

**WISCONSIN BIRD CONSERVATION INITIATIVE
IMPORTANT BIRD AREAS PROGRAM**

NOMINATION FORM

The Wisconsin Bird Conservation Initiative (WBCI) is conducting an inventory of areas that may qualify as Important Bird Areas (IBAs). A Technical Committee composed of various experts across Wisconsin has determined qualifying criteria and will review all nominated sites. To qualify, an area needs to meet only *one* of the IBA criteria, although many areas will meet several. Please tell us about areas that you think may meet the criteria by completing as much of this form as possible. Please **read the instructions carefully** before completing this form. For more information and to return this form, please contact Yoyi Steele, IBA Coordinator for Wisconsin, 101 S. Webster St., WM/6, P.O. Box 7921, Madison, WI 53707-7921, Phone: 608-266-8169, Fax: 608-267-7857, yoyi.steele@wisconsin.gov.

THANK YOU FOR YOUR INTEREST IN BIRD CONSERVATION!

NOMINATOR INFORMATION

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AFFILIATION: Wis Dep Natural Resources	DATE: 2 Aug 2012

SITE INFORMATION

SITE NAME: Badger Army Ammunition Plant (= Sauk Prairie Recreation Area, Dairy Forage Research Center)	
TOWN(S): Merrimac, Sumpter Townships	COUNTY(IES): Sauk
LATITUDE (degrees & minutes N): 43 ⁰ 19' to 43 ⁰ 23'	LONGITUDE (degrees & minutes W): 89 ⁰ 42' to 89 ⁰ 46'.
TOWNSHIP: T10N R6E S.1-3, 10-14, 23-24; T10N R7E S6-7,18-19; T11N R6E S34-36; T11N R7E S31sww	
APPROX. SIZE (acres): 7, 300	APPROX. ELEVATION (feet; if range give low-high) 820-1150

GENERAL DESCRIPTION OF THE SITE (habitat, location, prominent features, access & facilities, and any other helpful information): Attach additional sheets if necessary **Please attach a detailed map of your area (topo preferred) and an aerial photo, if available.**

In short, this is a 7354-acre tract that includes highly significant breeding communities of open and shrubby grasslands and savanna, as well as other grassland wildlife and important historical and cultural features. It was in active and standby status as a US Army ammunition plant during 1942-1997, and nearly all of its 1500 buildings and extensive infrastructure have subsequently been removed. Part of the tract is an agricultural research station and the remainder is being planned as a WDNR Recreation

Area, though some may be deeded to the Ho-Chunk Nation. Following is a more detailed description. Maps of the site and its most critical grassland, shrubland and savanna habitats are in Figures 1-3.

The Badger Army Ammunition Plant (BAAP) covers 7,354 acres in SE Sauk County, immediately south of Devils Lake State Park. It spans the juncture of three landforms, each dominated prior to European settlement by a different natural community: the savanna-clad terminal moraine of the Wisconsin Glacier; its outwash plain that supported the 14,000-acre, deep-soil Sauk Prairie; and the fire-maintained oak woodland on the thin-soiled quartzite of the South Bluff of Devils Lake (Lange 1990). It was converted to agriculture during the mid to late 1800s, with the outwash plain primarily in cropland, the moraine in a mixture of crops and pasture, and the bluff in grazed woodlots. In 1942, the U.S Army purchased the land and constructed a plant (originally named Badger Ordnance Works), which produced propellants for WWII and the Korean and Vietnam Wars, before being decommissioned beginning in late 1997. At that time the plant had 1500 buildings, extensive networks of powerlines, elevated steam lines, railroads and roadways, and many small woodlots originating since 1942, succeeding from former savanna pastures, farmsteads, oldfields, and other open sites left unmanaged. The explosive nature of the manufacturing process and its propellant products dictated large spaces between many buildings for safety reasons. Thus the plant had many hundreds of acres of grassland. Much of this was grazed in order to control woody and rank herbaceous growth, and to produce income. BAAP supported one of the most significant grassland and grassland-shrub bird communities in the state, as first documented in the 1990s, after much of the surrounding landscape had converted to extensive row crops, alfalfa, woodlots and exurban development and was inhospitable to these birds (Isenring 1993, Mossman 1999, Wenny 2002).

During the ensuing 14 years, nearly all the buildings and infrastructure were removed, and contamination was studied and largely mitigated (though contamination issues remain, primarily with groundwater). In the process, the ground was disturbed over vast acreages. Grazing was discontinued. Because the Army could not transfer the property to management agencies until this work was complete, and because of limited funding and access for management during this period, many of the grasslands and old savanna pastures were rapidly invaded by exotics such as honeysuckle, multiflora rose, buckthorn, spotted knapweed, garlic mustard, and most recently autumn olive and Japanese hedge parsley.

Also during this “deconstruction” period considerable efforts were made by local, regional and national organizations, government agencies and citizens to document the highly significant natural and cultural resources of the site, and begin planning for its future (Badger Reuse Committee 2000, 2001; Goc 2002).

Of the original 7354 acres of the BAAP, 2100 are now owned by the Dairy Forage Research Center—a cooperative venture between USDA and UW-Madison. This tract is located mostly in the southern part of BAAP, managed in a mixture of soybeans, corn, alfalfa and other legumes, pasture, small grains, and unused woodlots now mostly choked with woody invasives.

Of the remaining land, 3800 acres is being transferred to the Wisconsin Department of Natural Resources (WDNR), which is now in the process of master-planning to develop the tract as the Sauk Prairie Recreation Area. It is a mosaic of several habitats:

- 1) open grassland (primarily cool-season in various admixtures of bluegrass, brome, fescue, quack, reed canary, orchard and timothy, with varying amounts of weedy forbs such as Canada goldenrod);
- 2) disturbed soils planted recently to clovers, sweet clovers and cool-season grasses, often with many thistles, goldenrods, asters and (on xeric sites) spotted knapweed;
- 3) semi-open to impenetrable shrub habitats comprising almost entirely exotic species;
- 4) woodlots that had originated as bur oak savanna pastures, or as post-1942 succession of cottonwood, green ash, silver maple and box elder, and which have almost invariably become choked with invasive shrubs;
- 5) some pine and spruce plantations (with exotic shrubby or herbaceous understories);
- 6) a native hill prairie of about 3 acres; and another restored dry-mesic prairie of about 40 acres.
- 7) a few small kettle ponds on the moraine, and some scrapes dug in the past 14 years along the base of the South Bluff for removal of clay used in the landfill;
- 8) a sand and gravel pit about 10 acres in size;
- 9) shrub-invaded woods—mostly succeed from native savanna and woodland but also including pine plantations—on the south slope of the South Bluff, and nearly continuous with the extensive (approximately 6 mi²) oak forest atop the South Bluff in adjacent Devils Lake State Park.
- 10) Some limited infrastructure, including a pair of large concrete water reservoirs, and fewer than 30 buildings.

