	PIP
<i>Agalinis gattingeri</i>	roundstem false foxglove	U
<i>Agalinis tenuifolia</i>	slenderleaf false foxglove	PIP
<i>Agastache nepetoides</i>	catnip giant hyssop	PP
<i>Ageratina altissima</i>	white snakeroot	U
<i>Ageratina altissima</i> var. <i>altissima</i>	white snakeroot	PIP
<i>Agrimonia parviflora</i>	harvestlice	PIP
<i>Agrimonia pubescens</i>	soft agrimony	PIP
<i>Agrimonia rostellata</i>	beaked agrimony	PIP
<i>Agrostis eliottiana</i>	Elliot bentgrass	U
<i>Aletris farinosa</i>	white colicroot	PIP
<i>Allium canadense</i>	meadow garlic	PIP
<i>Allium cernuum</i>	nodding onion	PIP
<i>Allium oleraceum</i>	field garlic	PIP
<i>Allium tricoccum</i>	wild leek	PIP
<i>Allium vineale</i> ssp. <i>vineale</i>	wild garlic	PIP

Appendix B. Abraham Lincoln Birthplace National Historic Site (ABLI) Local List (Source: NPSpecies 10/28/2008). (continued).

Scientific Name	Common Name	Park Status ¹
<i>Ambrosia artemisiifolia</i>	annual ragweed	PIP
<i>Ambrosia trifida</i> var. <i>trifida</i>	giant ragweed	PIP
<i>Amelanchier arborea</i> var. <i>arborea</i>	common serviceberry	PIP
<i>Amphicarpaea bracteata</i>	American hogpeanut	PIP
<i>Andropogon gerardii</i>	big bluestem	PIP
<i>Andropogon gyrans</i> var. <i>gyrans</i>	elliott bluestem	PIP
<i>Andropogon virginicus</i> var. <i>virginicus</i>	broomsedge	PIP
<i>Anemone virginiana</i> var. <i>virginiana</i>	tall thimbleweed	PIP
<i>Antennaria parlinii</i>	Parlin's pussytoes	U
<i>Antennaria parlinii</i> ssp. <i>parlinii</i>	Parlin's pussytoes	PIP
<i>Antennaria plantaginifolia</i>	woman's tobacco	PIP
<i>Antennaria solitaria</i>	singlehead pussytoes	PIP
<i>Anthemis arvensis</i>	corn chamomile	PIP
<i>Apocynum cannabinum</i>	Indianhemp	PIP
<i>Arabidopsis thaliana</i>	mouse-ear cress	U
<i>Arabis canadensis</i>	sicklepod	U
<i>Arabis laevigata</i>	smooth rockcress	PIP
<i>Aralia racemosa</i> ssp. <i>racemosa</i>	American spikenard	PIP
<i>Aralia spinosa</i>	devil's walkingstick	PIP
<i>Arisaema dracontium</i>	green dragon	PIP
<i>Arisaema triphyllum</i>	Jack in the pulpit	PIP
<i>Arisaema triphyllum</i> ssp. <i>triphyllum</i>	Jack in the pulpit	U
<i>Aristolochia serpentaria</i>	Virginia snakeroot	PIP
<i>Arnoglossum muehlenbergii</i>	great Indian plaintain	PIP
<i>Artemisia vulgaris</i> var. <i>vulgaris</i>	common wormwood	PIP
<i>Arundinaria gigantea</i> ssp. <i>gigantea</i>	giant cane	PIP
<i>Asarum canadense</i>	Canadian wildginger	PIP
<i>Asclepias quadrifolia</i>	fourleaf milkweed	PIP

Scientific Name	Common Name	Park Status ¹
<i>Asclepias tuberosa</i>	butterfly milkweed	PIP
<i>Asclepias verticillata</i>	whorled milkweed	PIP
<i>Asimina triloba</i>	pawpaw	PIP
<i>Asparagus officinalis</i>	asparagus	U
<i>Asplenium platyneuron</i>	ebony spleenwort	PIP
<i>Asplenium rhizophyllum</i>	walking fern	U
<i>Aureolaria virginica</i>	downy yellow false foxglove	PIP
<i>Belamcanda chinensis</i>	blackberry lily	U
<i>Berberis thunbergii</i>	Japanese barberry	PIP
<i>Bidens aristosa</i>	bearded beggarticks	PIP
<i>Bidens bipinnata</i>	Spanish needles	U
<i>Blephilia ciliata</i>	downy pagoda-plant	PIP
<i>Blephilia hirsuta</i> var. <i>hirsuta</i>	hairy pagoda-plant	PIP
<i>Boehmeria cylindrica</i>	smallspike false nettle	PIP
<i>Botrychium dissectum</i>	cutleaf grapefern	PIP
<i>Botrychium virginianum</i>	rattlesnake fern	PIP
<i>Brachyelytrum erectum</i>	bearded shorthusk	PIP
<i>Brassica napus</i>	turnip	U
<i>Bromus commutatus</i>	meadow brome	PIP
<i>Bromus japonicus</i>	Japanese brome	PIP
<i>Bromus nottowanus</i>	Nottoway Valley brome	PIP
<i>Bromus pubescens</i>	hairy wood brome grass	U
<i>Buglossoides arvensis</i>	corn gromwell	PIP
<i>Callitriche terrestris</i>	terrestrial water-starwort	U
<i>Calystegia sepium</i>	hedge false bindweed	PIP
<i>Campanulastrum americanum</i>	American bellflower	PIP
<i>Campsis radicans</i>	trumpet creeper	PIP
<i>Cardamine concatenata</i>	cutleaf toothwort	PIP
<i>Cardamine dissecta</i>	forkleaf toothwort	PIP
<i>Cardamine douglassii</i>	limestone bittercress	PIP
<i>Cardamine hirsuta</i>	hairy bittercress	PIP
<i>Carduus nutans</i>	musk thistle	PIP
<i>Carex albicans</i>	whiteninge sedge	PIP
<i>Carex albicans</i> var. <i>albicans</i>	whiteninge sedge	PIP
<i>Carex albolutescens</i>	greenwhite sedge	U
<i>Carex albursina</i>	white bear sedge	PIP

Appendix B. Abraham Lincoln Birthplace National Historic Site (ABLI) Local List (Source: NPSpecies 10/28/2008). (continued).

