Lincoln Land Community College Bird Banding Station (LLCC BBS)

Lincoln Land Community College, Springfield, IL
(Coordinates: 394-0893)

Report and Results, Spring 2019

Lincoln Land Association of Bird Banders
Vernon Kleen, Bander/Coordinator
Federal Permit # 08355

The Lincoln Land Community College bird banding station (LLCC BBS), initiated in September, 2012, began its **fourteenth** season of operations and **seventh** spring season on Thursday, 21 March 2019. The site was the same as in seasons past, primarily the northern edge of the LLCC property (just north of the baseball and soccer fields and east of the campus lake) and the southwestern edge of City Water, Light and Power property. The purposes established for the station are to: use bird banding as a tool to: a) document, quantify and monitor bird populations that permanently live in or visit the site during the spring and fall migratory seasons, and b) provide educational opportunities for students, staff and others interested in learning more about birds and their environments. Project objectives have also remained the same: 1) documenting, quantifying and monitoring the seasonal bird populations; 2) comparing seasonal results to those of past years and to similar projects or studies at other Illinois or national sites; 3) publishing project results; and 4) providing "hands-on" experiences to students, staff and others who visit the station.

As in past seasons, mist nets were used to capture birds from near sunrise to about 11:00 a.m. on days without rain, strong winds or very cold temperatures. This spring, from 18 to 28 (average: 22.7) mist nets were used on 49 mornings (practically all weekdays and most Saturdays) from 21 March through 24 May with 3635 net hours of operation. [One net hour is the use of one standard, 12-meter x 2-meter mist net for one hour during daylight hours.] The habitats in which nets were placed consisted of the same five components (and, in most cases, the same locations) as in previous seasons; i.e., a) an older, regenerated, deciduous woods with a thick honeysuckle understory and a slightly-sloped ravine with a narrow, shallow stream that flows from the campus lake (below the dam) to Lake Springfield (off campus) -- 10 nets; b) a narrow woodland edge between a highway and bare field -- 3 nets; c) a mowed grassy lane -- 3 nets; d) a small, managed prairie -- 4 nets; and e) an area in the vicinity of a group of bird feeders close to the lake -- 8 nets. To capture birds, net "lanes" were established and each net was stretched between two 10' aluminum poles (½" ENT conduit) placed vertically in the ground. The nets were then "unfurled" (usually before sunrise) and "furled" at the end of the daily banding session (to prevent the accidental capture of any birds when not in operation). The Bander's Code of Ethics – as developed by the North American Bird Banding Council (2001) – was the standard for banding operations. Specific station and banding protocols were also utilized as a formal part of the banding operations—these protocols included proper training of persons to extract birds from the nets, the careful handling, processing and releasing of the birds, and approved photography. **TABLE 1** compares the 2019 spring summary with those of the past five years (2014-2018).

TABLE 1

Spring Comparisons	Spring 2014	Spring 2015	Spring 2016	Spring 2017	Spring 2018	Spring 2019
First banding date	03/23	03/24	03/21	03/20	03/19	03/21
Last banding date	05/24	05/25	05/27	05/26	05/26	05/24
Number of banding days	47	49	56	50	52	49
Total species banded	82	75	79	76	87	83
Total birds banded	1391	1065	1858	1106	1687	1421
(Total birds banded less juncos)	*(1214)*	*(902)*	*(1364)*	*(947)*	*(1452)*	*(1176)*
Average number of birds per day	29.6	21.7	33.2	22.1	32.4	29.0
Highest one-day banding total	139	71	127	57	125	67
Date of highest total	05/05	05/04	04/04	03/31	05/01	05/09
Number of days with 100+ birds banded	2	0	1	0	2	0
Number of net hours	4182	4781	5162	3950^	5115^	3635^
Number of banded birds per net hour	0.33	0.22	0.36	0.28	0.33	0.39
Returns of banded birds*	213	193	198	123	146	136
Repeats of banded birds**	464	416	788	348	525	390
Total birds captured* **	2068	1674	2844	1577	2358	1947

^ 10%-20% reduction in net hours beginning in 2017 due to deer-damaged holes/tears in the nets;
*Returns: Birds banded at the site 90 or more days earlier
**Repeats: Birds captured within 90 days of original banding or previous capture.

