

Dog Island Lake BioBlitz

Final Report



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Cover Photo: *Conopholos americana*, American Cancer-Root, on the Dog Island Lake property, photo courtesy of Ted Ludwig.

INTRODUCTION

In June 2009, the Beaver Creek Reserve Citizen Science Center and the Chippewa County Land Conservation Department partnered to conduct a modified BioBlitz (henceforth referred to as BioBlitz) on the Dog Island Lake (DIL) property. The property was recently entered into the Wild Lakes Reserve Program of Chippewa County and very little was known about the flora and fauna on the site. Staff and volunteers of the Citizen Science Center agreed to conduct a rapid assessment of the organisms in the new wildlife area and Chippewa County staff would put together a report regarding the physical site characteristics of the property.

BioBlitz

A BioBlitz is a term referring to a rapid biological survey of a property in which as many species from as many taxonomic groups as possible are counted during a 24-hour period (Droege 2004). “The name and concept of the BioBlitz is not registered, not copyrighted, not trademarked, and not a government thing. It’s an idea that can be used, adapted, and modified by any group, who should freely use the name BioBlitz for their own purposes” (Droege 2004). A BioBlitz is a fun activity that brings together adult citizens, students, and professionals to explore the natural world. It is also a tool used to document species occurrences and to identify rare or endangered species. A BioBlitz cannot, however, provide a complete inventory of species or be used as a method for a long-term monitoring program (Droege 2004). A BioBlitz can provide a “snapshot in time” of the species that occur on or near a property. The first BioBlitz took place at Kenilworth Park and Aquatic Gardens in Washington D.C. in 1996.

Wild Lakes Reserve Program

The Wild Lakes Reserve is a program developed by the Chippewa County Land Conservation Department in 2008. The goal of the Wild Lakes Reserve program is to permanently protect wild lakes and adjacent lands from development so that high quality plant and animal communities remain intact and continue to provide valuable ecological services (Dahlby 2008). The program targets landowners with wild, undeveloped lakes on their property (both private and public) with the ultimate goal that landowners enter into conservation easements to permanently protect their property.

Landowners are able to enroll in the Wild Lakes Reserve under one of two tiers. They are able to enter into a “Stewardship Agreement” (Tier I) with the County that is voluntary and non-binding. These agreements acknowledge sound land stewardship practices and promote an ongoing relationship between the landowner and the County. Under the second option they are able to permanently protect their land with a “Conservation Easement” (Tier II) with a Land Trust.

As an incentive to encourage participation, landowners receive a report on the physical, biological and chemical properties of their land and water. Tier I landowners receive a report on already existing information that is readily available. Tier II landowners receive a personalized site assessment report conducted by the Beaver Creek Reserve Citizen Science Center that includes information about the biological resources on the site.

Site Description

The Dog Island Lake property is a 120-acre parcel within the boundaries of the Wild Lakes Reserve bordered by the State-owned Chippewa Moraine Unit of the National Ice Age Scientific Reserve on part of the northwest side and by private land on the remainder. The DIL is located in the Town of Sampson, Chippewa County, Wisconsin near the John Thurman Wildlife Area for which a BioBlitz was conducted in 2008. The legal description for the property is SW ¼ NE ¼ E ½ SW ¼ Sec. 35 T32N R8W.

METHODS

The Citizen Science Center Director, Sarah Braun, and Beaver Creek Reserve (BCR) Director, Rick Koziel, began formal planning for the BioBlitz in June 2009. However, due to an overwhelming number of field projects in 2009 for both the Citizen Science Center and Chippewa County staff, the project was postponed and began instead in the summer of 2010. Recruiting of potential team leaders for the BioBlitz occurred in the winter of 2010 and an organizational meeting for the team leaders and interested volunteers from previous BioBlitzes was scheduled for May 6th. Unfortunately, there was a lack of interest on the part of past participants to attend an organizational meeting and as a result the meeting was cancelled. Instead, potential team leaders were contacted one on one to discuss the BioBlitz, hand out informational packets regarding the property, and answer questions. A few team leaders from previous BioBlitzes were too busy with other projects to participate in the 2010 projects and were unable to be replaced by persons with sufficient expertise in their respective areas (mammals, reptiles and amphibians, dragonflies). However, two new team leaders were recruited to sample different organisms than had been studied in previous blitzes (insects and fungi).

The team leaders determined the protocols for collecting data for their taxonomic group and led a group of volunteers through the collection procedures for the BioBlitz. The seven taxonomic groups that were assessed were: (1) birds, (2) terrestrial plants, (3) aquatic plants, (4) insects, (5) bats, (6) worms, and (7) fungi. No team leaders were available to sample for mammals or reptiles and amphibians, but incidental observations of these organisms were recorded by other groups and are included in this report. Unsuccessful attempts were made to recruit a fish biologist to survey the lake for small fish. Volunteers were recruited using the Beaver Creek Reserve volunteer database to contact possible volunteers. The groups sampled their taxonomic groups on days between May and September of 2010 that were convenient to the team leaders and their volunteers.

Mammals, Reptiles and amphibians. Incidental observations of mammals, reptiles and amphibians were recorded by groups when they were on the property looking for other organisms. No formal surveys for mammals, reptiles, or amphibians occurred due to a lack of team leaders for these groups.