Scientific Name	Common Name	Park Status ¹
<i>Carex amphibola</i>	eastern narrowleaf sedge	PIP
<i>Carex blanda</i>	eastern woodland sedge	PIP
<i>Carex careyana</i>	Carey's sedge	PIP
<i>Carex glaucodea</i>	blue sedge	PIP
<i>Carex gracilescens</i>	slender looseflower sedge	PIP
<i>Carex granularis</i>	limestone meadow sedge	PIP
<i>Carex gravida</i>	heavy sedge	PIP
<i>Carex hirsutella</i>	fuzzy wuzzy sedge	PIP
<i>Carex jamesii</i>	James' sedge	PIP
<i>Carex laxiculmis</i>	spreading sedge	PIP
<i>Carex laxiculmis var. laxiculmis</i>	spreading sedge	PIP
<i>Carex laxiflora</i>	broad looseflower sedge	PIP
<i>Carex leavenworthii</i>	Leavenworth's sedge	PIP
<i>Carex muehlenbergii</i>	Muhlenberg's sedge	U
<i>Carex muehlenbergii var. muehlenbergii</i>	Muhlenberg's sedge	U
<i>Carex pennsylvanica</i>	Pennsylvania sedge	PIP
<i>Carex plantaginea</i>	plantainleaf sedge	PIP
<i>Carex purpurifera</i>	purple sedge	U
<i>Carex retroflexa</i>	reflexed sedge	PIP
<i>Carex rosea</i>	rosy sedge	PIP
<i>Carex tosa var. rugosperma</i>	parachute sedge	PIP
<i>Carex vulpinoidea</i>	common fox sedge	PIP
<i>Carpinus caroliniana</i>	American hornbeam	PIP
<i>Carpinus caroliniana ssp. caroliniana</i>	American hornbeam	U
<i>Carya alba</i>	mockernut hickory	PIP
<i>Carya cordiformis</i>	bitternut hickory	PIP
<i>Carya glabra</i>	pignut hickory	PIP
<i>Carya ovata</i>	shagbark hickory	PIP
<i>Carya pallida</i>	sand hickory	PIP
<i>Castilleja coccinea</i>	Indian paintbrush	U
<i>Catalpa speciosa</i>	northern catalpa	PIP
<i>Caulophyllum giganteum</i>	giant blue cohosh	U
<i>Caulophyllum thalictroides</i>	blue cohosh	PIP
<i>Celastrus orbiculatus</i>	oriental bittersweet	PIP

Scientific Name	Common Name	Park Status ¹
<i>Celastrus scandens</i>	American bittersweet	PIP
<i>Celtis laevigata</i>	sugarberry	PIP
<i>Celtis occidentalis</i>	common hackberry	PIP
<i>Centaurea biebersteinii</i>	spotted knapweed	PIP
<i>Cephalanthus occidentalis</i>	common buttonbush	PIP
<i>Cerastium fontanum ssp. vulgare</i>	big chickweed	PIP
<i>Cerastium glomeratum</i>	sticky chickweed	U
<i>Cerastium nutans var. nutans</i>	nodding chickweed	PIP
<i>Cercis canadensis var. canadensis</i>	redbud	PIP
<i>Chaerophyllum procumbens</i>	spreading chervil	PIP
<i>Chaerophyllum tainturieri var. tainturieri</i>	hairyfruit chervil	U
<i>Chamaecrista fasciculata var. fasciculata</i>	sleepingplant	PIP
<i>Chamaesyce nutans</i>	eyebane	PIP
<i>Chasmanthium latifolium</i>	Indian woodoats	PIP
<i>Chasmanthium laxum</i>	slender woodoats	PIP
<i>Chimaphila maculata</i>	striped prince's pine	PIP
<i>Circaea lutetiana ssp. canadensis</i>	broadleaf enchanter's nightshade	PIP
<i>Cirsium altissimum</i>	tall thistle	PIP
<i>Cirsium discolor</i>	field thistle	PIP
<i>Cirsium vulgare</i>	bull thistle	PIP
<i>Claytonia virginica</i>	Virginia springbeauty	PIP
<i>Clematis glaucophylla</i>	whiteleaf leather flower	PIP
<i>Clematis virginiana</i>	devil's darning needles	PIP
<i>Collinsia verna</i>	blue-eyed Mary	PIP
<i>Collinsonia canadensis</i>	richweed	PIP
<i>Commelina communis</i>	Asiatic dayflower	PIP
<i>Commelina communis var. communis</i>	Asiatic dayflower	U
<i>Conoclinium coelestinum</i>	blue mistflower	PIP
<i>Conopholis americana</i>	American squawroot	PIP
<i>Conyza canadensis</i>	Canadian horseweed	PIP

Appendix B. Abraham Lincoln Birthplace National Historic Site (ABLI) Local List (Source: NPSpecies 10/28/2008). (continued).

Scientific Name	Common Name	Park Status ¹
<i>Corallorrhiza wisteriana</i>	coralroot	U
<i>Coreopsis tinctoria</i> var. <i>tinctoria</i>	golden tickseed	U
<i>Coreopsis tripteris</i>	atlantic coreopsis	U
<i>Cornus drummondii</i>	roughleaf dogwood	PIP
<i>Cornus florida</i>	flowering dogwood	PIP
<i>Cornus racemosa</i>	gray dogwood	PIP
<i>Corydalis flavula</i>	yellow fumewort	PIP
<i>Corylus americana</i>	American hazelnut	PIP
<i>Croton capitatus</i> var. <i>capitatus</i>	hogwort	PIP
<i>Croton monanthogynus</i>	prairie tea	PIP
<i>Cryptotaenia canadensis</i>	Canadian honewort	PIP
<i>Cynanchum laeve</i>	honeysuckle	PIP
<i>Cynodon dactylon</i>	Bermudagrass	PIP
<i>Cynoglossum virginianum</i> var. <i>virginianum</i>	wild comfrey	PIP
<i>Cypripedium parviflorum</i> var. <i>pubescens</i>	Large Yellow Lady's-slipper	U
<i>Cystopteris bulbifera</i>	bulblet bladderfern	PIP
<i>Cystopteris protrusa</i>	lowland bladderfern	PIP
<i>Dactylis glomerata</i> ssp. <i>glomerata</i>	orchardgrass	PIP
<i>Danthonia spicata</i>	poverty oatgrass	PIP
<i>Daucus carota</i>	Queen Anne's lace	PIP
<i>Delphinium tricorne</i>	dwarf larkspur	PIP
<i>Deparia acrostichoides</i>	silver false spleenwort	PIP
<i>Desmodium canescens</i>	hoary ticktrefoil	PIP
<i>Desmodium cuspidatum</i> var. <i>cuspidatum</i>	largebract ticktrefoil	PIP
<i>Desmodium glabellum</i>	Dillenius' ticktrefoil	PIP
<i>Desmodium marilandicum</i>	smooth small-leaf ticktrefoil	PIP
<i>Desmodium nudiflorum</i>	nakedflower ticktrefoil	PIP
<i>Desmodium paniculatum</i> var. <i>paniculatum</i>	panickedleaf ticktrefoil	PIP
<i>Desmodium rotundifolium</i>	prostrate ticktrefoil	PIP
<i>Dianthus armeria</i>	Deptford pink	PIP