Aside from about 250 acres set aside for highway reconstruction and for an existing septic treatment plant used by the nearby Bluffview village, the remaining 1550 acres will be deeded to the Ho-Chunk Nation, or—if refused—to the WDNR. This acreage includes some shrub and woods habitat, but also the largest and most open grassland remaining at BAAP, a single block of about 1000 acres.

For more information on the habitats of the plant, see TNC (1993), Luthin (1999), Mossman (1999), and WDNR (2012).

IBA SITE CRITERIA

PLEASE REFER TO THE DETAILED DESCRIPTIONS OF CRITERIA BEFORE COMPLETING THIS SECTION. Check all that apply.

WI-1. Site is important to one or more species listed as endangered or threatened in Wisconsin. **Yes**

WI-2. Site is important to one or more species identified as high conservation priorities in Wisconsin. **Yes**

WI-3. Site harbors an assemblage of species associated with a habitat type that is representative, rare, or threatened in Wisconsin. **Yes**

WI-4 (a-e). Site where significant numbers of birds concentrate for breeding, migration/staging, or wintering. **Yes**

WI-5. Site is important for long-term research and/or monitoring projects that contribute substantially to ornithology, bird conservation and/or education. **Yes**

WHY IS THIS SITE IMPORTANT FOR WISCONSIN'S BIRDS? Please provide an explanation for each category checked above. Attach additional sheets if necessary.

Data for this and the following sections are from:

The initial bird survey conducted by The Nature Conservancy in 1993 (Isenring 1993).

A thorough survey based on counts made along 13 parallel north-south transects (68km total) 400m apart, including 136 (5-min) point-counts spaced at 500m intervals (Fig. 4). Additional "atlas" observations were made by the author and many volunteers (Mossman 1999).

A study of nest success in selected areas of BAAP (Wenny 2002).

A survey of selected sites and for selected Species of Greatest Conservation Need, within the area to be deeded to DNR, by the WDNR Bureau of Endangered Resources (Kreitingner 2011).

A repeat of the 1998 survey, using the same transects and pt-count stations, in 2011 and mainly 2012 (Mossman in prep). This was the first opportunity to conduct a thorough survey of the plant since 1998, due to access restrictions during the 12 years of deconstruction. See Table 1 for a summary of bird data from both periods and 1993. The totals for 2011-2012 do not include all species, and still need vetting but those listed are essentially correct. "Estimated breeding pairs" is based on counts, and a subjective assessment of detectability and extent of suitable breeding habitat.

Miscellaneous observations made by Mossman (or those reported to him by BAAP staff) during his work at the plant on cultural and biological resources, leading field trips and sampling small mammals, mainly during 1998-2002 and 2008-2012.

WI-1. Site is important to one or more species listed as endangered or threatened in Wisconsin. From Table 1:

COMMON NAME ⁱ	1993 Count	Abundance, Breeding Status ⁱⁱ		Total Count		Estimated Breeding Pairs	
		1998	2012	1998	2012	1998	2012
<i>Upland Sandpiper</i>	20	Fc	Rp	20	3	15-30	2-3
<i>Bell's Vireo</i>	0	X	Up	0	9	0	20
<i>Hooded Warbler</i>	0	X	Rp	0	1	0	2-3
<i>Henslow's Sparrow</i>	0	Up	Fc	0	46	3-10	100-200

ⁱ Boldface = Species with high conservation priority for IBA program. Italics = State-Threatened status. Yellow highlight = apparent population increase 1998-2012. Blue highlight = apparent population decrease 1998-2012.

ⁱⁱ Breeding-season abundance: A = Abundant, C = Common, F = Fairly Common, U = Uncommon, R = Rare. X = not present. Breeding Status: c = confirmed breeder, p = probable breeder, t = transient nonbreeder, v = visiting breeder from nearby, n = nonbreeding summer resident.

WI-2. Site is important to one or more species identified as high conservation priorities in Wisconsin. Following are species breeding at BAAP, and meeting the minimum breeding abundance criteria for IBA program. Of these, the Upland Sandpiper and Western Meadowlark probably met the criteria within the past decade, but no longer do—however habitat management may bring numbers back to earlier levels. For some forest species, counts have not yet been summarized for 2011-12 (cells are left blank), but totals probably approximate or exceed those of 1998.

COMMON NAME ⁱⁱⁱ	1993 Count	Abundance, Breeding Status ^{iv}		Total Count		Estimated Breeding Pairs	
		1998	2012	1998	2012	1998	2012
Hooded Merganser	0	Uc	Uc	0	0	1-2	2-5
Bald Eagle	0	Rt	Uc	0	1	0	1
<i>Upland Sandpiper</i>	20	Fc	Rp	20	3	15-30	2-3
Black-billed Cuckoo	0	X	Up	0	4	0	10-20
Belted Kingfisher	0	Uc	Up	1		2-4	5-10
Red-headed Woodpecker	3	Cc	Rp	22	1	30-50	5-10
Eastern Wood-Pewee	6	Fc	Fp	62		80-170	
Willow Flycatcher	4	Fc	Cp	35	113	50-100	250-500
<i>Bell's Vireo</i>	0	X	Up	0	9	0	20
Yellow-throated Vireo	2	Up	Up	6		10-20	
N. Rough-winged Swallow	0	Cc	Fc	12		20-40	30-60
Sedge Wren	2	Uc	Up	26	14	30-60	30-60
Wood Thrush	0	Up	Fp	2	15	5-10	30-60
Brown Thrasher	6	Fc	Fp	53	56	70-150	70-150
Blue-winged Warbler	3	Uc	Fp	17	26	30-50	50-100

COMMON NAME ⁱⁱⁱ	1993 Count	Abundance, Breeding Status ^{iv}		Total Count		Estimated Breeding Pairs	
		1998	2012	1998	2012	1998	2012
<i>Hooded Warbler</i>	0	X	Rp	0	1	0	2-3
Field Sparrow	13	Cc	Cc	161	160	250-500	250-500
Grasshopper Sparrow	2	Fc	Fp	48	56	70-180	100-200
<i>Henslow's Sparrow</i>	0	Up	Fc	0	46	3-10	120-250
Rose-breasted Grosbeak	7	Fp	Cc	16	88	40-80	150-300
Dickcissel	0	Uc	Ac	12	301	15-30	400-800
Bobolink	38	Cc	Ac	124	239	150-250	300-500
Eastern Meadowlark	67	Ac	Ac	387	257	400-600	300-400
Western Meadowlark	25	Fc	X	20	0	15-25	0

ⁱⁱⁱ Boldface = Species with high conservation priority, meeting abundance criteria for IBA program. Italics = State-Threatened status. Yellow highlight = apparent population increase 1998-2012. Blue highlight = apparent population decrease 1998-2012.