Birds. Five experienced birders walked the trails and searched the trees and open areas for birds using binoculars, their naked eye, and their ears.

Terrestrial Plants. The CSC director and three volunteers walked the trails and visited all of the unique soil types on the property to record a list of terrestrial plants (Appendix F). The soil map was developed using the USDA Web Soil Survey (USDA 2009). Samples that could not be quickly identified in the field were collected, pressed and identified in the lab.

Aquatic Plants. The CSC Aquatic Invasive Species Researcher and two volunteers surveyed Dog Island Lake for aquatic plants. Because of the small, shallow nature of the lake, the team walked the edges of the lake and sampled aquatic plants through visual observations and with a long-handled thatching rake rather than bringing in a canoe or other boat. Any species that could not be identified on site were collected and identified later in the lab.

Bats. A half-hour after sunset, the CSC Director, and four volunteers walked the trails to collect bat data with an AnaBat SD1 CF Bat Detector connected to an HP 2495 PDA Pocket PC with a GlobalSat BC-337 Compact Flash GPS Receiver. The AnaBat Detector picks up bat calls, which are then graphed on the Pocket PC. A Wisconsin Department of Natural Resources Bat Biologist looks at the graphed bat calls and then determines which species were present. Bats were sampled according to the Wisconsin Citizen-Based Acoustic Bat Monitoring Project Protocols (Redell 2008).

Worms. The CSC Director and five volunteers collected worm data from one plot from each soil type on the property. Soil types were determined using the USDA Web Soil Survey (USDA 2007). Plots were 33cm x 33cm and were sampled using the liquid mustard extraction technique (Hale 2007).

Insects. The CSC Insect researcher and two volunteers used sweep nets, walked trails and lake edges, turned over rocks and logs, and examined plants to collect various insects. Specimens were preserved in jars with ethyl acetate to be identified later in the lab.

Fungi. An amateur mycologist collected fungi at the Dog Island Lake property that were found growing near or around the various trails on the property. Specimens were only collected when they could not be immediately visually identified. Fungi were searched for in a variety of places including living trees, dead and decaying deciduous and coniferous wood, on leaf litter, and growing from the forest floor.

RESULTS

Volunteers

A total of 12 volunteers participated in BioBlitz data collection and data entry (for both the Keil and Dog Island Lake BioBlitzes), for a total of 146.5 hours. They also drove a total of 605 miles, of which only 238 (39%) were submitted to Beaver Creek Reserve for reimbursement. In addition, four staff members were involved in the BioBlitz as team leads.

Data Collection

Mammals. Mammal data was collected on June 21st and July 20th, 2010. Field sign or visual observations were observed for four mammal species (Appendix C).

Reptiles and Amphibians. Visual observations of reptiles and amphibians were recorded on June 21st and July 20th 2010. Three species of amphibians were recorded (all frogs) and no reptiles were observed (Appendix D). The total number of organisms observed was 57.

Birds. Bird data was collected on June 21st, July 20th, and July 28th, 2010. Twenty-two species of birds were either seen or heard on the property and a total of 46 individuals were recorded (Appendix E).

Terrestrial Plants. Terrestrial plant data was collected on July 20th, 2010. There were nine distinct soil types present, AIC, AID, Gr, Lp, CkC2, CdB, MbB, SaD2, MdB. AIC soils are Amery sandy loam with 6-12% slopes. AID soils are Amery sandy loam with 12-25% slopes.

AID soils were the dominant soil type on the property. Gr soils are Greenwood peat with 0-1% slopes and Lp soils are Lupton muck with 0-1% slopes (Appendix B). CkC2 soils are Chetek sandy loam with 6-12% slopes, CdB soils are Campia silt loam with 2-6% slopes and MbB soils are Mangor silt loam with 1-6% slopes. SaD2 soils are Santiago silt loam with 12-20% slopes and MdB soils are Mahtomedi loamy sand with 2-6% slopes. A total of 68 species of terrestrial plants were identified (Appendix F).

Aquatic Plants. Aquatic plant data was collected on August 6th, 2010. Thirteen different species were found in Dog Island Lake (Appendix G).

Bats. Bat data was collected on the evening of July 20th, 2010. The survey began a half hour after sunset, 9:47 pm and finished at 10:54 pm. Two species of bats were recorded, including the Little Brown bat (*Myotis lucifugus*) and the Northern Long-eared bat (*Myotis septentrionalis*), with the Little Brown bat being the more abundant species in the property.

Worms. Worm data was collected on July 20th and September 7th. One plot per soil type were sampled for worms for a total of nine plots. Plots were located arbitrarily within the soil type. Worms were found at all of the soil types. The worms were preserved in isopropyl alcohol and later transferred to formalin for 24 hours. Then they were transferred back to vials of isopropyl alcohol and given to the Great Lakes Worm Watch lab for species identification. Results of the identification process have not yet been received.

Terrestrial insects. Terrestrial insects were collected on July 28th, 2010. Insects were identified to Order, Family, and where possible, to Genus and Species. Thirty families of insects from nine orders were recorded.