Scientific Name	Common Name	Park Status ¹
<i>Diarrhena americana</i>	American beakgrass	PIP
<i>Dicentra canadensis</i>	squirrel corn	PIP
<i>Dicentra cucullaria</i>	dutchman's breeches	PIP
<i>Dichanthelium acuminatum</i> var. <i>acuminatum</i>	tapered rosette grass	PIP
<i>Dichanthelium boscii</i>	Bosc's panicgrass	PIP
<i>Dichanthelium clandestinum</i>	deertongue	PIP
<i>Dichanthelium commutatum</i>	variable panicgrass	PIP
<i>Dichanthelium depauperatum</i>	starved panicgrass	PIP
<i>Dichanthelium dichotomum</i>	cypress panicgrass	PIP
<i>Dichanthelium dichotomum</i> var. <i>dichotomum</i>	cypress panicgrass	PIP
<i>Dichanthelium laxiflorum</i>	openflower rosette grass	PIP
<i>Dichanthelium ovale</i> var. <i>addisonii</i>	Addison's rosette grass	PIP
<i>Dichanthelium ovale</i> var. <i>ovale</i>	eggleaf rosette grass	PIP
<i>Dichanthelium scabriusculum</i>	woolly rosette grass	PIP
<i>Dichanthelium sphaerocarpon</i> var. <i>isophyllum</i>	roundseed panicgrass	PIP
<i>Digitaria ischaemum</i>	small crabgrass	PIP
<i>Digitaria sanguinalis</i>	hairy crabgrass	PIP
<i>Diodia virginiana</i>	Virginia buttonweed	PIP
<i>Dioscorea quaternata</i>	fourleaf yam	PIP
<i>Dioscorea villosa</i>	wild yam	PIP
<i>Diospyros virginiana</i>	common persimmon	PIP
<i>Diplazium pycnocarpon</i>	glade fern	PIP
<i>Dipsacus fullonum</i>	Fuller's teasel	PIP
<i>Draba verna</i>	spring draba	PIP
<i>Dryopteris carthusiana</i>	spinulose wood fern	PIP
<i>Duchesnea indica</i>	Indian strawberry	PIP
<i>Dulichium arundinaceum</i>	threeway sedge	U
<i>Echinacea pallida</i>	pale purple coneflower	PIP

Appendix B. Abraham Lincoln Birthplace National Historic Site (ABLI) Local List (Source: NPSpecies 10/28/2008). (continued).

Scientific Name	Common Name	Park Status ¹
<i>Elaeagnus umbellata</i> var. <i>parvifolia</i>	autumn olive	PIP
<i>Eleocharis acicularis</i>	needle spikerush	U
<i>Elephantopus carolinianus</i>	Carolina elephantsfoot	PIP
<i>Elephantopus tomentosus</i>	devil's grandmother	U
<i>Elymus hystrix</i>	eastern bottlebrush grass	PIP
<i>Elymus villosus</i>	hairy wildrye	PIP
<i>Elymus virginicus</i> var. <i>virginicus</i>	Virginia wild rye	PIP
<i>Enemion biternatum</i>	eastern false rue anemone	PIP
<i>Epifagus virginiana</i>	beechnuts	PIP
<i>Equisetum arvense</i>	field horsetail	PIP
<i>Equisetum hyemale</i> var. <i>affine</i>	scouringrush horsetail	U
<i>Eragrostis spectabilis</i>	purple lovegrass	PIP
<i>Erechtites hieraciifolia</i> var. <i>hieraciifolia</i>	American burnweed	PIP
<i>Erigenia bulbosa</i>	harbinger of spring	U
<i>Erigeron annuus</i>	eastern daisy fleabane	PIP
<i>Erigeron philadelphicus</i>	Philadelphia fleabane	PIP
<i>Erigeron pulchellus</i>	robin's plantain	PIP
<i>Erigeron pulchellus</i> var. <i>pulchellus</i>	robin's plantain	U
<i>Erigeron strigosus</i>	prairie fleabane	PIP
<i>Erysimum repandum</i>	repand wallflower	U
<i>Erythronium umbilicatum</i> ssp. <i>umbilicatum</i>	dimpled troutlily	PIP
<i>Euonymus alata</i>	burning bush	PIP
<i>Euonymus americana</i>	strawberry bush	PIP
<i>Euonymus atropurpurea</i>	eastern wahoo	PIP
<i>Euonymus fortunei</i> var. <i>radicans</i>	winter creeper	PIP
<i>Euonymus obovata</i>	running strawberry bush	PIP
<i>Eupatorium fistulosum</i>	trumpetweed	PIP
<i>Eupatorium hyssopifolium</i>	hyssopleaf thoroughwort	PIP
<i>Eupatorium hyssopifolium</i> var. <i>laciniatum</i>	hyssopleaf thoroughwort	U

Scientific Name	Common Name	Park Status ¹
<i>Eupatorium rotundifolium</i>	roundleaf eupatorium	U
<i>Eupatorium rotundifolium</i> var. <i>ovatum</i>	roundleaf thoroughwort	U
<i>Eupatorium serotinum</i>	lateflowering thoroughwort	PIP
<i>Eupatorium sessilifolium</i>	upland boneset	PIP
<i>Eupatorium sessilifolium</i> var. <i>sessilifolium</i>	upland boneset	PIP
<i>Euphorbia corollata</i>	flowering spurge	PIP
<i>Euphorbia pubentissima</i>	false flowering spurge	PIP
<i>Eurybia divaricata</i>	white wood aster	PIP
<i>Eurybia macrophylla</i>	bigleaf aster	PIP
<i>Fagus grandifolia</i>	American beech	PIP
<i>Festuca rubra</i>	red fescue	PIP
<i>Festuca subverticillata</i>	nodding fescue	PIP
<i>Festuca trachyphylla</i>	hard fescue	PIP
<i>Fragaria virginiana</i>	Virginia strawberry	PIP
<i>Fragaria virginiana</i> ssp. <i>virginiana</i>	Virginia strawberry	U
<i>Frangula caroliniana</i>	Carolina buckthorn	PIP
<i>Frasera caroliniensis</i>	American columbo	PIP
<i>Fraxinus americana</i>	white ash	PIP
<i>Fraxinus pennsylvanica</i>	green ash	PIP
<i>Fraxinus quadrangulata</i>	blue ash	PIP
<i>Galinsoga quadriradiata</i>	shaggy-soldier	PIP
<i>Galium aparine</i>	stickywilly	PIP
<i>Galium circaezans</i>	licorice bedstraw	PIP
<i>Galium circaezans</i> var. <i>circaezans</i>	licorice bedstraw	U
<i>Galium circaezans</i> var. <i>hypomalacum</i>	licorice bedstraw	PIP
<i>Galium concinnum</i>	shining bedstraw	PIP
<i>Galium obtusum</i> ssp. <i>obtusum</i>	bluntleaf bedstraw	U
<i>Galium pilosum</i>	hairy bedstraw	PIP
<i>Galium pilosum</i> var. <i>pilosum</i>	hairy bedstraw	PIP
<i>Galium triflorum</i>	fragrant bedstraw	PIP
<i>Gamochaeta purpurea</i>	spoonleaf purple everlasting	PIP

Appendix B. Abraham Lincoln Birthplace National Historic Site (ABLI) Local List (Source: NPSpecies 10/28/2008). (continued).