^{iv} Breeding-season abundance: A = Abundant, C = Common, F = Fairly Common, U = Uncommon, R = Rare, X = not present. Breeding Status: c = confirmed breeder, p = probable breeder, t = transient nonbreeder, v = visiting breeder from nearby, n = nonbreeding summer resident.

WI-3. Site harbors an assemblage of species associated with a habitat type that is representative, rare, or threatened in Wisconsin.

The following species represent high-quality open grassland community (see Table 1 for numbers and breeding status, although number of estimated breeding pairs is included here for species that are especially abundant): Ring-necked Pheasant, Northern Bobwhite, Golden Eagle (nonbreeder), American Kestrel, Upland Sandpiper, Common Nighthawk, Sedge Wren, Vesper Sparrow, Savannah Sparrow, Grasshopper Sparrow (100-200), Henslow's Sparrow (120-250), Dickcissel (400-800), Bobolink (300-500), Eastern Meadowlark (300-400), and formerly Western Meadowlark (15-25; potentially restorable). This community will probably increase and diversify with management, if weedy tracts are replaced with grass, and as shrub encroachment is reversed. Other grassland wildlife include badger, prairie deer mouse and prairie vole.

Probably slightly less significant is the community of grassland-shrub birds, especially: Black-billed Cuckoo, Willow Flycatcher (200-500), Bell's Vireo, Gray Catbird (500-1000), Brown Thrasher (70-150), Yellow Warbler (400-800), Common Yellowthroat (400-800), Eastern Towhee (100-200), Clay-colored Sparrow (300-600), Field Sparrow (250-500), Vesper Sparrow, Song Sparrow (800-1500), Eastern Meadowlark, American Goldfinch. This community will probably remain at a similar level as open grasslands are managed such that shrub-loving birds decrease there, but very thick shrub-encroached sites are

opened up somewhat. Long-term, some of these species may decline if shrub control is aggressive.

The savanna bird community is well represented by American Kestrel, Red-headed Woodpecker (declining markedly with the removal of cattle and thousands of utility poles), Northern Flicker (40-80), Western Kingbird (1998 only), Eastern Kingbird (60-150), Warbling Vireo, Eastern Bluebird, Blue-winged Warbler, Yellow Warbler, Field Sparrow and Orchard Oriole (30-60). This community may increase with the removal of shrubs from savanna-like areas.

Forest birds are best represented in the transitional woodland and forest at the north end of the plant, contiguous with the extensive forest of the 3,480-acre South Bluff/Devils Nose State Natural Area. These species include Cooper's Hawk, Broad-winged Hawk, Yellow-billed Cuckoo, Barred Owl, Hairy Woodpecker, Eastern Wood-Pewee, Great Crested Flycatcher, Yellow-throated Vireo, Wood Thrush, Black-and-White Warbler, American Redstart, Ovenbird, Scarlet Tanager, Rose-breasted Grosbeak, and in shrubby openings, Blue-winged Warbler, Mourning Warbler, Hooded Warbler. Occasionally deep-forest breeders Blackburnian Warbler and Cerulean Warbler may cross the fence from the adjacent oak and oak-pine forest. Many of these species would be expected to decline with management that eliminates woodlots to favor the more significant and abundant grassland and grassland-shrub birds. However, breeding populations of significant forest birds may remain or even increase in the northern, bluffside woodland as trees continue to mature, and attention is given to exotic shrub management and improving its connection with the South Bluff forest by closing-up the intervening gap at the perimeter fence.

WI-4 (a-e). Site where significant numbers of birds concentrate for breeding, migration/staging, or wintering.

No counts have been made of birds during migration and winter seasons. During field trips and my trapping of small mammals during Aug and Sep of 3 different years, and based on the reports of BAAP personnel, the site is used much during these seasons by migrant and wintering raptors, especially Red-tailed Hawk, Rough-legged Hawk, American Kestrel, Golden Eagle, Turkey Vulture. Peregrine Falcon and Osprey have also been recorded.

WI-5. Site is important for long-term research and/or monitoring projects that contribute substantially to ornithology, bird conservation and/or education.

Education and research are identified as primary values of the site in the Badger Reuse Plan (Badger Reuse Committee 2001). The site has ready access from major Midwestern population centers, the University of Wisconsin campuses at Madison, Baraboo and Richland Center, and is within the Baraboo Dells tourist area that receives millions of visitors annually. Even during years of highly restricted access it has been a popular site for field trips and classes (e.g., by colleges, public K-12 schools, birding groups, Natural Resources Foundation) on the topics of birds, natural and human history, land management and planning, and their interrelationships. A system of small roads affords access to all habitats. For example, visitors may bus to the center of the 1000-acre northcentral grassland and be in the midst of a multitude of singing Henslow's Sparrow, Bobolink and

Eastern Meadowlark. It is easy at BAAP to witness and discuss relationships of birds, habitats, history and land management. BAAP has been used for research on bird-habitat relationships (Mossman 1999) and productivity (Wenny 2002). The site's avifauna has been well-monitored with a set of longterm transects and pt-counts. Given its proximity to research institutions such as UW- Madison and the presence of the DFRC, it offers the perfect opportunity to conduct experimental research on how to meld agriculture and grassland wildlife management, which is needed to maintain grassland bird populations in Wisconsin and surrounding states (Sample and Mossman 1997, Badger Reuse Committee 2001, Mossman 2003).

ORNITHOLOGICAL IMPORTANCE

Please list the criteria you are providing data for, the species this site is important for, the season(s) for which the site is important, maximum daily numbers, the years on which this count estimate is based, and the accuracy of the data. Attach additional sheets if necessary.

See above tables and Table 1 for breeding birds. Tables include actual counts and good estimates based on the counts and on a subjective assessment of detectability and the amount of suitable habitat on the site.

There have been significant changes in the breeding-bird fauna since 1998, as indicated in Table 1. These changes suggest effects of both past and future management. The loss of grazing is probably responsible for the loss of Western Meadowlark and almost all the Upland Sandpipers. The near loss of Red-headed Woodpecker is probably attributed to the loss of pasture and the loss of the thousands of wooden utility poles that once supported electric lines and steam pipes. With the loss of grazing, and an increase in thicker, taller grass, Henslow's Sparrows now breed in large numbers, and Bobolink have increased. In areas where soil has been disturbed in the process of removing buildings and other infrastructure, weedy forbs have become dominant, bringing a decrease in Eastern Meadowlark, Bobolink and Savannah Sparrow; but in these areas Dickcissels are rank, part of this change probably attributable to 2012 being a fairly "big" Dickcissel year regionally.