Fungi. Fungi were collected on September 3, 2010. Twenty-four species were recorded. A GPS unit was programmed to record the walking pattern of the field technician. However, due to inclement weather, satellite reception was sporadic and the exact search pattern could not be precisely recorded. Specimens were only collected when they could not be immediately visually identified. Common species like the Sulfur Shelf Mushroom (*Laetiporus sulphureus*) were photographed and recorded, but not collected, because there are no other fungi in North America that closely resemble this species. Other species, however, such as the Pinwheel mushroom (*Marasmius rotula*) were photographed and collected, and spore prints were taken to discern this common mushroom from other similar *Marasmius* species. Many varieties of fungi often grow in relation to specific species trees, as with the Boletales family of mushrooms, and therefore, a working knowledge of tree identification proved useful in identifying various specimens.

When a variety of mushroom was found that was not readily identifiable, the same procedure was followed for each specimen. First, the mushroom was photographed in its natural, undisturbed habitat. Next, the origin of growth was recorded and a specimen was collected and placed in a plastic container for later identification. The odor of a mushroom also plays a key role in identification, so every mushroom was sniffed and any notable odor was noted (for instance, specimens of Jack-o-lantern mushrooms, *Omphalotus illudens*, have an unpleasantly sweet smell). Once collected, the specimen was keyed out using a variety of field guides and a spore print was taken of each specimen. Using the color of the spore print in combination with the mushroom's morphology, many specimens were able to be identified to species, others, such as *Russalas* were only identified to genus.

The groups identified a total of 30 families of insects and 136 species of other organisms, including: mammals (4), birds (22), amphibians (3), aquatic plants (13), and terrestrial plants (68), bats (2), and worms (ecological groups, 3) (Figure 1).

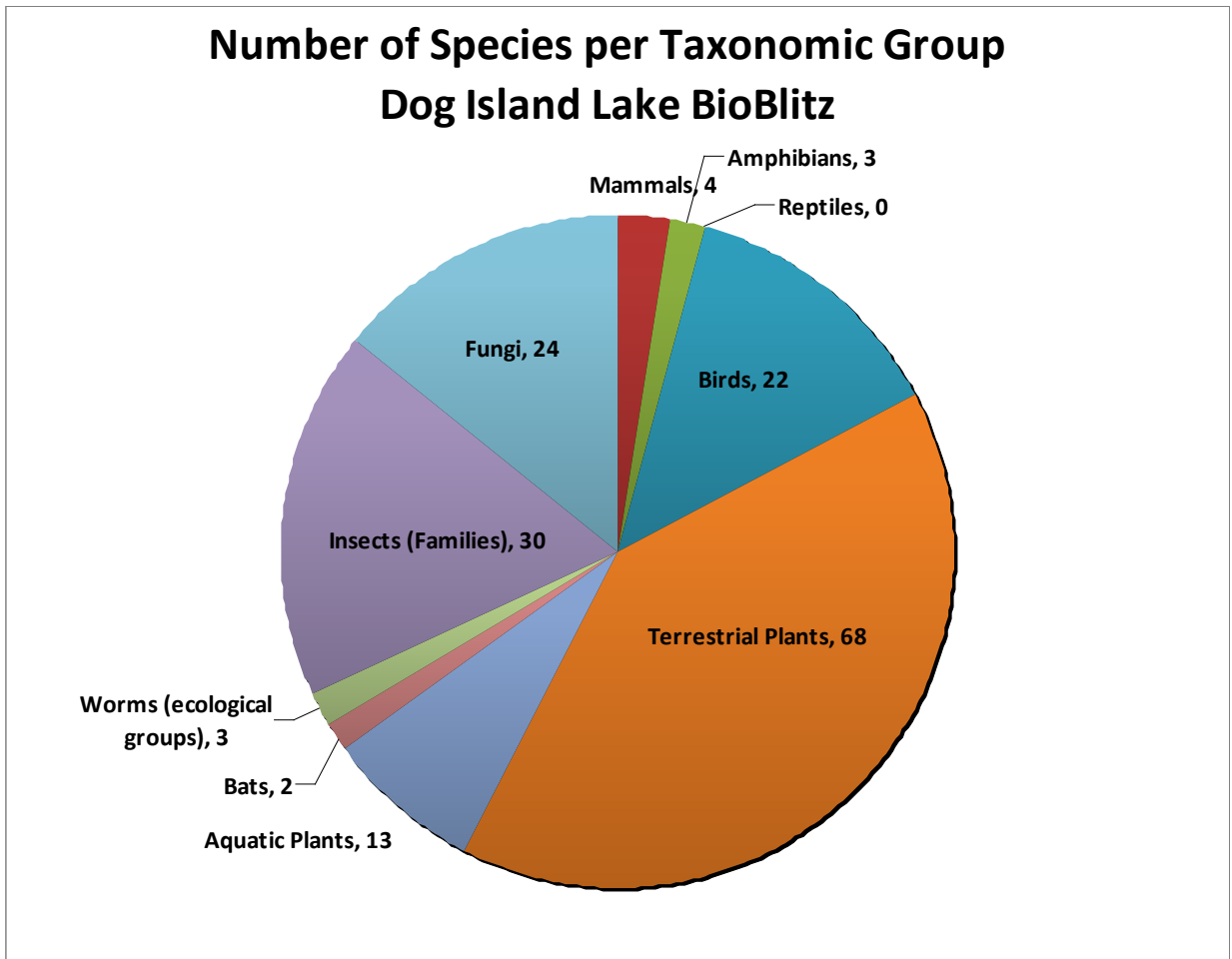


Figure 1. Number of species per taxa: mammals (4), amphibians (3), reptiles (0), birds (22), terrestrial plants (68), aquatic plants (13), bats (2), bats (2), worms (ecological groups, 3), insects (Families, 30), and fungi (24).