Scientific Name	Common Name	Park Status ¹
<i>Gentiana villosa</i>	striped gentian	PIP
<i>Gentianella quinquefolia</i>	agueweed	PIP
<i>Geranium dissectum</i>	cutleaf geranium	PIP
<i>Geranium maculatum</i>	spotted geranium	PP
<i>Geum canadense</i> var. <i>canadense</i>	white avens	PIP
<i>Geum vernum</i>	heartleaf avens	PIP
<i>Geum virginianum</i>	cream avens	PIP
<i>Glechoma hederacea</i>	ground ivy	PIP
<i>Gleditsia triacanthos</i>	honeylocust	PIP
<i>Glyceria striata</i>	fowl mannagrass	PIP
<i>Goodyera pubescens</i>	downy rattlesnake plantain	PIP
<i>Gymnocladus dioicus</i>	Kentucky coffeetree	PIP
<i>Hackelia virginiana</i>	beggarslice	PIP
<i>Hamamelis virginiana</i>	witchhazel	PIP
<i>Hedera helix</i>	English ivy	PIP
<i>Hedyotis nigricans</i>	diamondflowers	PIP
<i>Helenium flexuosum</i>	purplehead sneezeweed	PIP
<i>Helianthus angustifolius</i>	swamp sunflower	U
<i>Helianthus decapetalus</i>	thinleaf sunflower	PIP
<i>Helianthus divaricatus</i>	woodland sunflower	PIP
<i>Helianthus hirsutus</i>	hairy sunflower	U
<i>Helianthus microcephalus</i>	small woodland sunflower	PIP
<i>Helianthus mollis</i>	ashy sunflower	U
<i>Heliopsis helianthoides</i>	smooth oxeye	PIP
<i>Hemerocallis fulva</i>	orange daylily	PIP
<i>Hepatica nobilis</i> var. <i>acuta</i>	sharplobe hepatica	PIP
<i>Heteranthera limosa</i>	blue mudplantain	U
<i>Heteranthera rotundifolia</i>	roundleaf mudplantain	U
<i>Heuchera americana</i> var. <i>americana</i>	American alumroot	PIP
<i>Hexalectris spicata</i>	spiked crested coralroot	PIP
<i>Hieracium gronovii</i>	queendevil	PIP
<i>Hieracium venosum</i>	rattlesnakeweed	PIP
<i>Houstonia caerulea</i>	azure bluet	PIP
<i>Houstonia canadensis</i>	Canadian summer bluet	PIP
<i>Houstonia purpurea</i>	Venus' pride	PIP

Scientific Name	Common Name	Park Status ¹
<i>Houstonia purpurea</i> var. <i>purpurea</i>	Venus' pride	PIP
<i>Hybanthus concolor</i>	eastern greenviolet	PIP
<i>Hydrangea arborescens</i>	wild hydrangea	PIP
<i>Hydrastis canadensis</i>	goldenseal	U
<i>Hydrophyllum canadense</i>	bluntleaf waterleaf	PIP
<i>Hydrophyllum macrophyllum</i>	largeleaf waterleaf	PIP
<i>Hypericum dolabriforme</i>	straggling St. Johnswort	PIP
<i>Hypericum hypericoides</i>	St. Andrews cross	U
<i>Hypericum hypericoides</i> ssp. <i>multicaule</i>	St. Andrew's cross	PIP
<i>Hypericum mutilum</i>	dwarf St. Johnswort	PIP
<i>Hypericum punctatum</i>	spotted St. Johnswort	PIP
<i>Hypoxis hirsuta</i>	common goldstar	PIP
<i>Ilex opaca</i> var. <i>opaca</i>	American holly	PIP
<i>Impatiens capensis</i>	jewelweed	PIP
<i>Impatiens pallida</i>	pale touch-me-not	PP
<i>Ipomoea pandurata</i>	man of the earth	PIP
<i>Ipomoea purpurea</i>	tall morning-glory	PIP
<i>Iris cristata</i>	dwarf crested iris	PIP
<i>Isanthus brachiatus</i>	fluxweed	PIP
<i>Jeffersonia diphylla</i>	twinleaf	PIP
<i>Juglans nigra</i>	black walnut	PIP
<i>Juncus effusus</i>	common rush	PIP
<i>Juncus tenuis</i>	field rush	PIP
<i>Juniperus virginiana</i> var. <i>virginiana</i>	eastern redcedar	PIP
<i>Krigia biflora</i>	twoflower dwarfdandelion	PIP
<i>Kummerowia striata</i>	Japanese clover	PIP
<i>Lactuca canadensis</i>	Canada lettuce	PIP
<i>Lamium amplexicaule</i>	henbit deadnettle	PIP
<i>Laportea canadensis</i>	Canadian woodnettle	PIP
<i>Leersia virginica</i>	whitegrass	PIP
<i>Lepidium campestre</i>	field pepperweed	U
<i>Lepidium virginicum</i> var. <i>virginicum</i>	poorman's-pepperwort	PIP
<i>Lespedeza capitata</i>	roundhead lespedeza	U

Appendix B. Abraham Lincoln Birthplace National Historic Site (ABLI) Local List (Source: NPSpecies 10/28/2008). (continued).

Scientific Name	Common Name	Park Status ¹
<i>Lespedeza cuneata</i>	Chinese lespedeza	PIP
<i>Lespedeza hirta ssp. hirta</i>	hairy lespedeza	PIP
<i>Lespedeza procumbens</i>	trailing lespedeza	PIP
<i>Lespedeza violacea</i>	violet lespedeza	PIP
<i>Leucanthemum vulgare</i>	oxeye daisy	PIP
<i>Liatris squarrosa</i>	scaly blazing star	PIP
<i>Liatris squarrosa var. hirsuta</i>	scaly blazing star	PIP
<i>Liatris squarrosa var. squarrosa</i>	scaly blazing star	PIP
<i>Ligustrum sinense</i>	Chinese privet	PIP
<i>Lindera benzoin</i>	northern spicebush	PIP
<i>Linum medium var. texanum</i>	stiff yellow flax	PIP
<i>Linum sulcatum var. sulcatum</i>	grooved flax	U
<i>Liparis liliifolia</i>	brown widelip orchid	PIP
<i>Liquidambar styraciflua</i>	sweetgum	PIP
<i>Liriodendron tulipifera</i>	tuliptree	PIP
<i>Lithospermum canescens</i>	hoary puccoon	PIP
<i>Lithospermum latifolium</i>	American stoneseed	U
<i>Lithospermum tuberosum</i>	tuberous stoneseed	PIP
<i>Lobelia inflata</i>	Indian-tobacco	PIP
<i>Lobelia puberula</i>	downy lobelia	PIP
<i>Lobelia siphilitica var. siphilitica</i>	great blue lobelia	PIP
<i>Lobelia spicata</i>	palespike lobelia	PIP
<i>Lobelia spicata var. spicata</i>	palespike lobelia	PIP
<i>Lolium arundinaceum</i>	tall fescue	PIP
<i>Lolium pratense</i>	meadow fescue	PIP
<i>Lonicera japonica</i>	Japanese honeysuckle	PIP
<i>Lonicera maackii</i>	Amur honeysuckle	PIP
<i>Ludwigia glandulosa</i>	creeping seedbox	U
<i>Luzula echinata</i>	hedgehog woodrush	PIP
<i>Luzula multiflora</i>	common woodrush	PIP
<i>Lycopodium digitatum</i>	fan clubmoss	PIP
<i>Lycopus rubellus</i>	taperleaf bugleweed	U
<i>Lysimachia quadrifolia</i>	whorled yellow loosestrife	PIP