For the 2019 season there were no days in which 100 or more birds were banded; the 2019 one-day high, 67, occurred on 9 May. [The highest number for a spring date remains at 139 (May, 2014) and for any date, 241 (Oct. 2016).] In contrast to past years, there were no days in which five or fewer birds were banded (compared to two or more days for all previous years); the lowest one-day total this spring was 8 (on 3 April). The 83 species banded this spring was second best for a spring season; this compared to the 82, 75, 79, 76 & 87 for the 2014 through 2018 seasons, respectively. This spring's total could readily have been 90 or more had seven (or more) of the following species present in the area been captured: Cooper's Hawk (we did capture a return), Yellow-billed Cuckoo, Red-headed Woodpecker, Yellow-bellied Flycatcher, any of four more vireos (at least a Red-eyed should have been caught), Northern Rough-winged Swallow, Red-breasted Nuthatch (but we did capture a return, twice, this spring); Marsh Wren, Cedar Waxwing, several more warbler species (although we do better in the fall), either tanager, any of five grassland sparrows, Blue Grosbeak, Orchard Oriole or Purple Finch (perhaps even an Eurasian Tree Sparrow). The final tally of birds banded was 1421 (the third-best for a spring season). At least three known species (Mallard, Cooper's Hawk and American Crow) were temporarily caught in nets but escaped prior to capture (in all three cases they brought the nets down to the ground). Two new species were added to the station total this spring: Barn Swallow and Connecticut Warbler (which brought the cumulative total to 125).

This year's average of 29.0 birds per day ranked fourth (for the six years of records since 2014) but was still one bird per day above the six-year average. Some of the seasonal highlights included returns of several species banded back as early as the fall of 2012 and good numbers (compared to past years) for the Eastern Phoebe, Veery, Lincoln's and Swamp sparrows, Common Yellowthroat, Northern Cardinal and Indigo Bunting. Overall, there were new all-time highs established for 9 species and ties for another 7; and new spring highs for 8 additional species and ties for 1. The low number of many sparrows and finches this spring cannot be fully explained; however, the prairie did not attract birds as expected and the feeders, even though well-maintained, didn't bring in as many birds as usual. The complete list of species captured and the number of each banded (including new and tied records) is provided in the **APPENDIX**.

Although the nets in the woodlands were responsible for capturing several species not caught in other habitats, only three of the 10 were consistently productive (and some were not operated at all on "lack of manpower" days). The prairie nets were a disappointment this year (based on their production in years past); however, seven of the eight feeder-area nets and 5 of the 6 edge nets produced well. Although we did not have any seriously "shortened" days this year, fewer nets were used on rain-threatening days (in order to be able to furl them quickly, if necessary). On these latter days both the number of net hours and number of potential captures were naturally lower. This year we logged 49 banding days (seven fewer than the record of 56 in 2016) and 3635 net hours (nearly 1500 fewer than the 5162 of 2016). The net hour figures (since 2017) have included a 10%-20% reduction because of the large, (unrepairable) deer-caused holes in and other damage to the nets (reducing the potential for capturing birds), plus, another small reduction on the very windy days when the nets not only became visible (by their flapping mesh), but virtual "walls" from which any birds that may have flown into them would have simply bounced off.

TABLE 2 identifies a) the 10 most commonly banded species this spring and compares them with the totals of the five previous spring seasons, and b) species that are typically in the top 10 (in approximate descending order) at most other eastern and midwestern region's spring banding stations. Only four of this region's "typical" top 10 were represented at the LLCC BBS this spring. In contrast to the most common birds, 14 species were represented by a single individual this spring and another ten by just two birds. The most likely "non-captures" were identified above.