DISCUSSION

The group of volunteers and leaders for this BioBlitz documented the presence of 136 species of organisms, three ecological groups of worms, and 30 families of insects on the 120-acre Dog Island Lake Property. The results of this BioBlitz demonstrate that a group of volunteers and team leaders can provide an effective means of documenting the flora and fauna on a modest size property (between 100-200 acres) over a period of several days. They also indicate that the traditional BioBlitz method of collecting all data within a 24-hour period can and should be altered to maximize the number and types of organisms that are sampled on the property and to accommodate the schedules of the volunteers and leaders.

CONCLUSION

Significance of the BioBlitz

The 145.6 documented volunteer hours that were contributed to the Dog Island Lake and Keil Property BioBlitzes represent three and a half 40-hour weeks that paid field staff would have had to commit to the property in order to obtain the flora and fauna data that was collected for this report. With budgets for natural resources projects continuing to be cut, the work contributed by these volunteers is significant. The BioBlitzes provided \$2040 in cost-savings to the county through volunteer time (at \$12/hr) and mileage costs (\$0.485/mi; 605 miles driven). This work also ensures the documentation of species on Chippewa County lands, information that can be utilized by other land managers in the county.

Suggestions for Future BioBlitz Planning

During the course of planning this BioBlitz, the CSC Director and Beaver Creek Reserve Director noticed that it became increasingly difficult to recruit volunteers and team leaders to participate in the BioBlitzes. Many of the former participants were experiencing burn-out or were too busy to participate this season and new volunteers and leaders were not readily available. Perhaps by focusing efforts on just one property per summer it would be possible to retain current participants more easily and recruit new volunteers to participate.

TIMELINE

<u>Date</u>	<u>Taxonomic Group Surveyed</u>
6/21/2010	Mammals
6/21/2010	Reptiles
6/21/2010	Amphibians
6/21/2010	Birds
7/20/2010	Mammals
7/20/2010	Reptiles
7/20/2010	Amphibians
7/20/2010	Birds
7/20/2010	Terrestrial plants
7/20/2010	Bats
7/20/2010	Worms
7/28/2010	Terrestrial insects
8/6/2010	Aquatic plants
9/3/2010	Fungi
9/7/2010	Worms

REFERENCES

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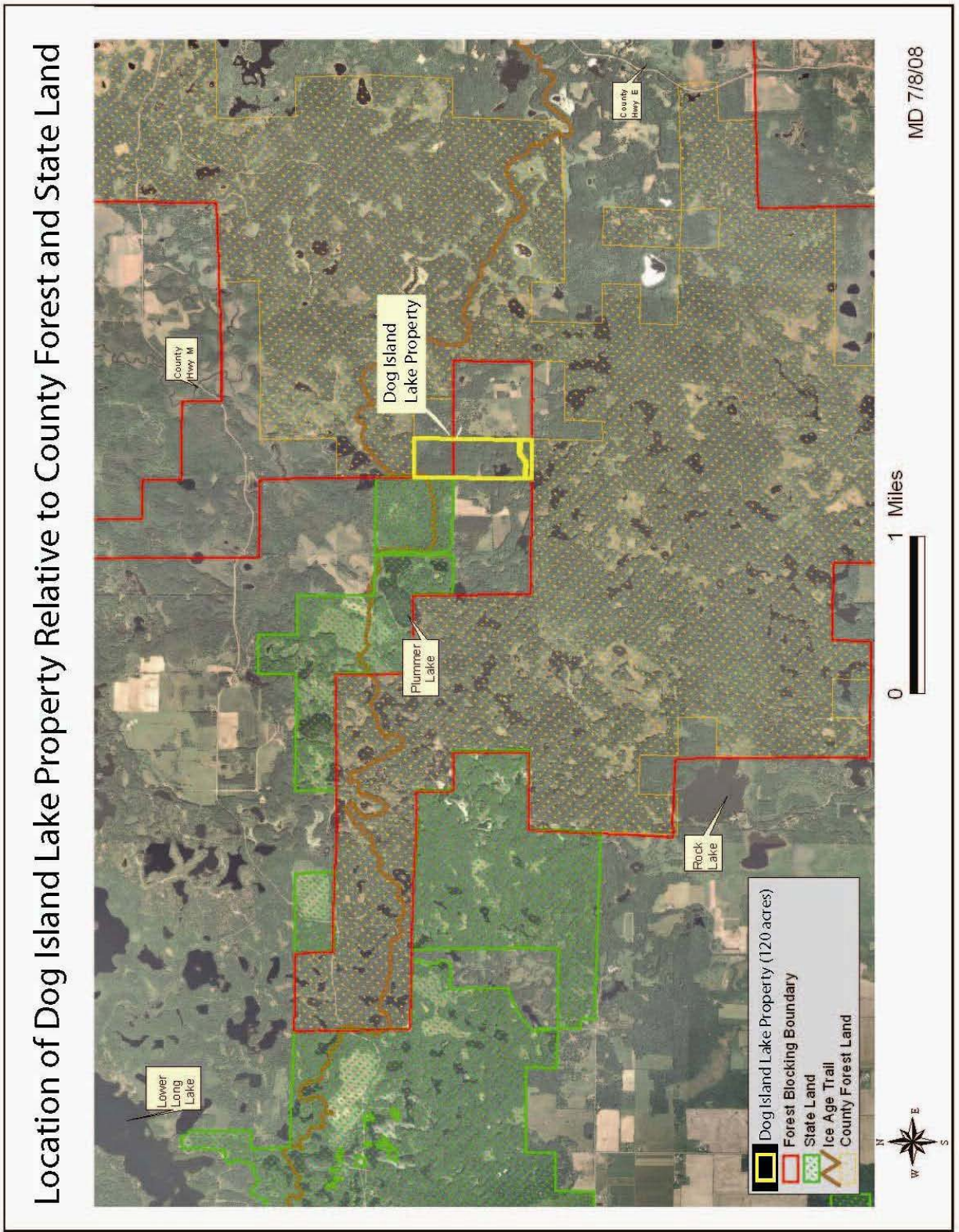
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Redell, D. 2008. Wisconsin Citizen-Based Acoustic Bat Monitoring Project. Wisconsin Department of Natural Resources.