Scientific Name	Common Name	Park Status ¹
<i>Maianthemum racemosum ssp. racemosum</i>	feathery false lily of the valley	PIP
<i>Malus pumila</i>	paradise apple	PIP
<i>Manfreda virginica</i>	false aloe	PIP
<i>Matelea gonocarpos</i>	angularfruit milkvine	PIP
<i>Matelea obliqua</i>	climbing milkvine	PIP
<i>Medeola virginiana</i>	Indian cucumber	PIP
<i>Medicago sativa ssp. sativa</i>	alfalfa	PIP
<i>Melica mutica</i>	twoflower melicgrass	PIP
<i>Melica nitens</i>	threeflower melicgrass	PIP
<i>Melilotus albus</i>	white sweet-clover	PIP
<i>Melilotus officinalis</i>	yellow sweetclover	PIP
<i>Menispermum canadense</i>	common moonseed	PIP
<i>Microstegium vimineum</i>	Nepalese browntop	PIP
<i>Mitella diphylla</i>	twoleaf miterwort	PIP
<i>Monarda clinopodia</i>	white bergamot	PIP
<i>Monarda didyma</i>	scarlet beebalm	PIP
<i>Monarda fistulosa</i>	wild bergamot	PIP
<i>Monarda fistulosa var. mollis</i>	wild bergamot	PIP
<i>Morus alba</i>	white mulberry	PIP
<i>Morus rubra var. rubra</i>	red mulberry	PIP
<i>Muhlenbergia cuspidata</i>	plains muhly	PIP
<i>Muhlenbergia schreberi</i>	nimblewill	PIP
<i>Muhlenbergia sobolifera</i>	rock muhly	PIP
<i>Najas gracillima</i>	slender waternymph	U
<i>Nothoscordum bivalve</i>	Crow-poison	U
<i>Nyssa sylvatica</i>	blackgum	PIP
<i>Obolaria virginica</i>	Virginia pennywort	PIP
<i>Oenothera biennis</i>	common evening primrose	U
<i>Ophioglossum vulgatum</i>	southern adderstongue	PIP
<i>Opuntia humifusa</i>	devil's-tongue	PIP
<i>Orbexilum pedunculatum var. pedunculatum</i>	Sampson's snakeroot	PIP
<i>Ornithogalum umbellatum</i>	Star-of-Bethlehem	PIP
<i>Osmorhiza claytonii</i>	Clayton's sweetroot	PIP
<i>Osmorhiza longistylis</i>	longstyle sweetroot	PIP

Appendix B. Abraham Lincoln Birthplace National Historic Site (ABLI) Local List (Source: NPSpecies 10/28/2008). (continued).

Scientific Name	Common Name	Park Status ¹
<i>Osmunda cinnamomea</i> var. <i>cinnamomea</i>	cinnamon fern	PIP
<i>Ostrya virginiana</i>	hophornbeam	PIP
<i>Oxalis stricta</i>	common yellow oxalis	PIP
<i>Oxalis violacea</i>	violet woodsorrel	PIP
<i>Packera anonyma</i>	Small's ragwort	PIP
<i>Packera aurea</i>	golden ragwort	PIP
<i>Packera glabella</i>	butterweed	PIP
<i>Packera obovata</i>	roundleaf ragwort	PIP
<i>Panax quinquefolius</i>	American ginseng	PIP
<i>Panicum anceps</i>	beaked panicgrass	PIP
<i>Panicum flexile</i>	wiry panicgrass	PIP
<i>Paronychia canadensis</i>	smooth forked nailwort	PIP
<i>Parthenium integrifolium</i> var. <i>integrifolium</i>	wild quinine	U
<i>Parthenocissus quinquefolia</i>	Virginia creeper	PIP
<i>Paspalum setaceum</i>	thin paspalum	PIP
<i>Passiflora lutea</i>	yellow passionflower	PIP
<i>Paulownia tomentosa</i>	princesstree	PIP
<i>Pedicularis canadensis</i> ssp. <i>canadensis</i>	Canadian lousewort	PIP
<i>Pellaea atropurpurea</i>	purple cliffbrake	PIP
<i>Penstemon laevigatus</i>	eastern smooth beardtongue	PIP
<i>Penstemon pallidus</i>	pale beardtongue	PIP
<i>Perilla frutescens</i>	beefsteakplant	PIP
<i>Phacelia purshii</i>	Miami mist	U
<i>Phalaris arundinacea</i>	reed canary grass	PIP
<i>Phegopteris hexagonoptera</i>	broad beechfern	PIP
<i>Phleum pratense</i>	timothy	PIP
<i>Phlox divaricata</i>	wild blue phlox	PIP
<i>Phlox divaricata</i> ssp. <i>divaricata</i>	wild blue phlox	U
<i>Phryma leptostachya</i>	American lopseed	PIP
<i>Physalis heterophylla</i> var. <i>heterophylla</i>	clammy groundcherry	U

Scientific Name	Common Name	Park Status ¹
<i>Physalis virginiana</i> var. <i>virginiana</i>	Virginia groundcherry	PIP
<i>Physostegia virginiana</i>	obedient plant	PIP
<i>Phytolacca americana</i> var. <i>americana</i>	American pokeweed	PIP
<i>Pilea pumila</i>	Canadian clearweed	PIP
<i>Pinus strobus</i>	eastern white pine	PIP
<i>Pinus virginiana</i>	Virginia pine	PIP
<i>Plantago aristata</i>	largebracted plantain	PIP
<i>Plantago lanceolata</i>	narrowleaf plantain	PIP
<i>Plantago rugelii</i>	blackseed plantain	PIP
<i>Platanus occidentalis</i>	American sycamore	PIP
<i>Poa annua</i>	annual bluegrass	PIP
<i>Poa chapmaniana</i>	Chapman's bluegrass	PIP
<i>Poa compressa</i>	Canada bluegrass	PIP
<i>Poa pratensis</i>	Kentucky bluegrass	PIP
<i>Poa sylvestris</i>	woodland bluegrass	PIP
<i>Podophyllum peltatum</i>	mayapple	PIP
<i>Polemonium reptans</i>	Greek valerian	PIP
<i>Polygala verticillata</i>	whorled milkwort	PIP
<i>Polygonatum biflorum</i> var. <i>commutatum</i>	king Solomon's seal	PIP
<i>Polygonatum pubescens</i>	hairy Solomon's seal	U
<i>Polygonum caespitosum</i> var. <i>longisetum</i>	oriental ladysthumb	PIP
<i>Polygonum convolvulus</i>	black bindweed	PIP
<i>Polygonum punctatum</i>	dotted smartweed	PIP
<i>Polygonum punctatum</i> var. <i>confertiflorum</i>	dotted smartweed	U
<i>Polygonum setaceum</i>	bog smartweed	PIP
<i>Polygonum virginianum</i>	jumpseed	PIP
<i>Polymnia canadensis</i>	whiteflower leafcup	PIP
<i>Polystichum acrostichoides</i> var. <i>acrostichoides</i>	Christmas fern	PIP
<i>Populus heterophylla</i>	swamp cottonwood	U
<i>Porteranthus stipulatus</i>	Indian physic	PIP
<i>Potamogeton spirillus</i>	spiral pondweed	U

Appendix B. Abraham Lincoln Birthplace National Historic Site (ABLI) Local List (Source: NPSpecies 10/28/2008). (continued).