The encroachment of shrubs has eliminated much open grassland at the expense of Eastern Meadowlark, Savannah Sparrow and Upland Sandpiper, and to the benefit of many shrub-loving species of grassland landscapes (e.g., Clay-colored Sparrow, Willow Flycatcher, Yellow Warbler, Common Yellowthroat), and of the more wooded areas as well (Gray Catbird, Alder Flycatcher, American Redstart, Rose-breasted Grosbeak). Field Sparrow has maintained a relatively constant population level, possibly balancing the decline due to loss of pasture and short grass, with the expansion of shrubs.

DATA SOURCES (Examples: Breeding Bird Survey, Christmas Bird Count, personal observation, etc. If published, please provide author, date, title, publication, & page number). Attach additional sheets if necessary.

Described above. A regular array of 13 north-south transects (62 km total), 400 m apart set randomly over the entire 7354-acre BAAP site, with 136 five-min point-counts (200m maximum detection radius) (Mossman 1999). Double-counting of individuals was avoided as much as feasible. Data presented here are for both transects and pt-counts combined. This survey was run in 1998 and again during 2011-2012, using the same methods, transects and pt-count stations. Data do not include additional transects run on DFRC and (now) DNR property outside the BAAP fence, SE of Hwy 78, where no new species were found.

Also, in 1998, volunteers and I made detailed, documented observations on evidence of breeding—all of them reported in Mossman (1999).

Additional, accurate data are provided by the surveys and counts of Isenring (1993), Wenny (2002) and Kreitinger (2011).

HABITAT AND LAND USE

Major Habitat Types: Please indicate approximate % of total area for all major habitat types present.	Major Land Uses: Please indicate all major land uses with an "X".
Upland Hardwood Forest (aspen, maple, birch, oak, etc.) 10%	Nature / Wildlife Conservation X
Upland Mixed Hardwood-Coniferous Forest Lowland Hardwood Forest (ash, maple, cottonwood, etc.) +%	Hunting / Fishing X Other Recreation / Tourism X (expected) Agriculture / Livestock X
Hardwood or Conifer Plantation 2% pine and spruce plantations.	Forestry X Water Supply Utility / Right-of-way X
Upland Shrub 25%	Suburban / Residential
Oak Savanna / Barrens 5%	Urban / Industrial / Commercial Military (to end in 2013)
Prairie 2% Oldfield 15% Grass / Hay Field 30%	Research X Other (specify)
Agricultural Field 10%	Land Ownership/Management: check all that apply
Pond / Lake +%	State X Federal X Municipal X
Urban / Suburban 1%	County Private (individual) Private (industrial)

CONSERVATION AND OTHER Primary Conservation Issues: Please note Serious (S), Minor (M), and Potential (P) threats to the site.

Invasive or non-native plants S	Excessive soil erosion / degradation M
Introduced animals or feral/free-ranging house cats M	Extraction industry M
Pests / Diseases	Habitat conversion P
Cowbird Parasitism M	Residential / commercial development
Succession S	Communication / wind towers / Power lines
Deforestation / Tree cutting	Disturbance to birds or habitat P
Overgrazing / Overbrowsing	Recreational development / overuse P
Predators	Hydrologic changes (drainage, damming, etc.) M
Pesticides M	Illegal take / Vandalism
Agricultural use / intensity S	Population / genetic factors
Water pollution / Air pollution M	Habitat fragmentation / degradation M

DESCRIBE THESE ISSUES, THEIR SERIOUSNESS, AND STEPS BEING TAKEN TO ADDRESS THEM:

The southern 2100 acres is owned by DFRC. Currently in “clean” agriculture (corn, soy, alfalfa, other legumes and legume-grass forage plots), small grains, small pastures, and woodlots invaded by exotic shrubs. There is the potential, as conservationists and wildlife ecologists work with DFRC, to begin woodlot management, control of exotics, expanded pasture, and reduced clean-cropping, and thus bring DFRC into closer adherence to the spirit of the Badger Reuse Plan, which calls for coordinated management of BAAP as a single site regardless of ownership divisions.

The 3800 acres owned (or soon to be owned) by DNR includes acreages in all habitat categories, including highly significant grassland and shrubland, as well as the strip of former savanna and woodland that connects the BAAP grasslands with the forest and oak woodland of the South Bluff/Devils Nose State Natural Area. All other woods on BAAP originated after the plant began in 1942. Encroachment of grassland and woodlots by exotic shrubs (especially honeysuckle, autumn olive, buckthorn and multiflora rose) has become exponential since grazing was discontinued ca 2002, and land management was largely precluded by deconstruction and mitigation efforts. Herbaceous invaders are also prevalent, especially Japanese hedge parsley, spotted knapweed and garlic mustard. Aggressive efforts at control are essential, and anticipated within the next year, as DNR begins to manage the property.

The 1550 acres that will be deeded either to the Ho-Chunk Nation or (if refused) to DNR, includes 100 acres of open grassland little encroached by invasive shrubs, as well as some shrub-encroached grassland and woodlots. Both this tract and the DNR tract also include hundreds of acres of recently disturbed soils, planted and succeeded to weed communities

dominated by clovers, sweet clovers, thistles, and exotic grasses. Management of these weedy, forby tracts is advised, but the need is not as immediate as for the exotic shrubs.

The DNR is in the process of master-planning its 3800 acres (which may be expanded to 5350 acres within a year, if the Ho-Chunk do not accept their tract). The future of the DNR tract will be largely determined during the coming year, and this will surely incorporate management for its highly significant grassland and grass-shrub bird communities (DNR 2012). Potential threats resulting from this planning process might include recreational uses such as ATV, horse riding, dog-training, camping, etc. However, initial DNR planning documents express a direction consistent a memorandum of understanding with the National Park Service, and the 2001 Reuse Plan, which emphasize educational and interpretive uses, low-intensity recreational use, management for significant grassland bird communities, and research on melding conservation and agriculture that can be applied across Midwestern agricultural landscapes.

OTHER RESOURCES

PLEASE DESCRIBE ANY IMPORTANT, RARE, OR UNUSUAL FLORA, NON-AVIAN FAUNA, WATCHABLE WILDLIFE, AND/OR HABITATS ASSOCIATED WITH THIS SITE: Grassland wildlife communities include mammals indicative of intact grassland ecosystems (prairie deer mouse, prairie vole, badger, thirteen-lined ground squirrels). One of the concrete water reservoirs supports a unique population of neotenic tiger salamanders (Mossman et al., 2010). A 5- acre native hill prairie is managed by a the Sauk Prairie Conservation Alliance.

PLEASE DESCRIBE ANY SOCIAL, CULTURAL, ECONOMIC, OR HISTORIC ISSUES ASSOCIATED WITH THIS SITE: These are too many to describe here, and have been the subject of many publications, video documentaries, photographic exhibitions, presentations, and planning efforts since 1997. Most significant is the historic significance of this WWII-era propellant plant and its subsequent operations, the farm community it replaced, and the social and political processes and consequences of land-use decision-making that characterizes the history not only of this piece of land but of much of the nation. For more information, see the Reuse Plan and supporting documents (Badger Reuse Committee 2000, 2001), the book *Powder, People and Place* (Goc 2003), the video documentary *Powder to the People* (Erickson 2002), and other articles, e.g., Mossman (2000), Meine and Mossman (2003).