TABLE 2 Spring Data Comparisons
The 10 most commonly banded species

	2014	2015	2016	2017	2018	2019
Dark-eyed (Slate-colored) Junco	177	162	494	159	235	245
Common Yellowstone	26*	24*	41*	32*	51	68
Gray Catbird	46*	34*	88	59	37*	65
Swamp Sparrow	98	89	91	117	48	60
Northern Cardinal	42*	32*	43*	28*	47*	51
Chipping Sparrow	23*	33*	14*	26*	29*	49
Swainson's Thrush	61	47	84	34*	138	47
Yellow-rump (Myrtle) Warbler	107	84	120	66	72	46
White-throated Sparrow	92	95	128	115	47*	46
American Goldfinch	106	69	42	11*	50	46

Region's typical Top 10 (all spring years combined)

White-throated Sparrow
American Robin
Gray Catbird
Indigo Bunting
Swamp Sparrow
American Goldfinch
Hermit Thrush
Common Grackle
Nashville Warbler
Tennessee Warbler

* Not in the Top 10 these years

In terms of species groups banded, there were 13 woodpeckers of 5 species, 36 flycatchers of 6 species, 5 vireos of 2 species, 37 wrens of 3 species, 116 thrushes of 7 species, 225 warblers of 18 species and 528 sparrows of 11 species. Unfortunately, an occasional casualty occurred; however, the number of "accidental" casualties was limited to just one this spring, a hawk was responsible for another, and a small number were killed directly by the "tame" campus deer attempting to eat them while still in the nets (personal observation—multiple observers). As usual, the station continued to be the benefactor of several specimens (including a woodcock, a coot and a Eurasian Tree Sparrow) from LLCC staff and visitors (primarily window casualties) for identification and donation to the State Museum.

Another important aspect of the banding program is the capture of birds that have been banded in seasons past. This spring, 138 were captured as "**returns"** [birds banded 90 or more days earlier]; one of these had been banded in the fall of 2012 and three in 2013 (see **TABLE 3**). Another 525 birds were captured as **"repeats"** [birds caught within 90 days of banding or a recapture date]--several of these were caught multiple times (some as many as eight times during the season). Some of the most interesting returns were the Eastern Kingbird (from 2014), the Sharp-shinned Hawk (from last spring), the Black-capped Chickadee (from the fall of 2012), the Blue Jay, Northern Cardinal and House Sparrow from 2013), the Gray Catbirds (from 2015 & 2016), the Common Yellowthroat (from last fall), 8 Chipping Sparrows (from 2016 through 2018) and the Winter Wren and Red-breasted Nuthatch (from last fall). Returning migrants are depicted in blue in TABLE 3.

TABLE 3

Returns* from past seasons

	2012	2013		2014		2015		2016		2017		2018		
	F	S	F	S	F	S	F	S	F	S	F	S	F	Total
Sharp-shinned Hawk												1		= 1
Cooper's Hawk									1					= 1
Red-bellied Woodpecker								2		1			1	= 4
Downy Woodpecker									2	1	1	1	2	= 7
Eastern Phoebe													1	= 1
Eastern Kingbird				1										= 1
Blue Jay			1							1		1	1	= 4
Black-capped Chickadee	1			1		1			1	1		3	10	= 18
Tufted Titmouse									1				6	= 7
Red-breasted Nuthatch													1	= 1
White-breasted Nuthatch						1							1	= 2
Carolina Wren											2			= 2
Winter Wren													1	= 1
Eastern Bluebird												1		= 1
American Robin								1						= 1
Gray Catbird							1	1					2	= 4
Common Yellowthroat													1	= 1
Chipping Sparrow									1	3	2		2	= 8
Song Sparrow									1	1	1	1		= 4
Slate-colored Junco								1		3		3	6	= 13
Northern Cardinal		1						1		2		1	7	= 12
Red-winged Blackbird						1				1		3		= 5
Common Grackle								1				2		= 3
Brown-headed Cowbird						1				2		4		= 7
House Finch								1		1	2	1	1	= 6
American Goldfinch						1		1	1	1	2	2	5	= 13
House Sparrow			1				1		1		1	4	2	= 10
														= 138

* Returns: Birds banded at the site 90 or more days previously (earliest bandings were in fall of 2012.)