Scientific Name	Common Name	Park Status ¹
<i>Potentilla recta</i>	roughfruit cinquefoil	PIP
<i>Potentilla simplex</i>	common cinquefoil	PIP
<i>Prenanthes trifoliolata</i>	gall of the earth	PIP
<i>Prunella vulgaris</i>	common selfheal	PIP
<i>Prunus americana</i>	American plum	PIP
<i>Prunus avium</i>	sweet cherry	PIP
<i>Prunus persica</i>	peach	U
<i>Prunus serotina</i> var. <i>serotina</i>	black cherry	PIP
<i>Pseudognaphalium obtusifolium</i> ssp. <i>obtusifolium</i>	rabbittobacco	PIP
<i>Pteridium aquilinum</i>	bracken fern	U
<i>Pteridium aquilinum</i> var. <i>latiusculum</i>	bracken fern	U
<i>Pycnanthemum pycnanthemoides</i> var. <i>pycnanthemoides</i>	southern mountainmint	PIP
<i>Pycnanthemum tenuifolium</i>	narrowleaf mountainmint	PIP
<i>Quercus alba</i>	white oak	PIP
<i>Quercus coccinea</i> var. <i>coccinea</i>	scarlet oak	PIP
<i>Quercus falcata</i>	southern red oak	PIP
<i>Quercus imbricaria</i>	shingle oak	PIP
<i>Quercus lyrata</i>	overcup oak	PIP
<i>Quercus marilandica</i>	blackjack oak	PIP
<i>Quercus muehlenbergii</i>	chinkapin oak	PIP
<i>Quercus palustris</i>	pin oak	PIP
<i>Quercus prinus</i>	chestnut oak	PIP
<i>Quercus rubra</i> var. <i>rubra</i>	northern red oak	PIP
<i>Quercus shumardii</i>	Shumard's oak	PIP
<i>Quercus stellata</i>	post oak	PIP
<i>Quercus velutina</i>	black oak	PIP
<i>Ranunculus abortivus</i>	early woodbuttercup	PIP
<i>Ranunculus micranthus</i>	rock buttercup	PIP
<i>Ranunculus recurvatus</i>	blisterwort	PIP
<i>Ratibida pinnata</i>	pinnate prairie coneflower	PIP
<i>Rhexia mariana</i>	Maryland meadowbeauty	PIP

Scientific Name	Common Name	Park Status ¹
<i>Rhododendron catawbiense</i>	catawba rhododendron	PIP
<i>Rhus aromatica</i> var. <i>aromatica</i>	fragrant sumac	PIP
<i>Rhus copallinum</i> var. <i>latifolia</i>	winged sumac	PIP
<i>Rhus glabra</i>	smooth sumac	U
<i>Ribes cynosbati</i>	eastern prickly gooseberry	U
<i>Robinia pseudoacacia</i>	black locust	PIP
<i>Rosa carolina</i> var. <i>carolina</i>	Carolina rose	PIP
<i>Rosa multiflora</i>	multiflora rose	PIP
<i>Rosa setigera</i>	climbing rose	PIP
<i>Rotala ramosior</i>	lowland rotala	PIP
<i>Rubus argutus</i>	sawtooth blackberry	PIP
<i>Rubus flagellaris</i>	northern dewberry	PIP
<i>Rubus hispidus</i>	bristly dewberry	U
<i>Rubus occidentalis</i>	black raspberry	PIP
<i>Rubus phoenicolasius</i>	wine raspberry	PIP
<i>Rudbeckia hirta</i>	blackeyed Susan	PIP
<i>Rudbeckia laciniata</i> var. <i>laciniata</i>	cutleaf coneflower	PIP
<i>Ruellia caroliniensis</i>	Carolina wild petunia	PIP
<i>Ruellia humilis</i>	fringeleaf wild petunia	PIP
<i>Rumex acetosella</i>	common sheep sorrel	PIP
<i>Rumex obtusifolius</i>	bitter doc	PIP
<i>Salvia lyrata</i>	lyreleaf sage	PIP
<i>Sambucus nigra</i> ssp. <i>canadensis</i>	common elderberry	PIP
<i>Sanguinaria canadensis</i>	bloodroot	PIP
<i>Sanicula canadensis</i>	Canadian blacksnakeroot	PIP
<i>Sanicula odorata</i>	clustered blacksnakeroot	PIP
<i>Sanicula smallii</i>	Small's blacksnakeroot	PIP
<i>Saponaria officinalis</i>	bouncingbet	PIP
<i>Sassafras albidum</i>	sassafras	PIP
<i>Saxifraga virginiana</i>	early saxifrage	PIP
<i>Schizachyrium scoparium</i>	little bluestem	PIP
<i>Scirpus polyphyllus</i>	leafy bulrush	PIP
<i>Scleria oligantha</i>	littlehead nutrush	PIP

Appendix B. Abraham Lincoln Birthplace National Historic Site (ABLI) Local List (Source: NPSpecies 10/28/2008). (continued).

Scientific Name	Common Name	Park Status ¹
<i>Scutellaria ovata ssp. ovata</i>	heartleaf skullcap	PIP
<i>Sedum ternatum</i>	woodland stonecrop	PIP
<i>Senna marilandica</i>	Maryland senna	PIP
<i>Setaria faberi</i>	Japanese bristlegrass	PIP
<i>Setaria parviflora</i>	marsh bristlegrass	PIP
<i>Setaria pumila</i>	yellow bristlegrass	PIP
<i>Sibara virginica</i>	Virginia sibara	U
<i>Sida spinosa</i>	prickly fanpetals	PIP
<i>Silene stellata</i>	widowsfrill	PIP
<i>Silene virginica</i>	fire pink	PIP
<i>Silphium trifoliatum</i>	whorled rosinweed	U
<i>Silphium trifoliatum var. trifoliatum</i>	whorled rosinweed	U
<i>Sisyrinchium albidum</i>	white blue-eyed grass	PIP
<i>Sisyrinchium montanum</i>	mountain blue eyedgrass	PIP
<i>Smallanthus uvedalius</i>	hairy leafcup	PIP
<i>Smilax bona-nox</i>	saw greenbrier	PIP
<i>Smilax ecirrata</i>	greenbrier	U
<i>Smilax glauca</i>	cat greenbrier	PIP
<i>Smilax herbacea</i>	smooth carrionflower	PIP
<i>Smilax rotundifolia</i>	roundleaf greenbrier	PIP
<i>Smilax tamnoides</i>	bristly greenbrier	PIP
<i>Solanum carolinense var. carolinense</i>	bull nettle	PIP
<i>Solidago bicolor</i>	white goldenrod	PIP
<i>Solidago caesia</i>	wreath goldenrod	PIP
<i>Solidago flexicaulis</i>	zigzag goldenrod	PIP
<i>Solidago gigantea</i>	giant goldenrod	PIP
<i>Solidago juncea</i>	early goldenrod	PIP
<i>Solidago missouriensis var. fasciculata</i>	Missouri goldenrod	U
<i>Solidago odora var. odora</i>	anisescented goldenrod	PIP
<i>Solidago rugosa ssp. rugosa</i>	wrinkleleaf goldenrod	PIP
<i>Solidago rugosa ssp. rugosa var. rugosa</i>	wrinkleleaf goldenrod	PIP
<i>Solidago sphacelata</i>	autumn goldenrod	PIP