STAKEHOLDER GROUPS: PLEASE PROVIDE THE NAMES AND ADDRESSES OF EXISTING OR POTENTIAL GROUPS (OR INDIVIDUALS) WITH AN INTEREST IN THIS SITE:

NAME: Wisconsin Department of Natural Resources; Attn: Diane Brusoe, planner ADDRESS: Box 7921 CITY, STATE, ZIP: Madison Wis 53713	NAME: Sauk Prairie Conservation Alliance Attn: David Tremble, president ADDRESS: PO Box 403 CITY, STATE, ZIP: Baraboo WI 53913
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PHONE: 608-261-6445 EMAIL: diane.brusoe@wi.gov	PHONE: EMAIL: info@saukprairievision.org
NAME: Dairy Forage Research Center Attn: Rick Walgenbach ADDRESS: S8822 Sunset Dr. CITY, STATE, ZIP: Prairie du Sac, WI 53576 PHONE: 608-643-2438 EMAIL: richard.walgenbach@ars.usda.gov	NAME: Ho-Chunk Nation; Attn: Samantha Greendeer ADDRESS: CITY, STATE, ZIP: PHONE: (608) 234-6047 EMAIL: sgreendeer@whdlaw.com
NAME: Citizens for Safe Water Around Badger; Attn Laura Olah ADDRESS: E12629 Weigand's Bay South CITY, STATE, ZIP: Merrimac, WI 53561 EMAIL: info@cswab.org	NAME: Badger Oversight Management Group c/o Sauk County Planning and Zoning Office, ADDRESS: West Square Bldg, Rm 232 CITY, STATE, ZIP: Baraboo, WI 53913 EMAIL:
NAME: Badger History Group Attn: Verlyn Mueller, president ADDRESS: PO Box 113 CITY, STATE, ZIP: Prairie du Sac, WI 53578 PHONE: 608-448-0244 EMAIL: bhg-arch@tds.net	NAME: US Army, Badger Army Ammunition Plant Attn: Joan Kenney, Commander's Representative ADDRESS: CITY, STATE, ZIP: Baraboo WI 53913 PHONE: 608-448-0244 EMAIL: joan.m.kenney@us.army.mil
NAME: Wis Soc for Ornithology Attn: William Mueller, Conservation chair EMAIL: wpmueller1947@gmail.com	NAME: Madison Audubon Society ATTN: Karen Etter Hale EMAIL: karen.etter.hale@madisonaudubon.org

LANDOWNER / LAND MANAGER CONTACTS: PLEASE REFER TO THE LAND OWNERSHIP / LAND MANAGEMENT GUIDELINES BEFORE COMPLETING THIS SECTION. Please provide the name(s), address(es), and phone number(s) of the landowner(s) or land manager(s) for the site, and indicate whether they have been contacted concerning the nomination of the site.

NAME: WDNR (above) ADDRESS: CITY, STATE, ZIP: PHONE: CONTACTED?	NAME: Badger Army Ammunition Plant (above) ADDRESS: CITY, STATE, ZIP: PHONE: CONTACTED?
NAME: Dairy Forage Research Center (above) ADDRESS: CITY, STATE, ZIP: PHONE: CONTACTED?	NAME: ADDRESS: CITY, STATE, ZIP: PHONE: CONTACTED?

OTHER REMARKS ABOUT THE SITE:

**PLEASE ATTACH ANY SUPPORTING DOCUMENTATION (MAPS, PHOTOS,
FIELD NOTES, CHECKLISTS, ETC.)**

Photo notes (all are May and June 2012):

05-23-2087: Shrub encroachment along RR tracks (was grass-shrub habitat in 1998)

06 07-2349: Shrub encroachment and one of the last remaining structures (since demolished) (was open pasture with buildings in 1998)

06 08-2394: Conducting breeding-bird survey along transect in densely shrub-encroached woods, DFRC tract but typical of most BAAP woods. Gray Catbird, House Wren, Rose-breasted Grosbeak habitat. Was "grove" with very few shrubs in 1998.

06 08-2399: Experimental forage and grazing plots on DFRC tract.

06 10-2401: End of demolition in Ball Powder area. "DOT mix" of clovers planted here, with various weeds. Looking north toward forested South Bluff of Devils Lake. Buildings and pasture in 1998.

06 12-2559: Ditto, vegetation growth more advanced. Full of Dickcissels.

06 12-2570: North central 100-acre grassland, looking south with small building remaining. Brome and other grasses, looking south toward habitat of Henslow's Sparrow, Bobolink, Eastern Meadowlark.

06 12-2589: More Dickcissel habitat, with sweet clover, red clover on formerly disturbed soil. Pasture in 1998.

06 15-2609: Huber pasture invaded by autumn olive and honeysuckle, with Willow Flycatcher, Clay-colored Sparrow (open pasture with scattered open-grown oaks in 1998).

06 15-2716: Poa-dominated grassland, with Henslow's Sparrow. Grasshopper Sparrow, Bobolink, Savannah Sparrow. Open pasture in 1998, kept open subsequently by haying.

06 16-2767: Former bur/white oak woodland invaded by exotic shrubs (honeysuckle, buckthorn, autumn olive) and shade-tolerant tree saplings. Along southward extension of Burma Rd, along western edge of "woodland" tract delineated in Fig 3. Woods with slight shrub encroachment in 1998. Eastern Wood-Pewee, Hooded Warbler, American Redstart habitat.

06 22-2291: Huber pasture with remains of former barn, looking NW toward South Bluff of Devils Lake. Shrub encroachment just beginning. Henslow's Sparrow, Bobolink, Eastern Meadowlark.

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Table 1. Comparison of bird counts and status, 1993 (Isenring 1993), 1998 (Mossman 1999) and 2011-12 (Mossman, in prep). Data from the 2011-12 survey completed only for species of special interest.

