



Inland Regional News

Inland Bird Banding Association

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Inland Flyway Review – MAPS 2021 Report

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This report, the second annual IBBA MAPS review, includes information from 20 MAPS stations operated in the IBBA region in 2021. The MAPS program, operated by the Institute for Bird Populations (birdpop.org), has collected banding data from over 1,200 stations across North America since it began in 1989. As in 2020, there were about 60 stations in operation in the states and provinces included in the IBBA region in 2021. Ten of the 15 stations that reported in 2020 return for 2021. Ten new stations were also added for 2021.

The 20 stations ranged from Saskatchewan south to Mississippi and Alabama. Once again, the greatest representation was from the Great Lakes region, with 6 stations in Wisconsin, 3 in Illinois, 3 in Michigan, and 1 in Ohio. The remaining 3 stations were in Arkansas and Tennessee. Four of the stations have been in operation for more than 20 years while 8 have been in operation for 5 years or less.

As in 2020, Spring Valley Wildlife Area in Ohio has the distinction of recording the most new birds banded (213) and the most species banded (37) in 2021. The SABO station at the Fort Custer Training Center in Michigan reported the greatest number new birds/100 net-hr (73.8 b/100nh) and the most new birds on a single day (51 on 19 Jul). Riveredge Nature Center in Wisconsin reported the most species on a single day (20 on 22 Jul).

I appreciate the efforts of the banders for providing

their station's information. Thanks to the Danielle Koschube and the IBP staff and to Linda Tossing and other IBBA board members for their assistance contacting MAPS banders in the IBBA region.

Station summaries are presented in Table 1 in alphabetical order by state first and then by MAPS ID code.

AL - Wehle Forever Wild Tract (WEHL)

Midway, AL

Contact(s): Eric Soehren (eric.soehren@dcnr.alabama.gov) and John Trent (john.trent@dcnr.alabama.gov), Wehle Land Conservation Center, Midway, AL.

The MAPS station located on the Wehle Forever Wild Tract in Midway, Bullock County, Alabama, completed its 16th season of operation in 2021. This year continued to have higher-than-average capture rates compared to previous years. The average number of birds banded/100 net-hr for 2020 and 2021 was 22.4 (range 20.0 to 24.8) compared to 15.0 (range 10.9 to 19.4) from 2006 to 2019. Reasons for this increase are not certain, but there has been an increase in large canopy gaps created by tree falls allowing for areas of denser early-successional vegetation to develop. Perhaps this has made for more inviting nesting/foraging/post-breeding habitat for birds.

We banded 1 new species this year: Belted Kingfisher. Numbers of Black-and-white Warblers banded were elevated for the second consecutive year. In 2020 and 2021, we banded 10 and 12 individuals, respectively, while total individuals for all previous years combined was 11 (2006 to 2019). This year's inter-annual recapture

with the longest time since initial banding was a Downy Woodpecker first banded in 2017. We unfortunately did not recapture the male Kentucky Warbler originally banded in 2010 and recaptured last year (2020), which established a new longevity record of 11 years 11 months (assuming a June 2008 hatch date). Finally, we added two species to our station breeding status list (Northern Rough-winged Swallow and Broad-winged Hawk), bringing the total to 92 species detected since our station's inception.

AR - Arkansas Hardwood Tree Museum (HWTM)

Fort Smith, Sebastian County, AR

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The Arkansas Hardwood Tree Museum (a private non-profit) property is bordered on 1 side by Arkansas Game and Fish Commission's Huckabee Nature Center and by suburban housing developments on the rest. Habitat is mostly non-native grass/forb, grass/forest edge, and streamside forest. Three nets are in the edge habitat and 2 by the stream. The most common trees include Eastern Red-cedar, Hackberry, Southern Red Oak, and Red Maple.

The number of new birds banded in 2021 (38) was slightly higher than in 2020 (35) but still much lower than the first 3 years (64 in 2017, 60 in 2018, and 49 in 2019). Birds/100 net-hr in 2021 (16.7) was also slightly higher than in 2020 (15.0) and less than the average for the previous 4 years (23.4). Only 1 bird banded in 2021 was recaptured this year: an AHY-F Carolina Wren banded on 23 May and recaptured on 23 Jul. Only 1 bird banded prior to 2021 was recaptured 2021: an AHY-F Northern Cardinal banded in May 2019 and recaptured on 13 Jun. Four new species were added to the list this year: Magnolia Warbler (an SY-F on 23 May), Least Flycatcher (an AHY-U on 23 May), Red-eyed Vireo (2 AHY-F on 23 May), and Yellow-billed Cuckoo (an AHY-U on 23 Jul). Magnolia Warblers and Least Flycatchers had not been seen or heard at the site previously; Red-eyed Vireos and Yellow-billed Cuckoos have been seen

and heard frequently (and are probably breeding on the site) but had not been banded until this year.

This year's top species include Northern Cardinal, Painted Bunting, and Carolina Wren (4 each), followed by Carolina Chickadees (3). The top species in 2020 were Northern Cardinal and White-eyed Vireo (4 each), followed by Carolina Wren, Blue-gray Gnatcatcher, and Black-and-white Warbler (3 each). The top 5 species for all 5 years combined remain the same as in 2020. The 3 Carolina Chickadees banded in 2021 (AHY-M, AHY-F and HY-U) were all caught together in the same net at the same time on 13 Jun. Two Summer Tanagers (SY-M and ASY-F) were also caught together in the same net at the same time, also on 13 Jun.

AR - Stone Prairie Wildlife Management Area (STPR)

Mayflower, Faulkner County, AR

Contact: Maureen McClung, Conway, AR; mcllung@hendrix.edu.