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APPENDIX A



APPENDIX B



“Map shows that the property contains approximately 9 types of soil that are described below. The information describing each soil type was taken from “Soil Survey of Chippewa County, Wisconsin: U.S. Department of Agriculture, Soil Conservation Service”, published in 1989, and written by Dale E. Jakel and Roger A. Dahl. A copy of the document is available for review within the Chippewa County Land Conservation Department, Room 11, Chippewa County Courthouse. Detailed soils information is also available online at www.websoilsurvey.nrcs.usda.gov.” (Taken from Chippewa County Wild Lake Reserve Report on Physical Characteristics of Dog Island Lake and Adjacent Lands, by Mike Dahlby).

APPENDIX C

Mammal Data Dog Island Lake Property BioBlitz			
Collectors: <i>Rick Koziel, Joe Palzkill, Alice Droske; Patrick Dotson, Judy Schwarzmeier, Ted Ludwig, Val Johnson, Michael Harden, Sarah Braun</i>			
Date Collected: <i>21 June 2010; 20 July 2010</i>			
Species Name (Common)	Species Name (Scientific)	Number seen/heard	
1	Short-tailed shrew	<i>Blarina brevicauda</i>	1
2	Red squirrel	<i>Tamiasciurus hudsonicus</i>	1
3	White-tailed deer	<i>Odocoileus virginianus</i>	1
4	Eastern Chipmunk	<i>Tamias striatus</i>	1
Total number of individuals		4	

APPENDIX D

Herp Data Dog Island Lake Property BioBlitz			
Collectors: <i>Rick Koziel, Joe Palzkill, Alice Droske; Patrick Dotson, Judy Schwarzmeier, Ted Ludwig, Val Johnson, Michael Harden, Sarah Braun</i>			
Date Collected: <i>21 June 2010; 20 July 2010</i>			
	Species Name (Common)	Species Name (Scientific)	Number seen/heard
1	Wood Frog	<i>Rana sylvatica</i>	42
2	American Toad	<i>Bufo americanus</i>	11
3	Spring Peeper	<i>Pseudacris crucifer</i>	4
		Total number of individuals	57

APPENDIX E

Bird Data Dog Island Lake Property BioBlitz		
Collectors: Rick Koziel, Joe Palzkill, Alice Droske; Patrick Dotson, Judy Schwarzmeier, Ted Ludwig, Val Johnson, Michael Harden, Sarah Braun		
Date Collected: 21 June 2010; 20 July 2010; 28 July 2010		
Species Name (Common)	Species Name (Scientific)	Number seen/heard
1 American Crow	<i>Corvus brachyrhynchos</i>	3
2 American Goldfinch	<i>Carduelis tristis</i>	2
3 American Redstart	<i>Setophaga ruticilla</i>	1
4 American Robin	<i>Turdus migratorius</i>	2
5 Bald Eagle	<i>Haliaeetus leucocephalus</i>	1
6 Black-capped Chickadee	<i>Parus atricapillus</i>	3
7 Common Yellowthroat	<i>Geothlypis trichas</i>	1
8 Downy Woodpecker	<i>Picoides pubescens</i>	2
9 Eastern Phoebe	<i>Sayornis phoebe</i>	1
10 Hairy Woodpecker	<i>Picoides villosus</i>	1
11 Hooded Merganser	<i>Lophodytes cucullatus</i>	4
12 Ovenbird	<i>Seiurus aurocapillus</i>	8
13 Red-bellied Woodpecker	<i>Melanerpes carolinus</i>	1
14 Red-breasted Nuthatch	<i>Sitta canadensis</i>	1
15 Red-eyed Vireo	<i>Vireo olivaceus</i>	1
16 Rose-breasted Grosbeak	<i>Pheucticus ludovicianus</i>	2
17 Ruby-throated Hummingbird	<i>Archilochus colubris</i>	1
18 Scarlet Tanager	<i>Piranga olivacea</i>	1
19 White-breasted Nuthatch	<i>Sitta carolinensis</i>	1
20 Wood Thrush	<i>Hylocichla mustelina</i>	5
21 Yellow Warbler	<i>Dendroica petechia</i>	2
22 Yellow-shafted Flicker	<i>Colaptes auratus</i>	2
Total number of individuals		46