COMMON NAME ⁵	1993 Count	Abundance, Breeding Status ⁶		Total Count		Estimated Breeding Pairs	
		1998	2012	1998	2012	1998	2012
Canada Goose	0	Uc	Fc	4		1-2	
Wood Duck	1	Fc	Fc	15	8	5-10	
Mallard	1	Fc	Fc	4	9	3-7	
Hooded Merganser	0	Uc	Uc	0	0	1-2	2-5
Ring-necked Pheasant	12	Fc	Up	30		15-25	
Wild Turkey	10	Fc	Cc	15		10-20	
Northern Bobwhite	10	Up	Rp	0	0	5-15	3-8
Great Blue Heron	0	Uv	Uv	4	2	0	
Green Heron	0	Uc	Up	3		1-3	
Turkey Vulture	0	Cp	Cc	9		0-5	
Osprey	0	Rt	Rv	1		0	0
Bald Eagle	0	Rt	Uc	0	1	0	1
Cooper's Hawk	0	Up	Up	2		1-4	
Broad-winged Hawk	0	Up	Up	0		0-1	
Red-tailed Hawk	3	Cc	Cc	15		1-3	3-6
Golden Eagle	0	X	Rt	0	0	0	0+
American Kestrel	3	Fc	Fc	3	7	5-8	5-8
Peregrine Falcon	0	Rt	x	0	0	0	0
Sandhill Crane	0	Un	Fc	0		0	3-6
Killdeer	8	Fc	Fc	72		50-100	
Spotted Sandpiper	0	x	Up	0	4		4-8
<i>Upland Sandpiper</i>	20	Fc	Rp	20	3	15-30	2-3
Wilson's Snipe	0	X	Rp	0	0	0	0-2
American Woodcock	0	Up	Up	0		3-10	
Ring-billed Gull	0	X	Ut	0			
Rock Pigeon	0	Fc	Fc	25		15-40	
Mourning Dove	11	Cc	Cp	73		80-200	
Black-billed Cuckoo	0	X	Up	0	4	0	10-20
Yellow-billed Cuckoo	2	Up	Up	4		5-10	5-10
Great Horned Owl	0	Fc	Fp	0		5-10	
Barred Owl	0	Up	Up	0		1-3	
Common Nighthawk	0	X	Rp				
Whip-poor-will	0	Up	Up	0		3-5	
Chimney Swift	0	Up	Uv	5		5-10	
Ruby-throated Hummingbird	0	Up	Fp	1		5-20	
Belted Kingfisher	0	Uc	Up	1		2-4	5-10
Red-headed Woodpecker	3	Cc	Rp	22	1	30-50	5-10
Red-bellied Woodpecker	3	Cc	Cc	15		20-40	
Yellow-bellied Sapsucker	0	X	Up		1	0	5-10

COMMON NAME ⁵	1993 Count	Abundance, Breeding Status ⁶		Total Count		Estimated Breeding Pairs	
		1998	2012	1998	2012	1998	2012
Downy Woodpecker	1	Cp	Cp	17		30-50	
Hairy Woodpecker	0	Uc	Up	3		5-10	
Northern Flicker	4	Cc	Fp	43	20	60-150	40-80
Pileated Woodpecker	0	Fp	Fp	1		1-2	3-5
Eastern Wood-Pewee	6	Fc	Fp	62		80-170	
Alder Flycatcher	0	X	Fp	0	15	0-1	30-50
Willow Flycatcher	4	Fc	Cp	35	113	50-100	250-500
Least Flycatcher	3	Up	Up	5	4	8-20	8-20
Eastern Phoebe	4	Cc	Fc	33	22	50-100	30-60
Great Crested Flycatcher	2	Fp	Fp	29		50-100	
Western Kingbird	0	Rc	x	0	0	0-1	0
Eastern Kingbird	4	Cc	Cc	42	42	60-150	60-150
Bell's Vireo	0	X	Up	0	9	0	13-50
Yellow-throated Vireo	2	Up	Up	6		10-20	
Warbling Vireo	8	Fp	Fp	48	51	80-180	80-180
Red-eyed Vireo	3	Uc	Fp	16		40-80	50-100
Blue Jay	5	Cc	Cp	42		70-150	
American Crow	8	Cc	Cc	83		25-50	
Horned Lark	0	Fc	Fp	16	27	20-40	40-80
Purple Martin	0	Rv	Rv	1		0	0
Tree Swallow	0	Cc	Fc	21		40-80	
N. Rough-winged Swallow	0	Cc	Fc	12		20-40	30-60
Bank Swallow	0	Uc	Uc	19		15-25	30-50
Cliff Swallow	0	Uc	Fc	17		20-40	
Barn Swallow	9	Cc	Uc	95		150-300	
Black-capped Chickadee	4	Fc	Cc	24		25-50	
Tufted Titmouse	0	X	Uc	0		0	10-20
Red-breasted Nuthatch	0	X	Uc	0		0	2-5
White-breasted Nuthatch	2	Fc	Cc	10		20-40	
House Wren	21	Cc	Cc	155	161	200-400	300-600
Sedge Wren	2	Uc	Up	26	14	30-60	30-60
Golden-crowned Kinglet	0	X	Rp	0	1	0	1-3
Blue-gray Gnatcatcher	0	Uc	Fp	13		15-30	
Eastern Bluebird	4	Cc	Fc	44	17	60-120	50-100
Wood Thrush	0	Up	Fp	2	15	5-10	30-60
American Robin	20	Ac	Cc	169		300-500	
Gray Catbird	17	Cc	Ac	129	292	200-300	500-1000
Brown Thrasher	6	Fc	Fp	53	56	70-150	70-150
European Starling	18	Cc	Fc	253	72	300-500	50-100
Cedar Waxwing	8	Cc	Cp	74		100-200	
Blue-winged Warbler	3	Uc	Fp	17	26	30-50	50-100
Yellow Warbler	9	Fp	Cc	44	193	60-120	400-800
Chestnut-sided Warbler	0	Up	Rp	1		3-8	

COMMON NAME ⁵	1993 Count	Abundance, Breeding Status ⁶		Total Count		Estimated Breeding Pairs	
		1998	2012	1998	2012	1998	2012
Yellow-rumped Warbler	0	Rt	X	1		0-1	
Blackburnian Warbler	0	Rv	Rv	1		0-1	
Black-and-White Warbler	0	X	Rp	0	2	0	2-4
American Redstart	5	Uc	Cp	5	62	10-20	150-300
Ovenbird	0	Up	Up	3		5-15	
Mourning Warbler	1	Up	Up	6	1	10-25	2-10
Common Yellowthroat	10	Cc	Ac	59	179	100-300	400-800
Hooded Warbler	0	X	Rp	0	1	0	2-3
Yellow-breasted Chat	0	X	Rp	0	0	0	0-1
Scarlet Tanager	0	Up	Up	2		8-15	
Eastern Towhee	3	Cp	Cp	31	48	60-150	100-200
Chipping Sparrow	23	Ac	Cc	123		250-400	
Clay-colored Sparrow	11	Cc	Ac	69	183	100-200	300-600
Field Sparrow	13	Cc	Cc	161	0	250-500	250-500
Vesper Sparrow	3	Up	Up	9	13	30-80	40-80
Savannah Sparrow	45	Ac	Fp	264	50	500-900	100-200
Grasshopper Sparrow	2	Fc	Fp	48	56	70-180	100-200
Henslow's Sparrow	0	Up	Fc	0	46	3-10	120-250
Song Sparrow	42	Ac	Ac	395	495	600-1000	800-1500
Northern Cardinal	14	Cc	Cp	81		150-300	
Rose-breasted Grosbeak	7	Fp	Cc	16	88	40-80	150-300
Indigo Bunting	3	Cc	Cp	37	43	60-150	70-150
Dickcissel	0	Uc	Ac	12	1	15-30	400-800
Bobolink	38	Cc	Ac	124	9	150-250	300-500
Red-winged Blackbird	53	Cc	Cc	257		400-700	
Eastern Meadowlark	67	Ac	Ac	387	7	400-600	300-400
Western Meadowlark	25	Fc	X	20	0	15-25	0
Common Grackle	11	Uc	Up	19		0-5	
Brown-headed Cowbird	6	Fc	Fc	112	109	150-300	150-300
Orchard Oriole	2	Uc	Fc	6	17	4-10	30-60
Baltimore Oriole	7	Cc	Cp	57		100-200	
House Finch	0	Fc	Up	71	3	100-200	5-10
American Goldfinch	11	Cc	Cc	65		100-200	
House Sparrow	0	Uc	Up	2	2	5-20	5-10