The Stone Prairie Wildlife Management Area is a 400-ha property that consists of 3 major habitat types, including oak-hickory forest, oak woodland, and open prairie, through which a perennial stream travels. This area, once a part of the Camp Joseph Robinson Army Base, was acquired by the Arkansas Game and Fish Commission (AGFC) in 2017. Under AGFC ownership, these 3 habitat types have begun to undergo regular management action, such as burning and thinning, with the ultimate goal of generating more open habitats for wildlife. In 2020, hickories and sweetgums underwent injection treatments, and in 2021, it was obvious which trees had been treated. The canopy is indeed opening up, and a couple of nets that were fully shaded last year were exposed to more sun this year.

This year, we were able to complete the full 8 sampling periods compared to 6 from last year (because the pandemic delayed our start in 2020). Thus, the 139 new bands from 2021 may seem like a big leap compared to the 102 from 2020, but this uptick can be attributed to 2 more days of banding. When you look at the number of new birds/100

net-hr, the numbers are similar between years (29.0 in 2021 compared to 28.7 in 2020). We were excited to greet 10 recaptured individuals banded during our first season in 2020, and 17 of those first banded in 2021 made it back into our nets. The list of most commonly encountered birds (new bands plus recaptures) included Indigo Bunting (28), Yellow-breasted Chat (20), Carolina Chickadee (14), Common Yellowthroat (13), and Blue-gray Gnatcatchers (10).

**IL - Big Marsh Park,
Chicago Parks District (BIGM)**

Chicago, Cook County, IL

Contact: Stephanie Beilke, Chicago, IL; stephanie.beilke@gmail.com.

Big Marsh Park, owned by the Chicago Park District since 2015, is bordered by a decommissioned landfill, abandoned industrial parks, Lake Calumet, and a golf course. The habitat of the banding station is “slag” prairie (slag is a dumped by-product of the steel industry that makes up a large part of the soil), cottonwood woodland with invasive buckthorn understory, and emergent marsh edge. Seven nets were placed in the cottonwood/buckthorn habitat and 1 net was placed in emergent marsh. This year was the second year that the station was operated. We missed banding during Period 6 due to rain or threat of rain that occurred during most dates during that period. A total of 179 new birds were banded, along with 38 recaptures (29 unique recaptures), and 7 unbanded birds, representing 24 species.

Despite adding a new net and having more net-hours in 2021, our total number of captures in 2021 (224) was similar to 2020 (220). This year’s top species for new banded birds were Gray Catbird (39), Yellow Warbler (27), American Robin (23), Willow Flycatcher (12), and Downy Woodpecker (11). In 2020, our top species were Gray Catbird (44), Yellow Warbler (34), American Robin (25), House Wren (19), and Song Sparrow (18). We recaptured 16 individuals that were originally banded in 2021, including 1 Marsh Wren that was target-netted by another bander during the same year at the same location, which makes it a foreign recapture for our station. Thirteen individuals

banded in 2020 were recaptured in 2021. A Swamp Sparrow and a Downy Woodpecker, both aged as HY in 2020, were recaptured as SY in 2021. Of the 9 species that were banded in 2021 that were not banded in 2020 (our first year of operation), 3 were migrants captured during the first banding period: Mourning Warbler, Swainson’s Thrush, and Yellow-bellied Flycatcher. Our new wetland net was successful in helping us catch a species common at the site but not banded in 2020: Marsh Wren. However, most of the other captures at the new wetland net were species seen regularly at our other nets outside of the wetland, such as Common Yellowthroat, Swamp Sparrow, Willow Flycatcher, and Indigo Bunting. We also ended up catching at least 1 Marsh Wren at a net that was not in the wetland, but within close proximity to the wetland.

IL - City Water, Light, and Power (SPFD)

Springfield, IL

Contact: Tony Rothering,
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The SPFD MAPS station is located on property owned by the local municipality (City, Water, Light and Power – CWLP). It is bordered on the east by Lake Springfield (human-made water reservoir), on the northwest by Interstate 55, and on the south by residential housing. The station primarily consists of secondary growth, oak/hickory forest with an invasive understory (bush honeysuckle). Along the interstate, there is old field habitat (non-native grass/forb) which also creates a field/forest edge. Of the 10 nets in operation, 2 nets are in the edge habitat with the other 8 being in the forest. Two of the forest nets are near a stream that runs through the property with 1 of those nets stretching over the stream (perpendicular to the water channel). This year, a local conservation/restoration group is working with CWLP to remove the invasive forest understory and re-establish a native understory. It will be interesting to monitor how these modifications affect the future bird diversity and density.

The number of new birds banded has fluctuated considerably over the 7 years the station has been in operation. The highest number (176 birds; 37 b/100nh) was during our first season of

operation (2015) and the lowest number (93 birds; 19 birds/100 net-hr) in 2016. This year (2021), we had 115 new birds (24 b/100nh). We added 2 new station species for the year: Red-headed Woodpecker (SY-U) and Tennessee Warbler (AHY-U on 10 Aug). We had a strong showing of newly banded Common Grackles this season (19 banded; previous 6-year average = 5.3), but a low number of Gray Catbirds (12 banded; previous 6-year average = 24.5). Notable 2021 recaptures included a female Downy Woodpecker banded in 2016.