APPENDIX F

Terrestrial Plant Data Dog Island Lake Property BioBlitz						
Collectors: Sarah Braun, Patrick Dotson, Mike Hardin, Val Johnson, Ted Ludwig, Judy Schwarzmeier						
Date Collected: 20 July 2010						
Species Name (Common)	Species Name (Scientific)	Single Plant	Numerous Plants	Soil Area	GPS Waypoints	
1	Red maple	<i>Acer rubrum</i>		X	AID	
2	Sugar Maple	<i>Acer saccharum</i>		X	AID	
3	Maidenhair Fern	<i>Adiantum sp.</i>		X	AID	
4	American Hog Peanut	<i>Amphicarpaea bracteata</i>		X	AID	Ridge N45.21466, W091.33032
5	Spreading Dogbane	<i>Apocynum androsamifolium</i>		X	GR	
6	Columbine	<i>Aquilegia canadensis</i>	X		AID	
7	Wild Sarsaparilla	<i>Aralia nudicaulis</i>	X		GR	
8	Wild Ginger	<i>Asarum canadense</i>		X	AID	
9	Lady Fern	<i>Athyrium felix-femina</i>		X	AID, GR	
10	Yellow Birch	<i>Betula alleghaniensis</i>		X	GR	
11	Paper Birch	<i>Betula papyrifera</i>		X	AID	
12	Shorthusk	<i>Brachyletrum sp.</i>	X			
13	Swollen sedge	<i>Carex intumescens</i>				
14	Pennsylvania Sedge	<i>Carex pennsylvanica</i>		X	AID	
15	Blue Beech	<i>Carpinus caroliniana</i>	X		AID	
16	Mouse-ear Chickweed	<i>Cerastium fontanum</i>		X	AID	
17	Maple-leaved goosefoot	<i>Chenopodium simplex</i>	X			
18	Enchanter's Nightshade	<i>Circaea lutetiana</i>		X	AID	
19	Bluebead Lily	<i>Clintonia borealis</i>		X	GR	
20	American Cancer-Root	<i>Conopholis americana</i>	X		AID	
21	Goldthread	<i>Coptis trifolia</i>		X	AID, GR	
22	Bunchberry	<i>Cornus canadensis</i>	X		GR	
23	Hazelnut	<i>Corylus americana</i>	X		AID	
24	Dodder	<i>Cuscuta sp.</i>		X	"	
25	Tick trefoil	<i>Desmodium glutinosum</i>		X	AID	
26	Wild yam	<i>Dioscorea villosa</i>	X		GR	
27	Trailing Arbutus	<i>Epigaea repens</i>	X		GR	
28	Large Leaf Aster	<i>Eurybia macrophylla</i>		X	AID	
29	White Ash	<i>Fraxinus americana</i>		X	AID	
30	Black Ash	<i>Fraxinus nigra</i>		X	AID	
31	Sweet-scented bedstraw	<i>Galium triflorum</i>		X	AID	
32	Wintergreen	<i>Gaultheria procumbens</i>		X	GR	
33	Oak Fern	<i>Gymnocarpium dryopteris</i>		X	AID	
34	Sharp-lobed Hepatica	<i>Hepatica acutiloba</i>		X	AID	
35	Round-lobed Hepatica	<i>Hepatica americana</i>	X		AID	
36	Jewelweed	<i>Impatiens capensis</i>		X	AID	
37	Wild Lettuce	<i>Lactuca sp.</i>	X		AID	
38	Canada Mayflower	<i>Maianthemum canadense</i>		X	GR	