Scientific Name	Common Name	Park Status ¹
<i>Solidago ulmifolia var. ulmifolia</i>	elmleaf goldenrod	PIP
<i>Sorghum halepense</i>	Johnsongrass	PIP
<i>Sphenopholis nitida</i>	shiny wedgescale	PIP
<i>Sphenopholis obtusata</i>	prairie wedgegrass	PIP
<i>Spiranthes cernua</i>	nodding ladies'-tresses	PIP
<i>Sporobolus clandestinus</i>	rough dropseed	U
<i>Staphylea trifolia</i>	American bladdernut	PIP
<i>Stellaria media</i>	common chickweed	PIP
<i>Stellaria pubera</i>	star chickweed	PIP
<i>Strophostyles umbellata</i>	perennial wildbean	U
<i>Stylophorum diphyllum</i>	celandine poppy	PIP
<i>Stylosanthes biflora</i>	sidebeak pencilflower	PIP
<i>Symphoricarpos orbiculatus</i>	coralberry	PIP
<i>Symphyotrichum cordifolium</i>	common blue wood aster	PIP
<i>Symphyotrichum dumosum</i>	rice button aster	PIP
<i>Symphyotrichum dumosum var. dumosum</i>	rice button aster	PIP
<i>Symphyotrichum lateriflorum</i>	calico aster	PIP
<i>Symphyotrichum novae-angliae</i>	New England aster	PIP
<i>Symphyotrichum ontarione</i>	bottomland aster	PIP
<i>Symphyotrichum pilosum var. pilosum</i>	hairy white oldfield aster	PIP
<i>Symphyotrichum pratense</i>	barrens silky aster	U
<i>Symphyotrichum shortii</i>	Short's aster	PIP
<i>Symphyotrichum undulatum</i>	waxyleaf aster	PIP
<i>Taenidia integerrima</i>	yellow pimperial	U
<i>Taraxacum officinale ssp. officinale</i>	common dandelion	PIP
<i>Teucrium canadense var. canadense</i>	American germander	PIP
<i>Thalictrum dioicum</i>	early meadow-rue	PIP
<i>Thalictrum thalictroides</i>	rue anemone	PIP
<i>Thaspium barbinode</i>	yellow pimperial	U

Appendix B. Abraham Lincoln Birthplace National Historic Site (ABLI) Local List (Source: NPSpecies 10/28/2008). (continued).

Scientific Name	Common Name	Park Status ¹
<i>Thaspium barbinode</i> var. <i>angustifolium</i>	hairyjoint meadow parsnip	PIP
<i>Thaspium trifoliatum</i>	purple meadowparsnip	PIP
<i>Thelypteris noveboracensis</i>	New York fern	PIP
<i>Thelypteris palustris</i> var. <i>pubescens</i>	eastern marsh fern	U
<i>Tiarella cordifolia</i>	heartleaf foamflower	PIP
<i>Tilia americana</i> var. <i>americana</i>	American basswood	PIP
<i>Tipularia discolor</i>	crippled cranefly	PIP
<i>Toxicodendron radicans</i>	eastern poison ivy	PIP
<i>Tradescantia virginiana</i>	Virginia spiderwort	PIP
<i>Tragia cordata</i>	heartleaf noseburn	PIP
<i>Tridens flavus</i> var. <i>flavus</i>	purpletop tridens	PIP
<i>Trifolium arvense</i>	hairy clover	U
<i>Trifolium campestre</i>	field clover	PIP
<i>Trifolium dubium</i>	hop clover	PIP
<i>Trifolium pratense</i>	red clover	PIP
<i>Trifolium repens</i>	white clover	PIP
<i>Trillium flexipes</i>	nodding wakerobin	PIP
<i>Trillium sessile</i>	toadshade	PIP
<i>Tripsacum dactyloides</i>	eastern gamagrass	U
<i>Typha angustifolia</i>	narrowleaf cattail	PIP
<i>Ulmus alata</i>	winged elm	PIP
<i>Ulmus americana</i>	American elm	PIP
<i>Ulmus rubra</i>	slippery elm	PIP
<i>Utricularia gibba</i>	conespur bladderpod	U
<i>Uvularia grandiflora</i>	largeflower bellwort	U
<i>Uvularia perfoliata</i>	perfoliate bellwort	PIP
<i>Vaccinium arboreum</i>	farkleberry	PIP
<i>Vaccinium pallidum</i>	Blue Ridge blueberry	PIP
<i>Vaccinium stamineum</i>	deerberry	PIP
<i>Valeriana pauciflora</i>	largeflower valerian	PIP
<i>Valerianella locusta</i>	Lewiston cornsalad	PIP
<i>Valerianella radiata</i>	beaked cornsalad	PIP
<i>Verbena simplex</i>	narrowleaf vervain	PIP
<i>Verbena urticifolia</i>	white vervain	PIP