IL - Waterfall Glenn Forest Preserve (WATE)

Lemont, IL

Contact: Brian Kraskiewicz,

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The 1013-ha Waterfall Glen Forest Preserve (property of the Forest Preserve District of DuPage County) consists of prairies, savannas and oak-maple woodlands surrounding Argonne National Laboratory and adjacent to the Des Plaines River valley. Our MAPS site is located primarily in a bluff savanna, but extends a bit into prairie, shrubland, and a pine forest. In 2014 considerable amounts of buckthorn, honeysuckle and other select weedy invasive trees and shrubs were removed from the hardwood forested portion of the site. Changes to the habitat since the station was started in 1992 have resulted in changes to our most common species. Following the removal of the invasive shrubs and trees in 2014, Gray Catbird and Indigo Bunting have replaced Black-capped Chickadee and Northern Cardinal as our most often trapped species.

In 2021 we were back to normal and were able to band in all 8 of our banding periods. Seven of our 10 nets are within the restored savanna, 1 is along a stream between restored and unrestored forest, 1 is near the shrubland, and 1 is near the edge between the savanna and the pine forest. Banding seemed slower this year although our totals were close to average. The mosquitos were definitely worse than in many previous years.

One new species added to our banding list is Red-headed Woodpecker. This species was first seen on our MAPS site in 2016 but not banded until this year. Even better, we found a nest with 2 adults, and later 1 juvenile was seen perched just outside the nest hole. Other interesting captures were an Indigo Bunting banded in 2017 as an SY and now in its fifth year, and a Gray Catbird banded in 2019 as an ASY and now in at least its fourth year. Our first HY birds of the year – 3 Downy Woodpeckers caught in the same net at the same time – were caught on June 22.

MI - Fort Custer Training Center

(FCTC: LACE, MOTT, SABO)

Kalamazoo, MI

Contact: Rich Keith, Vicksburg, MI;

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The 3 Fort Custer Training Center (FCTC) banding stations (MOTT, SABO, and LACE) are run by the Kalamazoo Valley Bird Observatory (KVBO) on the Army National Guard Base near Battle Creek, Michigan. This 2830-ha base is heavily used in about 810 ha while the remaining 2020 ha have lighter use. Nearby are Kalamazoo/Battle Creek Airport and the Battle Creek Business Park, with another 4050 ha of mixed, contiguous habitat. KVBO has conducted avian surveys here since 1997 and MAPS banding since 2009.

The number of new birds banded for the 3 sites combined in 2021 (376) is well below our long-term average of 542. Lower numbers of migrants were banded in spring and fall of 2021 as well, perhaps due to weather patterns. Birds/100 net-hr were 43.9, also down from the long-term average of 57.4.

Top 5 species banded in 2021 were Common Yellowthroat (76), Song Sparrow and Yellow Warbler (42 each), Gray Catbird (35), Cedar Waxwing (20), and Black-capped Chickadee (10). The top 5 species for all years are Gray Catbird (1,122), Yellow Warbler (886), Song Sparrow (571), Common Yellowthroat (511), and Ruby-throated Hummingbird (298).

KVBO has also conducted MAPS banding operations at the Pitsfield Banding Station near

Vicksburg, Michigan, since 1990. For many years, we ran 30 nets on 4 days per 10-day period because IBP originally asked us to use as many nets as possible on as many days as possible. Obviously, this does not meet their current protocol, but they grandfathered this station in for many years. However, shortly after we began banding operations at the 3 Fort Custer sites in 2009, it became apparent that we could not continue the 4 days per period at Pitsfield. Consequently, we pared down to 1 day per period using 10 nets at Pitsfield, as per current MAPS protocol. Our database is not current, but we have banded over 10,000 birds during the breeding season at Pitsfield in the last 32 years.

MS - Sam D. Hamilton Noxubee National Wildlife Refuge (NOXB)

Starkville, Noxubee County, MS

Contact: Scott Rush, Mississippi State, MS; scott.rush@msstate.edu.

This MAPS station is located on the Sam D. Hamilton Noxubee National Wildlife Refuge, within Noxubee County of east-central Mississippi. This refuge spans approximately 20,000 ha and is characterized by low topography and acidic waterlogged clay soils. The field site contains bottomland hardwood forestland consists primarily of white oak, maple, elm, and pine. Eight nets are in bottomland while two nets are in an area of Loblolly Pine and mixed forbs/grasses. A controlled fire was set within the area of the MAPS station in November 2019. This fire removed some undergrowth but did not burn intensively through the bottomlands, leaving much of the plant communities and associated structure unchanged.

This MAPS station is located through an area of forest that transitions from bottomland to open Loblolly Pine (*Pinus taeda*). The bottomland portion of this study site is subject to periodic flooding during spring/early summer. This flooding keeps the understory relatively open. Many of the Loblolly Pine within this site are 70+ years old and are starting to die. Not reflected in the MAPS data presented here but the senescence and death of these trees has resulted in increased woodpecker activity, abundance and diversity

of these birds is expected to continue to increase during future MAPS seasons. In other areas of this MAPS station, specifically the area of open pine, the understory has continued to thicken and be replaced by hardwood species. This change in structural conditions has resulted in a shift from bird species associated with early- to mid-succession (e.g., Yellow-breasted Chat, Indigo Bunting) to more generalist species such as Kentucky Warbler.

OH - Spring Valley Wildlife Area (SVWA)

Warren and Greene counties, OH

Contact: tbthobaben@gmail.com.

Operated by Robert G. Thobaben Jr., Stephen Lee, Sylvia Hadley, Elvina Gibbons, and Kyle Briggs.