⁵ Boldface = Species with high conservation priority for IBA program. Italics = State-Threatened status. Yellow highlight = apparent population increase 1998-2012. Blue highlight = apparent population decrease 1998-2012.

⁶ Breeding-season abundance: A = Abundant, C = Common, F = Fairly Common, U = Uncommon, R = Rare, X = not present. Breeding Status: c = confirmed breeder, p = probable breeder, t = transient nonbreeder, v = visiting breeder from nearby, n = nonbreeding summer resident.

Figure 1. Badger Army Ammunition Plant, on 1978 USGS 7.5' topographic map.

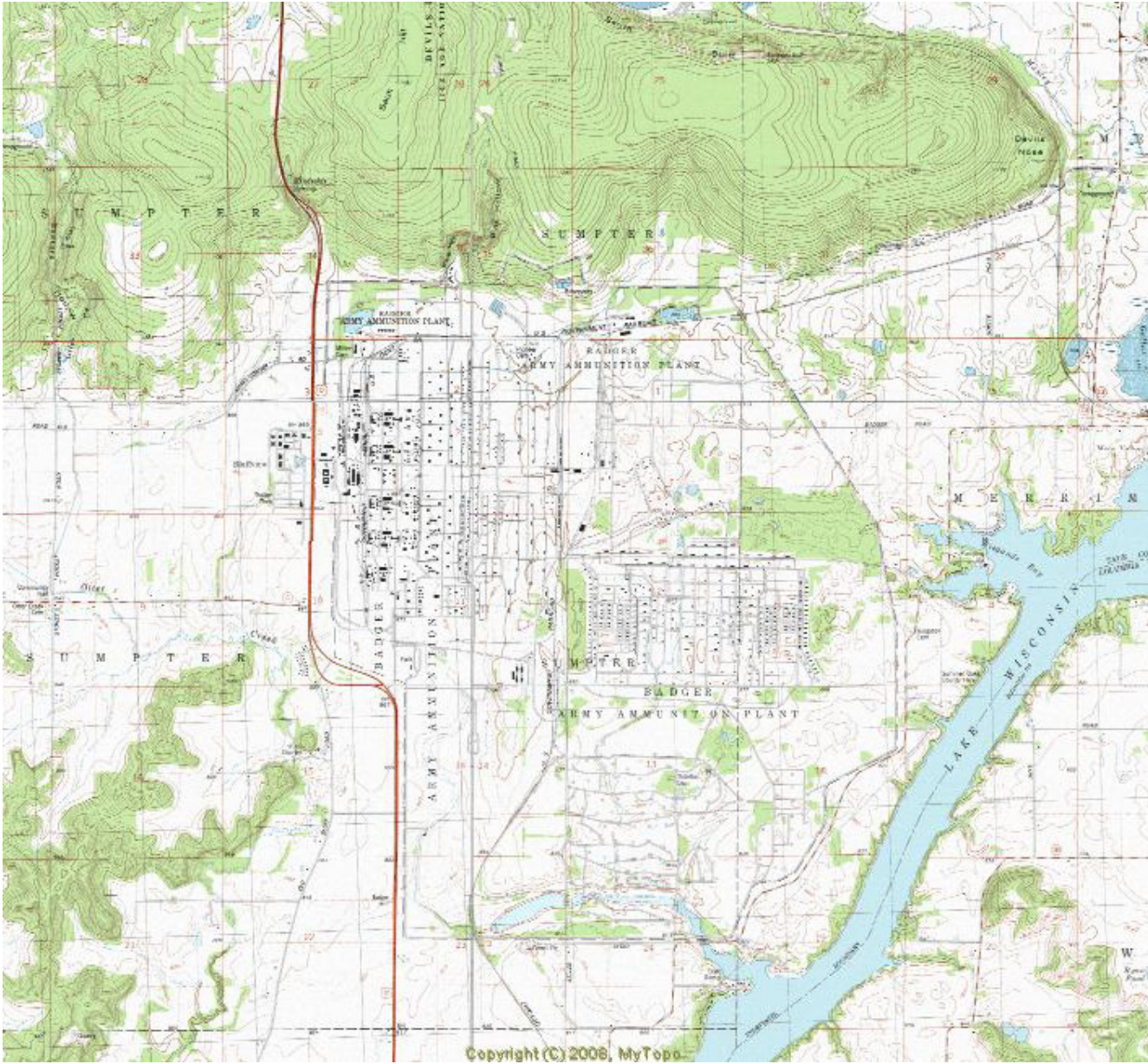


Figure 2. Critical open and shrubland habitats at BAAP (from WDNR 2012).