F = Fall; S = Spring

Blue – returning migrants

The five issues that affected the banding operations this spring (and, in some cases, the potential number of nets used each day) were wind, rain, people, suitable habitat and deer. Very little could be done about the wind and rain except to furl nets that had already been opened (before the late morning showers began), or, call off all operations before dawn; there was an over-abundance of rain this spring (especially on Tuesdays). As for visiting people, there were four types:

full classrooms, interested students (some earning extra classroom credits), periodic wanderers, and those with dogs. The classroom groups, students and periodic wanderers didn't affect banding operations except for isolated occasions when they lingered for extended periods or staged as a group in close proximity to active nets – especially nets close to the campus lake. Then there were two categories of people with dogs: 1) those whose dogs were either on leashes or trained not to stray and 2) those who permitted their dogs to run freely. Fortunately none of the nets were known to be damaged by running dogs this spring. As for suitable habitat, there were four issues affecting results. First, the campus lake, after the frequent rains, swelled as much as four feet above normal pool and the water leaving the lake inundated the stream below the dam; as a result of the extra high stream water at least two stream-side nets were inaccessible and inoperable some days. Second, the prairie habitat (and some of the adjacent hedgerow next to the campus lake) was virtually void of birds this spring in contrast to high numbers (and periodic rare species) in springs past. Although the prairie (or half of the prairie) was not burned (as projected), the southern half was mowed. Third, bird-mobile access to the station's primary edge-habitat nets was hampered by the excessive rain which left flooded pools of standing water in the narrow trail to and from those nets making it difficult not only to get to those nets, but to operate them. Fourth, although the feeders were well-maintained, they weren't as much of an attractant to large numbers of birds as in years past. And finally, there were the deer (and more deer). The only hope remained that the deer learned where the nets were when furled (and readily visible) and avoided them when unfurled (not visible). Deer were definitely responsible for the complete destruction/loss of nets (more than usual) and for large, gaping holes in others. When the deer were caught off-guard (which they sometimes were), or were in pursuit of other deer, they dispersed quickly--and a net in their dispersal path did not stop them. The deer at the banding station are so tame, they don't even flinch when someone actively tried to chase them away. On occasion deer were observed using their noses to lift up the bottom trammel of the net and slither underneath before scampering away; however, on "too many" occasions they were observed running through the nets.

The banding "headquarters" (building) continued to be a major blessing, not only as a safe place to keep the "bird-mobile" and banding materials, but 1) as a work-site on the cold, windy and misty days (which were much more numerous this year than in the past), and 2) as a warm, wind-free rest area between net checks. However, the picnic table under the canopy continued to be the primary banding workstation on the warmer, less-windy days. The volunteers at the banding station will always be grateful to the LLCC Work Force Careers Center for making this building possible. Of course, the backbone of the station's operations is its volunteers. During the spring season there were at least 24 individuals who volunteered one of more days at the station. **Table 4** provides a brief accounting of this spring's volunteer support in terms of individual person-days there.