Spring Valley Wildlife Area is in southwestern Ohio in a wetland complex consisting of 7 habitats: wooded swamp, dogwood and multiflower rose shrubland, cattail marsh, sedge meadow, hydric soil of grass, agrimony and goldenrod, water lily pads, buttonbush, and open water. SVWA is an old muskrat farm and duck hunting area open to hunting and fishing. It is situated next to the Little Miami River which is a national and state scenic river. It is managed for the endangered Spotted Turtle and Massasauga Rattlesnake. An artesian well fills the marsh with cold clear water year-round.

We operate two MAPS banding stations (MAPS #16618): a southern banding station with 12 mist nets and a northern banding station with 7 mist nets. The south station is very wet while the northern station is drier. SVWA has had 240 avian species observed there during the last 67 years. We have banded 89 species of birds from 21 May through 7 August during the last 28 years. This year our bird populations have declined about 18% possibly because of 4 previous years of aerial spraying of Roundup to reduce the cattail marsh and open the marsh area for duck hunting and fishing. This in turn has changed the plant succession to an early stage. Someone in Ohio Department of Natural Resources (ODNR) has decided that human use is more important than breeding birds. They did wait to spray till the last week in July after the breeding season is generally over. The aerial spraying has caused declines in Gray Catbird, White-eyed Vireo,

and Northern Cardinal populations but increased the populations of Common Yellowthroats, Song Sparrows, and American Goldfinches over the last 5 years. Aerial spraying was not performed in 2021. The only new species at SVWA this year was Savannah Sparrow.

**SK - Big Valley,
Nature Conservancy of Canada (BGVL)**

Lumsden, SK

Contact: Sarah Ludlow,

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The Nature Conservancy of Canada (a private non-profit) Big Valley property is located in the Qu'Appelle Valley at the south end of Last Mountain Lake in Saskatchewan. Habitat is predominantly native grassland interspersed with patches of aspen forest. All 8 nets are located in openings in the forest or along trails. The number of new birds banded has not remained constant over the station's 4 years with 86 birds in 2021, 119 in 2020, 109 in 2019, and 168 in 2018. Birds/100 net-hr in 2021 (29.9) was substantially lower than the average of the previous 3 years (average of 2018-2020: 46.1).

One new species was added to the list this year: ASY-F Eastern Kingbird. We also banded 2 ASY-F Baltimore Orioles during Period 6 (29 June); these birds mark the second capture of this species in our 4 years. There were 5 species banded and recaptured in 2021 including 6 House Wrens, 3 Black-capped Chickadees, 2 Yellow Warblers, and 2 American Redstarts. Birds banded in previous years that were recaptured in 2021 include 1 Black-capped Chickadee, 2 House Wrens, 3 Yellow Warblers, 1 Gray Catbird, and 1 Least Flycatcher banded in 2020; 1 Red-eyed Vireo, 1 Least Flycatcher, 3 Yellow Warblers, and 1 Yellow-bellied Sapsucker banded in 2019; and 1 American Redstart banded in 2018. This season we did not capture any birds that were banded at different MAPS stations (see the 2020 IBBA MAPS report for more information).

SK - Saw-whet Acres Banding Station (NWSO)
Edenwold, SK

Contact: Jared Clarke, Edenwold, SK;
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Jan. - Jun. 2022

The Saw-whet MAPS station is located 32 km NE of Regina, Saskatchewan, near the village of Edenwold and has been in operation since 2013. The station operates 7 nets. Two nets sit in our large yard site, which is heavily treed with Blue Spruce and Trembling Aspen. The other 5 nets are on an adjacent Ducks Unlimited Canada quarter section, which is predominately tame hay land, made up of species such as Meadow Brome and Alfalfa, with a few small wetlands and stands of Trembling Aspen or Willow. The station is on the edge of the Aspen Parkland ecoregion, but the majority of the surrounding landscape is annual dry cropland (for example, wheat and canola).

This year had the lowest capture rate of birds in the 9 years the station has been in operation with 179 new banded birds (previous years' average 272.3) and 17 recaptured individuals from previous years. The number of birds/100 net-hr (71.0) was the lowest ever and was about 75% of the previous years' average (107.9). This was not surprising as southern Saskatchewan experienced its worst drought in decades this summer and all of the small wetlands (<1 ha) in the MAPS site dried up early in the spring. Birds responded to this change. For example, the average number of new Song Sparrows banded in previous seasons was 7/season, and this year we caught 0. Yellow Warblers have averaged 29/season compared to 11 in 2021. Cedar Waxwings have averaged 27/season compared to 8 in 2021. Numbers of some species stayed consistent compared to previous years and were also the top captured species: Least Flycatchers (27), House Wrens (21), Gray Catbirds (20) and Black-capped Chickadees (16). Purple Finches (3) were a new species captured and documented at the station, with an ASY-M with a CP score of 3 captured on 27 Jun, an HY-U in full juvenile plumage on 10 Jul and an AHY-F with a BP score of 4 captured on 27 Jul.

Despite a lower-than-average number of between-year recaptures (17 versus an average of 24), some were noteworthy. An AHY-M Yellow Warbler that was banded on 13 Aug 2015 (shortly after MAPS ended) was recaptured for the first time 10 Jul 2021. This is the third male Yellow Warbler recaptured 6

years after its initial banding at our site. An SY-M Least Flycatcher that was first banded on 26 Jul 2016 and later recaptured on 26 Jun 2020 was again recaptured 03 Aug 2021. Lastly, an SY-M Gray Catbird that was banded on 06 Jul 2017 was recaptured for the first time on 19 Jun 2021.