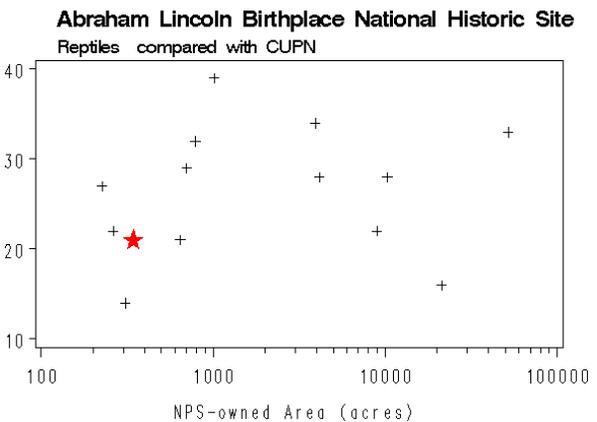
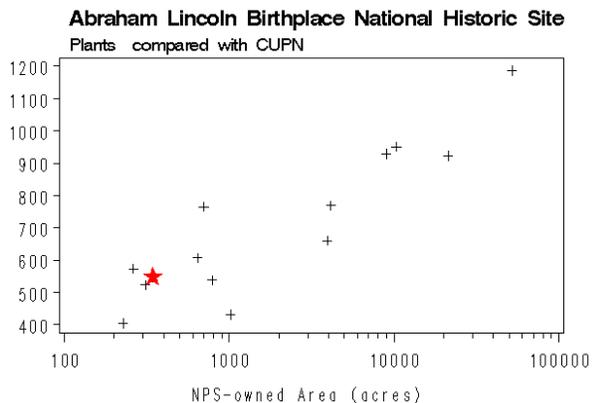
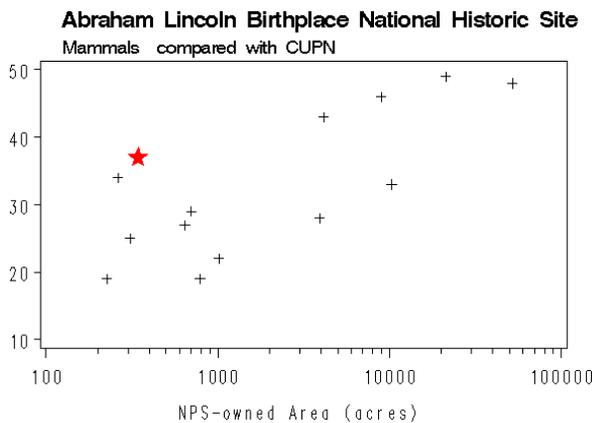
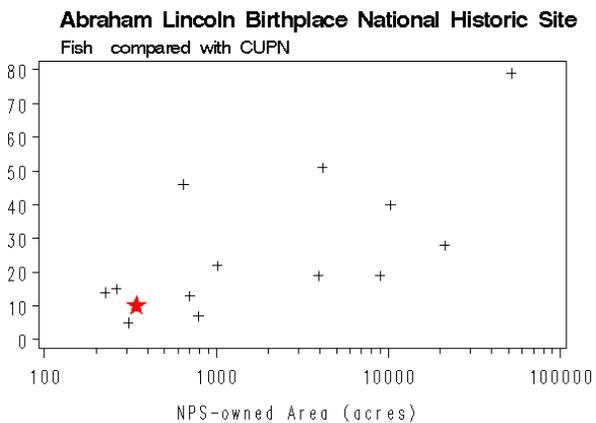
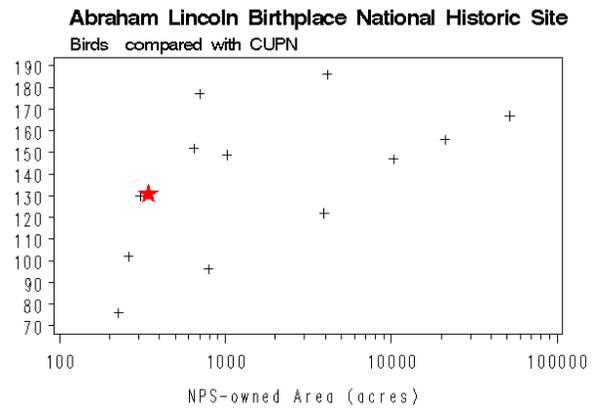
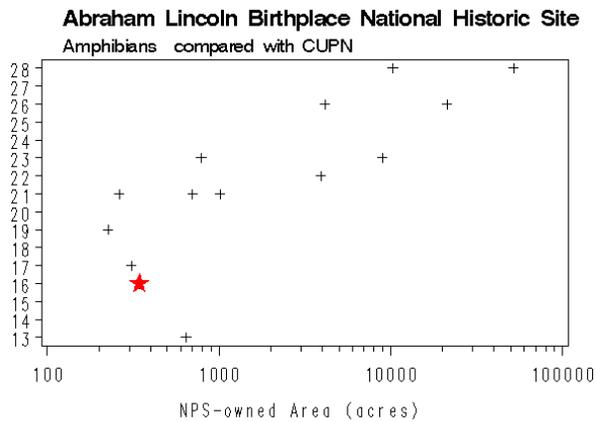
Scientific Name	Common Name	Park Status ¹
<i>Verbesina alternifolia</i>	wingstem	PIP
<i>Verbesina helianthoides</i>	gravelweed	PIP
<i>Verbesina virginica</i> var. <i>virginica</i>	white crownbeard	PIP
<i>Veronica agrestis</i>	field speedwell	PIP
<i>Veronica arvensis</i>	corn speedwell	PIP
<i>Veronica officinalis</i> var. <i>officinalis</i>	common gypsyweed	PIP
<i>Veronica persica</i>	bird-eye speedwell	PIP
<i>Viburnum acerifolium</i>	mapleleaf viburnum	PIP
<i>Viburnum carlesii</i>	Koreanspice viburnum	PIP
<i>Viburnum opulus</i>	European cranberrybush	PIP
<i>Viburnum prunifolium</i>	blackhaw	PIP
<i>Viburnum rufidulum</i>	rusty blackhaw	PIP
<i>Vicia caroliniana</i>	Carolina vetch	PIP
<i>Vinca minor</i>	common periwinkle	PIP
<i>Viola affinis</i>	sand violet	PIP
<i>Viola canadensis</i> var. <i>canadensis</i>	Canadian white violet	PIP
<i>Viola palmata</i> var. <i>palmata</i>	violet	PIP
<i>Viola pubescens</i> var. <i>pubescens</i>	downy yellow violet	PIP
<i>Viola pubescens</i> var. <i>scabriuscula</i>	downy yellow violet	PIP
<i>Viola sororia</i>	common blue violet	PIP
<i>Viola striata</i>	striped cream violet	U
<i>Viola X primulifolia</i>	primrose violet	U
<i>Vitis aestivalis</i>	summer grape	PIP
<i>Vitis cinerea</i>	graybark grape	PIP
<i>Vitis cinerea</i> var. <i>cinerea</i>	graybark grape	PP
<i>Vitis labrusca</i>	fox grape	PIP
<i>Vitis riparia</i>	river-bank grape	PIP
<i>Vitis rotundifolia</i>	muscadine	PIP
<i>Vitis vulpina</i>	frost grape	PIP
<i>Waldsteinia fragarioides</i>	Appalachian barren strawberry	U

**Appendix B. Abraham Lincoln Birthplace National Historic Site (ABLI) Local List
(Source: NPSpecies 10/28/2008). (continued).**

Scientific Name	Common Name	Park Status ¹
<i>Waldsteinia fragarioides</i> ssp. <i>fragarioides</i>	Appalachian barren strawberry	U
<i>Yucca filamentosa</i>	Adam's needle	PIP

¹Park Status refers to the current status of the organism in the park, where PIP=Present in Park, PP=Probably Present, E=Encroaching, U=Unconfirmed.

Appendix C. Abraham Lincoln Birthplace National Historic Site species-area comparisons with other Cumberland Piedmont Network parks.



Organism counts are grouped at the species level and include both present in park and probably present. Analyses courtesy of Dr. Tom Philippi, NPS Inventory and Monitoring Program (Source: NPSpecies 28 September 2008).

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