TABLE 4
Volunteer Support

No. of Days	No. of Volunteers
35+ days	2
10-17 days	7
5-9 days	2
1-4 days	13
	24

Number of Person days: 217

Acknowledgments: Finally, many thanks to everyone who volunteered time at and visited the LLCC banding station. Special thanks to a) Lincoln Land Community College for permitting the project to continue (in particular Dr. Charlotte Warren, Bill Bade, Dave Bretscher and Steve Handy); b) Anthony Rothering (LLCC Biology Faculty) for near-daily assistance in all aspects of the project from beginning to end, for the meaningful lectures to visiting classrooms, for the presentation to the LLCC Board on the status of the station, for maintaining the feeding station and for keeping the bird feeders full; c) many regular assistants (notably Paul Biggers—including arrangements to get the "bird-mobile" to and from the shop, Catherine Brandt, Joe Gardner, Wayne Huckabee along with Jim Mordacq who regularly arrived early on Wednesdays to set up the nets and for helpful improvements for station operations and safety, Carla Potts, Nancy Redman, Andrew Sharp, Susan Shaw, Trevor Slovick and Holly Thompson; d) all who donated wish-list items and necessities for the facility and station; e) to Paul Biggers, Nancy Redman and Anthony Rothering for reviewing and providing pertinent comments on the draft of this report, and f) everyone else who helped and/or visited the station (including dozens of LLCC classroom students and at least eight LLCC classes) any time during the season. Thanks, too, to everyone who provided financial support, especially to The Rotary Club of Springfield South for another grant, the Redmans for unique grants and several anonymous donors.

Fall operations: The LLCC BBS is scheduled to resume next fall from 19 August through 16 November.

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APPENDIX: 2019 Spring Banding Summary

Bold Face = New Station Species (2)

** new seasonal high total (9 species) T ties high total all seasons (7 species)
* new spring season high total (8 species) t ties spring season high total (1 species)

Wood Duck	1 T
Sharp-shinned Hawk	1
Mourning Dove	3
Ruby-throated Hummingbird	2
Red-bellied Woodpecker	1
Yellow-bellied Sapsucke	1 T
Downy Woodpecker	5
Hairy Woodpecker	1
Northern Flicker	5
Eastern Wood-Pewee	6 t
Traill's Flycatcher	5
Least Flycatcher	4
Eastern Phoebe	18*
Great Crested Flycatcher	1
Eastern Kingbird	2**
White-eyed Vireo	1
Warbling Vireo	4 T
Tree Swallow	5 T
Barn Swallow	**3****
Blue Jay	17
Black-capped Chickadee	3 (low)
Tufted Titmouse	2 (low)
White-breasted Nuthatch	7*
Brown Creeper	9
Carolina Wren	3
House Wren	32
Winter Wren	2
Golden-crowned Kinglet	27
Ruby-crowned Kinglet	36
Blue-gray Gnatcatcher	2**
Eastern Bluebird	4*
Veery	15**
Gray-cheeked Thrush	8
Swainson's Thrush	47
Hermit Thrush	26*
Wood Thrush	1
American Robin	15
Gray Catbird	65
Brown Thrasher	16
European Starling	1
Golden-winged Warbler	2*
Tennessee Warbler	10
Nashville Warbler	20
Northern Parula	2*
Yellow Warbler	9
Chestnut-sided Warbler	1
Magnolia Warbler	8*
Yellow-rumped (Myrtle) Warbler	46
Palm Warbler	15
Black-and-white Warbler	3
American Redstart	7
Ovenbird	9
Northern Waterthrush	22
Louisiana Waterthrush	1 T
Kentucky Warbler	1

Connecticut Warbler	**1****
Mourning Warbler	4**
Common Yellowthroat	68**
Wilson's Warbler	2
Canada Warbler	1
Yellow-breasted Chat	3**
Eastern Towhee	4 T
American Tree Sparrow	2
Chipping Sparrow	49
Clay-colored Sparrow	2 T
Field Sparrow	22
Fox Sparrow	11
Song Sparrow	45
Lincoln's Sparrow	17
Swamp Sparrow	60
White-throated Sparrow	46
White-crowned Sparrow	29
"Slate-colored" Junco	245
Northern Cardinal	51*
Rose-breasted Grosbeak	5
Indigo Bunting	29**
Red-winged Blackbird	33
Common Grackle	24
Brown-headed Cowbird	22
Baltimore Oriole	5
House Finch	14
American Goldfinch	46
House Sparrow	18

Total Birds Banded	1421
Total Species Banded	83
Supplemental Banding (from special traps)	None