**TN - Warner Park
Nature Center (WPNC)**

Nashville, Davidson County, TN
Contact: Laura Cook, Warner Park BIRD Program,
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Warner Parks is a 1,286.9-ha area in southwest Davidson County, Nashville, Tennessee, that is managed by the Metropolitan Parks and Recreation Department. The MAPS banding site is on the Warner Park Nature Center campus and is a public banding station. The center is located on the edge of large urban natural area park with 2 state highways nearby. Habitat is forest edge near a creek and small pond. Six nets are in the edge habitat and 4 by the stream. Four nets were added this year.

We followed COVID safety protocols and were able to complete all 10 sessions this season with no session publicized. Several Louisiana Waterthrush, Kentucky Warblers, Indigo Buntings, Vireos, and Wood Thrushes were banded. Thirteen birds from previous years were recaptured and the oldest was an Eastern Towhee from 2016. One hundred fifty-eight socially-distanced visitors learned about bird banding and the MAPS Program.

This was the first year during MAPS where we radio-tagged birds with 434 MHz solar transmitters from Cellular Tracking Technologies as of our MOTUS research project focused on thrushes. During MAPS, we radio-tagged 7 individuals of 3 thrush species: Gray-cheeked Thrush, Swainson's Thrush, and Wood Thrush. Two of the Wood Thrushes were a mated pair and on 23 June BIRD Intern Savannah Emery, volunteer Joseph Hallum, and Laura Cook located the pair's nest in a Hackberry tree behind the nature center! Both birds departed for the warmer climes of Central America in early October. We hope they return next year!

This was the 31st year of our MAPS station, which was the first in Tennessee and 1 of the first in the Southeast. We are continuing to work with the Institute of Bird Populations to analyze the data. The Bird Program is supported by Metro Parks and Recreation and funded by Friends of Warner Parks, a non-profit support group. The program is coordinated by Sandy Bivens, Kathy Shaw and Laura Cook and made possible by a team of 16 dedicated volunteers (some from home this year) and nature center staff.

WI - Beaver Creek Reserve (BCRE)

Fall Creek, WI
Contact: Jeanette Kelly, Beaver Creek Reserve,
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Beaver Creek Reserve is a small nature center located in Fall Creek, WI. The reserve manages over 160 ha of diverse habitat along the Eau Claire River. The land is used for a variety of recreational, educational, and research purposes. This was our 18th year of operation. The banding station operates 11 nets with most of the nets located in a mixed upland forest along a creek. The remaining nets are located in planted prairie or a red pine plantation. The number of new birds was 106, which meets our station average of 106. The number of new birds/100 net-hr was 23.5. This was close to our average of 23.2. The number of species this year was 21. Brewster's Warbler was a new capture in 2021, which brings the station species total to 65. Song Sparrows continue to be our most common bird, followed by Common Yellowthroats, Ovenbirds, and Rose-breasted Grosbeaks. The station had 44 recaptures this year. Fifteen of the recaptures were within-year recaptures while 29 were banded in previous years. For inter-annual returns, 15 were banded in 2020, 7 were banded in 2019, 5 were banded in 2018, and 2 were banded in 2017.

**WI - Baraboo Hills
Research Collective and University of
Wisconsin-Madison
(HDUP, HHWO, PHUP, PINE)**

Sauk County, WI
Contact: Maia Persche,
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In 2021, the Baraboo Hills Research Collective, a recently formed ecological monitoring group, started a series of 4 MAPS stations in partnership with the University of Wisconsin-Madison. These research sites are all located on Nature Conservancy properties and represent a range of habitat characteristic of the Baraboo Hills, a contiguous forest in southern Wisconsin. This project seeks to understand the effects of open oak woodland management on the bird, arthropod, and plant communities. Two stations, HDUP and HHWO, are actively managed open oak woodlands on blufftops, and a third station, PHUP, is an unmanaged control. A second component of this project is to measure climate-change related influences on the populations of northern bird species. The fourth station, PINE, is located in a stream gorge with a unique assemblage of northern bird and plant species and is expected to act as a patch of resilient habitat as temperatures rise in the future. The 2021 MAPS season was the first at all 4 stations.

HDUP. – Hemlock Draw Uplands is at the edge of the Driftless Region and is made up of steep sandstone bluffs surrounding a narrow stream gorge. This site is within an open white oak woodland on top of a south-sloping bluff. It is managed using a combination of mechanical thinning and prescribed fire. The overstory is dominated by white oak, and the understory is sparse with patches of regrowing ironwood, prickly ash, and chokecherry. Brambles and wood nettles are common, as well as sedge species and wildflowers. We banded 82 new birds, or 19.2 b/100nh. In total, 19 species were banded. The most common species were Eastern Wood-pewee (19), House Wren (15), American Robin (7), Eastern Towhee (7), and Wood Thrush (5). We also banded Hooded Warblers, Mourning Warblers, and Red-headed Woodpeckers.

HHWO. – Happy Hill Woodland (HHWO) is located within Baxter’s Hollow Preserve, a 2400-ha contiguous forest with oak-dominated blufftops and narrow rocky stream gorges. This site is situated at the top of a 400-m bluff and is currently managed for open woodland conditions using a combination of mechanical thinning and

prescribed fire. The overstory is dominated by white oak and shagbark hickory, and the understory is sparse with scattered ironwood, witch hazel, and black cherry. Brambles are common, as well as sedge species and wildflowers. We banded 106 new birds, or 25.1 b/100nh. In total, 20 species were banded. The most common species were American Redstart (59), Indigo Bunting (11), Eastern Wood-pewee (9), Rose-breasted Grosbeak (8), and American Robin (4). We also banded Mourning Warblers, a Blue-winged Warbler and a Yellow-bellied Sapsucker.