APPENDIX F cont'd

Terrestrial Plant Data Dog Island Lake Property BioBlitz						
Collectors: Sarah Braun, Patrick Dotson, Mike Hardin, Val Johnson, Ted Ludwig, Judy Schwarzmeier						
Date Collected: 20 July 2010						
<u>Species Name (Common)</u>	<u>Species Name (Scientific)</u>	<u>Single Plant</u>	<u>Numerous Plants</u>	<u>Soil Area</u>	<u>GPS Waypoints</u>	
39	Partridgeberry	<i>Mitchella repens</i>	X		GR	
40	Indian Pipe	<i>Monotropa uniflora</i>		X	AID, GR	
41	Sensitive Fern	<i>Onoclea sensibilis</i>		X	GR	
42	Rice grass	<i>Oryzopsis asperifolia</i>	X			
43	Cinnamon Fern	<i>Osmunda cinnamomea</i>		X	GR	
44	Interrupted Fern	<i>Osmunda claytoniana</i>		X	AID, GR	
45	Ironwood	<i>Ostrya virginiana</i>		X		
46	Halberd-leaved Tearthumb	<i>Persicaria arifolia</i>		X		
47	Red Pine	<i>Pinus resinosa</i>		X	"	
48	White Pine	<i>Pinus strobus</i>		X	AID, GR	
49	Pickerelweed	<i>Pontederia cordata</i>		X	aquatic	
50	Big Tooth Aspen	<i>Populus grandidentata</i>		X	AID, GR	
51	Cherry	<i>Prunus sp.</i>		X	AID, GR	
52	Bracken Fern	<i>Pteridium aquilinum</i>		X	AID	
53	White Oak	<i>Quercus alba</i>		X	AID, GR	
54	Northern Red Oak	<i>Quercus rubra</i>		X	AID	
55	Raspberry (Red)	<i>Rubus idaeus</i>	X		AID	
56		<i>Rubus sp.</i>		X	AID	
57	Side-Flowered Skullcap	<i>Scutellaria lateriflora</i>		X	GR	
58	Bristly Greenbrier	<i>Smilax tamnoides</i>		X	AID	
59	Goldenrod	<i>Solidago sp</i>		X	AID	
60	Sphagnum Moss	<i>Sphagnum sp.</i>		X	GR	
61	Dandelion	<i>Taraxacum officinale</i>		X	AID	
62	Early Meadow-Rue	<i>Thalictrum dioicum</i>		X	GR	
63	Basswood	<i>Tilia americana</i>		X	AID	
64	Starflower	<i>Trientalis borealis</i>		X	AID, GR	
65	Nodding Trillium	<i>Trillium cernuum</i>		X	GR	
66	Trillium	<i>Trillium sp.</i>		X	AID, GR	
67	Blueberry	<i>Vaccinium angustifolium</i>		X	AID	
68	Mapleleaf viburnum	<i>Viburnum acerifolium</i>		X	AID	

APPENDIX G

Dog Island Lake Property Aquatic Plant Data												
Collectors: Anna Mares, Amanda Seweland, Judy Schwarzmeier												
Date Collected: 6 August 2010												
		Site 1	Site 2	Site 3	Site 4	Site 5	Site 6	Site 7	Site 8	Site 9	Site 10	Site 11
	Latitude	45.20725	45.20751	45.20753	45.20783	45.20723	45.20873	45.20846	45.20845	45.20795	45.20763	45.20725
	Longitude	91.33026	91.33021	91.32982	91.32985	91.33018	91.33008	91.33054	91.33137	91.33170	91.33137	91.33089
Common Name	Scientific name	x = Present										
Spiry Hornwort	<i>Ceratophyllum echinatum</i>	X	X	X	X	X	X			X	X	X
Small Duckweed	<i>Lemna minor</i>	X	X	X		X	X	X		X	X	X
Slender Riccia	<i>Riccia fluitans</i>	X			X							
Needle Spikerush	<i>Eleocharis acicularis</i>	X										
Farwell's water milfoil	<i>Myriophyllum farwellii</i>	X	X	X								
Aquatic moss	Unknown	X	X	X		X						
Bullhead Pond Lily	<i>Nuphar variegata</i>				X				X		X	
Watershield	<i>Brasenia schreberi</i>			X			X			X		
Large-leaf Pondweed	<i>Potamogeton amplifolius</i>			X	X		X	X				
Common Bladderwort	<i>Utricularia vulgaris</i>			X	X			X	X		X	
Freshwater sponge	Unknown			X	X	X			X		X	X
globular filamentous algae	Unknown						X	X	X			
Smartweed sp.	<i>Polygonum sp.</i>							X			X	

APPENDIX H

Dog Island Lake Property Insect Data			
Collector: Jodi Swanson, Ted Ludwig, Trisha Jacobsen			
Date Collected: 28 July 2010			
Order	Family	Genus	Common Name
Lepidoptera	Danaidae	<i>Danaus plexippus</i>	Monarch
	Pieridae	<i>Colias sp.</i>	Clouded Sulfur
	Nymphalidae	<i>Vanessa atalanta</i>	Red Admiral
Hymenoptera	Apidae	<i>Bombus sp.</i>	Bumble Bee
	Apidae		Small carpenter bee
	Formicidae		Ant
	Vespidae		Hornet
	Megachilidae		Leafcutting bee
	Sphecidae		Sphecid wasp
	Tiphidae		Tiphid wasps
Odonata	Coenagrionidae	<i>Chromagarion sp.</i>	Narrow winged damselfly
	Libellulide	<i>Sympetrum sp.</i>	Common Skimmer
Mecoptera	Panorpidae		
Hemiptera	Nabidae		Damsel bug
	Cicadellidae		Leafhopper
	Miridae		Leaf bug
Diptera	Tipulidae		Crane fly
	Culicidae		Mosquito
	Chironomidae		Midge
	Asilidae		Robber fly
	Syrphidae		Syrphid fly
	Muscidae		Muscid fly
Coleoptera	Carabiidae		Ground beetle
	Scarabaeidae		Scarab beetle
	Coccinellidae		Ladybird beetle
	Chrysomelidae		Leaf beetle
	Curculionidae		Weevil
Orthoptera	Tettigoniidae		Katydid
	Gryllacrididae		Camel cricket
	Acrididae		Short horned grasshopper