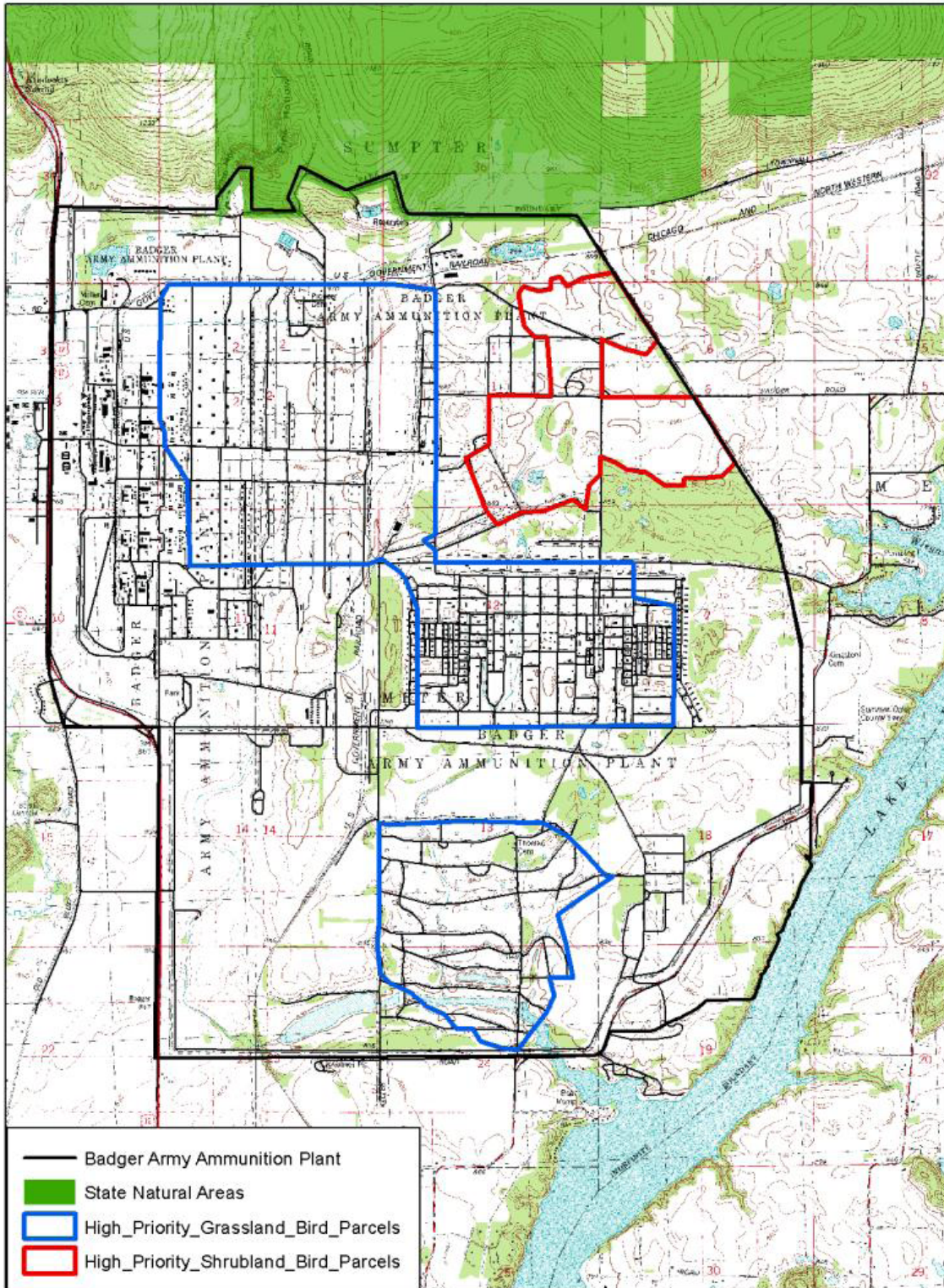


Figure 3. Site of High Conservation Significance: Baraboo Hills Woodland (from WDNR 2012).

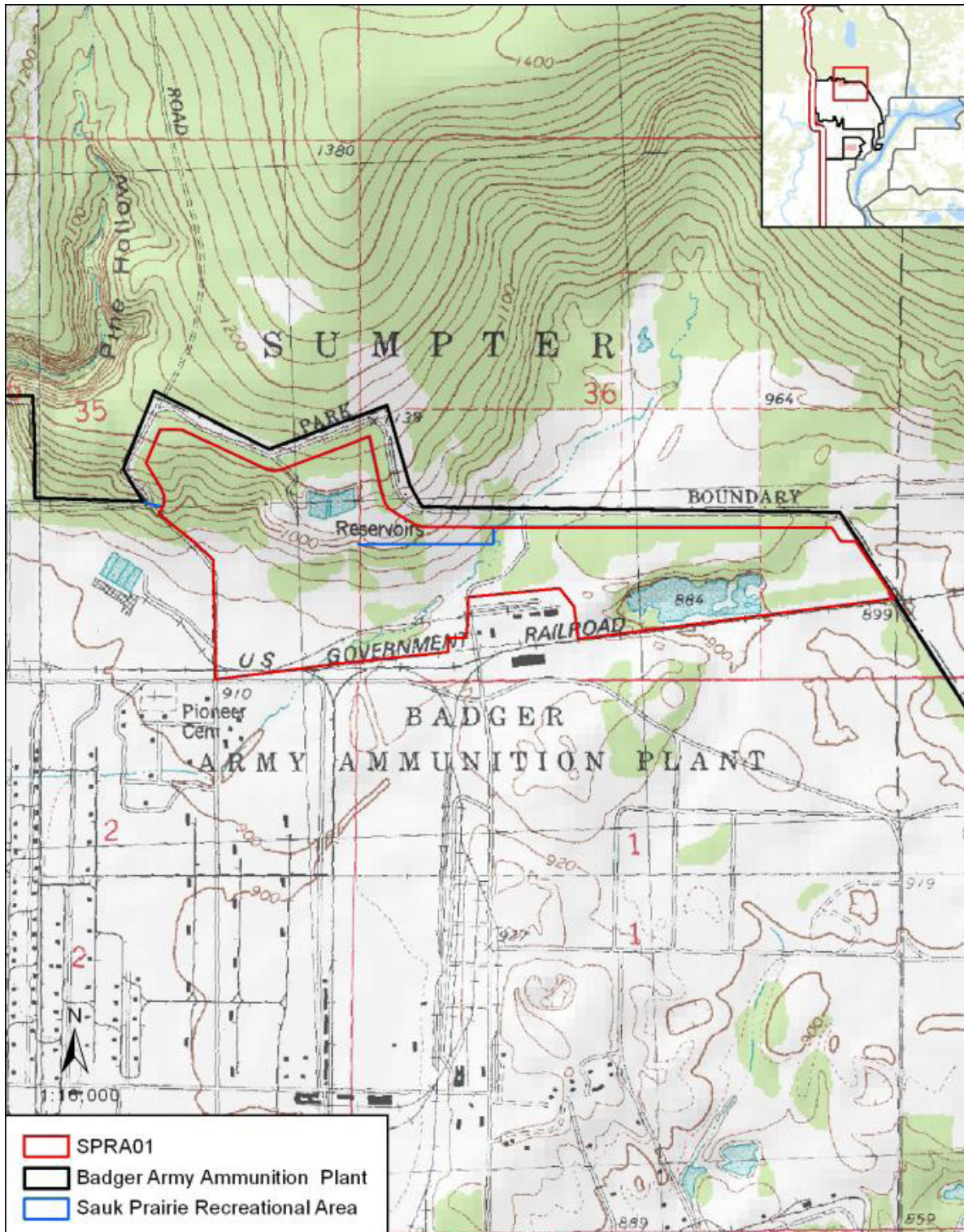


Figure 4. Badger Army Ammunition Plant, with 13 transects and 136 point-counts, from 1998 breeding-bird survey.