PHUP. – Pan Hollow Uplands is located within Pan Hollow Preserve, a 120-ha property located at the top of a 400-m bluff and embedded within several thousand hectares of contiguous deciduous forest. White oak, shagbark hickory, sugar maple, and red maple dominate the overstory, and the understory is dense and made up of sugar maple, ironwood, and white ash. A quartzite outcrop runs across the site, and the remnants of an open glade are visible. This site is not managed. We banded 49 new birds, or 11.5 b/100nh. In total, 17 species were banded. The most common species were Black-capped Chickadee (7), Wood Thrush (7), American Robin (5), and Eastern-Wood Pewee (5). We also banded Hooded Warblers and a Yellow-billed Cuckoo.

PINE. – Pine Hollow Preserve has also been designated as a State Natural Area. It is made up of a 100-m deep stream gorge with 20-m sandstone cliffs and vegetation characteristic of northern habitats. Hemlock, white pine, yellow birch, and sugar maple dominate the overstory, and the understory is made up of blue beech, witch hazel, yellow birch, and sugar maple. The east branch of Honey Creek runs through the bottom of the ravine and flows year-round. We banded 53 new birds, or 19.3 b/100nh. In total, 20 species were banded. The most common species were Louisiana Waterthrush (21), Veery (8), Acadian Flycatcher (5), and Wood Thrush (5). We also banded a Winter Wren and a Black-throated Green Warbler.



WI - Riveredge Nature Center (RENC)

Saukville, WI

Contact: Jana Gedymin, Oconomowoc, WI; gedyminj@gmail.com and Al Sherkow, Whitefish Bay, WI; al@sherkow.com.

Riveredge Nature Center consists of 153 ha of Wisconsin river frontage, mature forests, native Wisconsin prairie, vernal ponds, creeks, swamp and fen communities and more. Our MAPS site is in a remote area of the property, previously only open in the winter, and starting in 1999 open for MAPS bird banding. We were able to situate our 10 nets on boundaries and among a number of habitats including lowland forest, shrubland, cropland, conifer plantation and grassland. This leads to our variety of 77 species banded. The top 20 species have 35 or more individuals. Our Breeding Status List for the station includes 130 species.

We attempted some socially distanced banding in 2020 but were not able to complete a full season. The nature center also started using a portion of our site for a portable lumber mill and lumber storage for new building construction. The area is about 46 x 37 m and was chosen because it was already a “disturbed” area within the property. This appears to have caused a drop in our birds/100 net-hr during 2020 and 2021. The range in our earlier years was 60 to 88 b/100nh. During 2020 the rate dropped to 52.8 and 2021 it dropped further to 47.3.

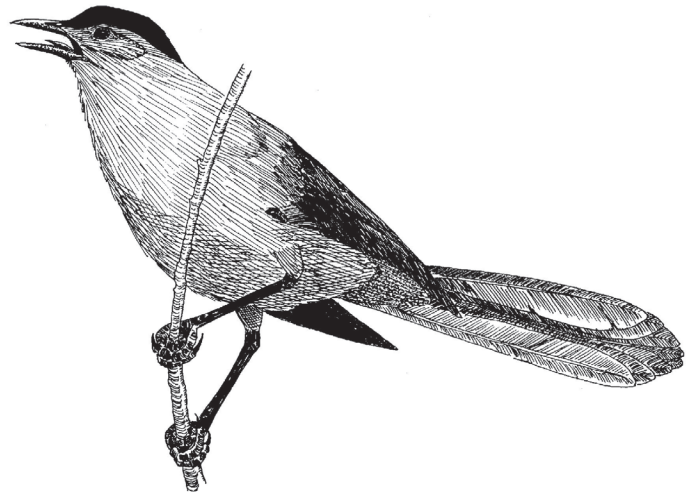
Some species seemed to have a rather dramatic drop off. Our Gray Catbird banding remained stable. However, in a typical year we capture 35 Common Yellowthroats but this year we caught only 26, a drop of 36%. More surprising were Black-capped Chickadees. We usually catch 27 birds/season, but we caught only 8 in 2021. We catch 9 Field Sparrows in a typical year but caught only 2 in 2021.

An important aspect of MAPS is the cross-year returns. In our first 14 years the range was from 11 to 31 individuals, with an average of 23.5. Our most common return species are Black-capped Chickadees (89), Gray Catbirds (71), Common Yellowthroats (63), Field Sparrows (23), and Traill’s Flycatchers (17). With the maturing

habitat we have not had a Traill’s Flycatcher return since 2011, and we have banded only 2 in the last 3 years.

We did have 3 returns this year, far below the average of 23.5. A significant number of returns are birds from preceding year, and 2020 was unusual due to the pandemic. Removing first year returns from the analysis, only looking at returns from earlier years, the range is 4 to 18 birds with an average of 12. The 3 returns in 2021 are still on the low end. They include a Black-capped Chickadee and a Common Yellowthroat, both initially banded in 2018. These birds were also caught in 2019 but we missed them in our short 2020 season. A Common Yellowthroat initially banded in 2019, missed in 2020, was captured again in 2021.

When the construction on the property is over, and the area is no longer used as a lumber mill and storage yard, will our birds/100 net-hr rate increase again? Only continuing the project will answer this question.