APPENDIX I

Incidental Insect Data Dog Island Lake Property BioBlitz
Collectors: <i>Rick Koziel, Joe Palzkill, Alice Droske</i>
Date Collected: <i>21 June 2010; 20 July 2010</i>
<u>Species Name (Common)</u>
Northern Crescent Butterfly
Wandering Glider Dragonfly
Monarch Butterfly
Green Darner Dragonfly
Widow Skimmer
Chalk Front Corporal Dragonfly
Frosted White-face Dragonfly
Bluets Dragonfly

APPENDIX J

Bat Data Dog Island Lake Property BioBlitz	
Collectors: <i>Donna Lehmkuhl, Dave Lehmkuhl, Ted Ludwig, Val Johnson, and Sarah Braun</i>	
Date Collected: <i>20 July 2010</i>	
<u>Species Name (Common)</u>	<u>Species Name (Scientific)</u>
Little brown bat	<i>Myotis lucifugus</i>
Northern long-eared bat	<i>Myotis septentrionalis</i>
Total number of species 2	

****Bat species and locations maps have not yet been sent to us by the WDNR**

APPENDIX K

Worm Data Dog Island Lake Property BioBlitz									
Collectors: <i>Judy Schwarzmeier, Patrick Dotson, Michael Hardin, Ted Ludwig, Val Johnson, Sarah Braun</i>									
Date Collected: <i>20 July 2010, 7 Sept 2010</i>									
Date	Latitude	Longitude	Datum	Soil Type	Pigmented Juveniles	Unpigmented Juveniles	Epigeic Adults	Endogeic Adults	Anecic Adults
20-Jul-10	45.214425	-91.33023	WGS84; +/- 13 ft	CkC2	15	1	3	0	0
20-Jul-10	45.214719	-91.33141	WGS84; +/- 13 ft	CdB	18	19	1	0	0
20-Jul-10	45.206611	-91.3274	WGS84; +/- 13 ft	Gr	25	0	8	0	1
7-Sep-10	45.213167	-91.32831	WGS84; +/-5m	AID	8	1	0	0	0
7-Sep-10	45.205972	-91.32806	WGS84; +/-5m	AIC	10	30	0	2	0
7-Sep-10	45.205556	-91.32792	WGS84	MbB	10	12	0	0	1
7-Sep-10	45.205556	-91.32792	WGS84; +/-5m	SaD2	9	20	2	0	0
7-Sep-10	45.214472	-91.32831	WGS84; +/-6m	Lp	12	0	0	0	0
7-Sep-10	45.215889	-91.33128	WGS84; +/-7m	MdB	3	4	4	4	0
TOTALS					110	87	18	6	2

APPENDIX L

Dog Island Lake Property BioBlitz Fungi Data					
Collector: <i>John Bowman</i>					
Date Collected: <i>3 September 2010</i>					
	Species Name (Common)	Species Name (Scientific)	Abundance	Soil Area	Notes
1	Agaric	<i>Agarics - Amanitaceae</i>	Common	Forest floor	
2	Bay Bolete	<i>Boletus badius</i>	Few	Forest floor	
3	Admirable Bolete	<i>Boletus mirabilis</i>	Few	Rotting firs	
4	Viscid clitocybe (Purple)	<i>Clitocybe sp.</i>	Few	Forest floor	
5	Hairy-stalked Collybia	<i>Collybia spongiosa</i>	Abundant	Forest floor	
6	Chanterelle Waxy Cap	<i>Hygrophorus cantharellus</i>	Few	Forest floor	
7	Orange-gilled Waxy Cap	<i>Hygrophorus marginatus</i>	Common	Near mosses	
8	Waxy Cap species	<i>Hygrophorus sp.</i>	Common	Mosses	May be <i>Rickenella fibula</i>
9	Bolete	<i>Leccinum snellii</i>	Common	Hardwoods	
10	Pinwheel Mushroom	<i>Marasmius capillaris</i>	Abundant	Oak leaves	
11	-	<i>Melanoleuca alboflavida</i>	Few	Forest floor	
12	Pink Mycena	<i>Mycena pura</i>	Less frequent	Forest floor	??
13	Jack-Lantern Mushroom	<i>Omphalotus illudens</i>	Few	Oak stump	
14	Birch Polypore	<i>Piptoporus betulinus</i>	Common	Birch	
15	Deer Mushroom	<i>Pluteus cervinus</i>	Common	Forest floor	
16	Black Polypore on Birch	<i>Polypore sp.</i>	One	Dead birch	
17	Stalked Polypore	<i>Polyporus sp.</i>	Few	Forest floor	
18	Clustered Coral Mushroom	<i>Ramaria botrytis</i>	Uncommon (2)	Forest floor	
19	Coral Mushroom	<i>Ramaria stricta</i>	Numerous	Forest floor	
20	Yellow-capped Russula	<i>Russula claroflava</i>	Common	Forest floor	
21	Red-capped Russula	<i>Russula sp.</i>	Numerous	Forest floor	
22	Jellied False Coral	<i>Tremellodendron pallidum</i>	Common	Forest floor	
23	Violet-toothed Polypore	<i>Trichaptum bififormis</i>	Abundant	Dead birch	
24	White Cheese Polypore	<i>Tyromyces chioneus</i>	Few	Dead deciduous wood	