Gray Catbird Can Stock studios

Table 1

SITE DATA	AL-WHEEL	AR-HWTM	AR-STPR	IL-BIGM	IL-SPFD	IL-WATE	MF-FCTC (LACE)	MF-FCTC (MOTT)	MF-FCTC (SABO)	MS-NOXB	OHSYVA
County or nearest city	Midway	Ft. Smith	Mayflower	Cook County	Springfield	Lemont	Kalamazoo	Kalamazoo	Kalamazoo	Starkville	Spring Valley
Years in operation including 2021	16	5	2	2	7	28	13	13	13	8	28
Dates of operation in 2021 (total days)	19 May to 30 Jul (9)	23 May to 02 Aug (8)	24 May to 03 Aug (8)	04 Jun to 07 Aug (6)	29 May to 10 Aug (8)	27 May to 02 Aug (8)	01 Jun to 31 Jul (7)	01 Jun to 31 Aug (7)	31 May to 21 Jul (5)	19 May to 06 Aug (7)	21 May to 06 Aug (8)
Nets used in 2021 (total net-hr)	10 (540.0)	5 (26.5)	10 (480.0)	8 (257.7)	10 (480)	10 (480)	10 (315)	10 (315)	10 (225)	10 (519)	19 (860)
NEW BANDS 2021											
New birds (mean of prior years)	108 (79.6)	38 (52.5)	139 (102)	179 (202)	115 (127.8)	62 (62.3)	45 (89)	165 (244)	166 (209)	68 (87)	213 (267)
New birds /100 net-hr (mean of prior years)	200 (15.6)	16.7 (23.4)	29.0 (28.7)	69.5 (99.0)	24.0 (26.6)	12.9 (14.05)	14.3 (28.3)	52.4 (77.5)	73.8 (66.3)	7 (8)	28 (38)
Most individuals on a single day (date)	23 (19 May)	12 (23 May)	29 (24 May)	42 (04 Jun)	19 (15 Jun)	14 (27 May)	11 (12 Jul)	36 (12 Jul)	39 (31 May)	17 (27 May)	31 (21 May)
Species banded (mean of prior years)	19 (19.3)	21 (20.0)	26 (25)	24 (21)	26 (23.0)	19 (18.2)	20 (22)	25 (26)	26 (26)	15 (19)	37 (41)
Most species on a single day (date)	12 (19 May)	9 (23 May)	13 (07 Jul)	14 (04 Jun, 19 Jul)	14 (29 May)	9 (27 May)	8 (1 Jun)	15 (12 Jul)	14 (31 May)	8 (19 May)	15 (21 May)
New species	1	4	4	9	2	1	1	0	1	0	1
Top 5 species in 2021:											
	CARW (17)	NOCA (4)	INBU (19)	GRCA (39)	AMRO (21)	GRCA (11)	GRCA (8)	COYE (9)	COYE (29)	ACFL (5)	COYE (40)
	TUTI (14)	PABU (4)	YBCH (16)	YEWA (27)	COGR (19)	INBU (7)	VEER (4)	YEWA (23)	SOSP (2)	HOWA (5)	SOSP (3)
	BA WW (12)	CARW (4)	CACH (14)	AMRO (23)	GRCA (12)	EAWP (7)	INBU (4)	SOSP (20)	YEWA (19)	NOCA (5)	GRCA (30)
	NOCA (11)	CACH (3)	BGGN (10)	WIEL (12)	NOCA (12)	DOWO (6)	AMRE, BWVA, CEDW (3)	GRCA (16)	GRCA (19)	SUTA (5)	INBU (13)
	KEWA (8)	6 spp. (2)	AMGO, COYE (8)	DOWO (11)	BLJA (8)	AMGO (5)	-	BCCH (10)	CEDW (17)	WEVI (5)	NOCA (13)
RECAPTURES 2021											
Individuals in 2021 recaptured ≥ 1x	19	1	17	16	8	6	4	25	16	8	57
Individuals from prior years recaptured ≥ 1x	29	1	10	13	11	10	6	28	25	20	27
TOTALS SINCE BEGINNING OPERATION											
Individuals banded	1,302	244	241	381	882	1,845	1,073	2,933	2,507	167	8,712
Species banded	44	36	30	30	42	67	50	55	55	43	89
Top 5 species for all years combined											
	CARW (226)	NOCA (32)	INBU (34)	GRCA (83)	AMRO (192)	GRCA (258)	GRCA (213)	COYE (511)	YEWA (451)	WEVI (120)	GRCA (1,771)
	KEWA (154)	CARW (20)	YBCH (27)	YEWA (61)	GRCA (159)	INBU (233)	BWVA (80)	YEWA (435)	GRCA (446)	KEWA (95)	COYE (971)
	INBU (100)	PABU (20)	KEWA (23)	AMRO (48)	NOCA (118)	BCCH (206)	CEDW (71)	GRCA (363)	SOSP (274)	HOWA (89)	NOCA (708)
	NOCA (100)	FISP (20)	CACH (19)	HOWR (28)	COGR (51)	AMRO (1360)	VEER (65)	RTHU (298)	TRFL (104)	CARW (76)	SOSP (651)
	HOWA (93)	WEVI (15)	BGGN (18)	WIEL (24)	TUTI (49)	DOWO (107)	INBU (56)	SOSP (287)	CEDW (77)	TUTI (59)	AMGO (421)
Total recaptures	626	46	51	51	160	453	242	1,157	684	33	-
Individuals recaptured ≥ 1x	330	32	41	39	-	85	-	-	-	6	1,368
Species recaptured	23	9	12	11	21	22	25	26	24	8	26
Top 5 species recaptured > 1x all years											
	CARW (85)	CARW (8)	INBU (13)	-	-	INBU (41)	GRCA (84)	COYE (392)	GRCA (203)	CARW (5)	NOCA (156)
	KEWA (48)	WEVI (6)	YBCH (6)	-	-	GRCA (19)	VEER (33)	RTHU (200)	COYE (92)	HOWA (5)	COYE (151)
	HOWA (30)	NOCA (5)	KEWA (4)	-	-	AMRO (5)	BWVA (27)	YEWA (183)	YEWA (163)	KEWA (3)	WEVI (67)
	NOCA (26)	FISP (4)	WEVI (4)	-	-	EA WP, NOCA (4)	FISP (25)	SOSP (127)	SOSP (126)	WEVI (3)	GRCA (60)
	ACFL, INBU (21)	INBU, KEWA (3)	COYE, NOCA (3)	-	-	HOWR, BCCH (3)	WOTH (12)	GRCA (112)	TRFL (29)	NOCA (3)	SOSP (34)

Table 1 cont'd

SITE DATA	SK-BCVL	SK-NSWO	TN-WPNC	WI-BCRE	WI-HDUP	WI-HHWO	WI-PHIP	WI-PINE	WI-RENC
County or nearest city	Lumsden	Edenwold	Nashville	Eau Claire	North Freedom	North Freedom	North Freedom	North Freedom	Newburg
Years in operation including 2021	4	9	31	18	1	1	1	1	21
Dates of operation in 2021 (total days)	22 Jun to 03 Aug (6)	19 Jun to 03 Aug (6)	04 May to 03 Aug (10)	06 Jun to 03 Aug (7)	09 Jun to 06 Aug (7)	04 Jun to 05 Aug	03 Jun to 08 Aug	05 Jun to 11 Aug	03 Jun to 31 Jul
Nets used in 2021 (total net-hr)	8 (288)	7 (252)	10 (496)	11 (451)	10 (426.7)	10 (423)	10 (426)	7 (275.3)	10 (336.1)
NEW BANDS 2021									
New birds (mean of prior years)	86 (132)	179 (272.3)	83	106 (106)	82 (NA)	106 (NA)	49 (NA)	53 (NA)	118 (172)
New birds/100 net-hr (mean of prior years)	29.9 (46.1)	71.0 (107.9)	16.7	23.5 (23.2)	19.2 (NA)	25.1 (NA)	11.5 (NA)	19.3 (NA)	35.1 (50.2)
Most individuals on a single day (date)	19 (22 Jun, 15 Jul)	51 (19 Jun)	20 (11 May)	21 (23 Jun)	21 (09 Jun)	21 (05 Aug)	11 (14 Jul)	16 (12 Jun)	49 (22 Jul)
Species banded (mean of prior years)	16 (21.7)	23 (24.4)	29	21 (20.0)	19 (NA)	20 (NA)	17 (NA)	20 (NA)	28 (30.3)
Most species on a single day (date)	9 (22 Jun, 15 Jul)	17 (19 Jun)	15 (11 May)	10 (10 Jun)	11 (09 Jun)	10 (05 Aug)	8 (14 Jul)	8 (4 Jul)	20 (22 Jul)
New species	1	1	0	1	19	20	17	15	0
Top 5 species in 2021:									
	HOWR (18)	LEFL (27)	INBU (8)	SOSP (15)	EAWP (17)	AMRE (59)	BCCH (7)	LOWA (21)	GRCA (27)
	BCCH, YEWA (13)	HOWR (21)	NOCA (8)	COYE (13)	HOWR (15)	INBU (11)	WOTH (7)	VEER (8)	COYE (17)
	AMRE, LEFL (9)	GRCA (20)	COGR (7)	OVEN (9)	AMRO (7)	EAWP (9)	AMRO (5)	ACFL (5)	HOWR (15)
	CEDW (4)	BCCH (16)	CARW (7)	RBGR (9)	EATO (7)	RBGR (8)	EAWP (5)	WOTH (5)	AMGO (11)
	TEWA (3)	YEWA, AMRO (11)	AMRO (6)	GRCA (8)	WOTH (5)	AMRO (4)	RBGR, OVEN (4)	EATO, REVI, WIWR (2)	AMRO (11)
RECAPTURES 2021									
Individuals in 2021 recaptured ≥ 1x	18	29	7	15	11	12	3	18	14
Individuals from prior years recaptured ≥ 1x	13	17	13	29	NA	NA	NA	NA	6
TOTALS SINCE BEGINNING OPERATION									
Individuals banded	482	2,263	(still working on)	1,916	-	-	-	-	3,446
Species banded	32	47	analyzing 31 years of data)	65	-	-	-	-	77
Top 5 species for all years combined									
	YEWA (95)	LEFL (300)		SOSP (334)	-	-	-	-	GRCA (606)
	HOWR (71)	CEDW (275)		COYE (275)	-	-	-	-	COYE (432)
	LEFL (56)	YEWA (260)		GRCA (173)	-	-	-	-	BCCH (321)
	AMRE (55)	HOWR (215)		OVEN (163)	-	-	-	-	HOWR (316)
	BCCH (46)	GRCA (176)		RBGR (104)	-	-	-	-	AMGO (281)
Total recaptures	161	492		657	-	-	-	-	1,263
Individuals recaptured ≥ 1x	122	144		131	-	-	-	-	728
Species recaptured	14	19		26	-	-	-	-	40
Top 5 species recaptured > 1x all years									
	YEWA (29)	LEFL (26)		COYE (190)	-	-	-	-	COYE (128)
	HOWR (18)	YEWA (24)		SOSP (147)	-	-	-	-	GRCA (123)
	AMRE (16)	AMRO (12)		GRCA (103)	-	-	-	-	BCCH (112)
	LEFL (13)	BCCH, GRCA, WAWI (11)		OVEN (37)	-	-	-	-	SOSP (47)
	GRCA (10)	AMGO (10)		TREL (28)	-	-	-	-	HOWR (43)