Lincoln Land Community College Bird Banding Station (LLCC BBS)

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

Report and Results, Fall 2018

Lincoln Land Association of Bird Banders
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Federal Permit # 08355

The Lincoln Land Community College bird banding station (LLCC BBS), initiated in September, 2012, began operations of its thirteenth migratory season and seventh fall season on Monday, 20 August 2018. The site was the same as the twelve previous seasons, 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. Objectives include: 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 and midwestern 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. A hummingbird feeder was also placed in the area to allow more of these birds to be attracted, trapped and banded independently of the station operations. This fall, from 12 to 27 mist nets were used on 65 mornings (practically all weekdays and most Saturdays) from 20 August through 17 November with 5670 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) – 9½ nets; b) a narrow woodland edge next to a bean field – 3 nets; c) a mowed grassy lane next to the woods – 3 nets; d) a small, managed prairie – 4½ nets; and e) an area in the vicinity of a group of bird feeders close to the lake – 7 nets. To capture birds, net "lanes" were prepared and the nets were 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 and promoted by the North American Bird Banding Council (2001) – continued to be the standard for banding operations. 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** presents the 2018 Fall statistics and compares them with the last five fall seasons.

TABLE 1

Fall Comparisons	Fall 2013	Fall 2014	Fall 2015	Fall 2016	Fall 2017	**Fall 2018**
First banding Date	08/26	08/25	08/24	08/22	08/21	**08/20**
Last banding Date	11/15	11/14	11/20	11/18	11/11	**11/17**
Number of banding days	64	64	69	73	65	**65**
Number of birds banded	1902	2670	2047	2318	2236	**2076**
Number of species banded	70	79	80	78	79	**79**
Average number of Birds per day	29.7	41.7	29.7	31.8	34.4	**31.9**
Highest one-day total banded	194	117	120	241	147	**174**
Number of days with 100+ birds banded	5	4	2	4	4	**3**
Number of Net Hours	5596	5103	5669	5100	4582	**5670**
Number of banded birds per Net Hour	0.34	0.52	0.36	0.45	0.49	**0.37**
Returns of Banded Birds *	35	81	57	53	66	**64**
Repeats of Banded Birds**	470	513	572	507	425	**387**

*Returns: Birds banded at the site 90 or more days previously (earliest bandings were in fall of 2012).
**Repeats: birds captured within 90 days of original banding or previous capture.

This fall there were three days in which 100 or more birds were banded -- the largest number, 174, occurred on 4 October (the 3rd highest total for a single day at the station -- the record still stands at 241). In contrast, there were just two days in which five or fewer birds were banded compared to 6, 2, 10, 6 and 3 from 2013 to 2017, respectively. The 79 species banded this year was a typical year (see Table 1) and could easily have exceeded the record of 80 had we captured only two or more of any of the following species: either cuckoo, Red-headed or Hairy woodpeckers, any vireo (other than Red-eyed), any swallow, 4-5 more warbler species, any of the four grassland sparrows, two blackbirds, either oriole, Pine Siskin or Eurasian Tree Sparrow. The final tally of new birds banded was 2076 (the fourth-best fall season – but 600 birds short of the 2014 record). Based on the net evidence, some large birds (possibly hawks) may have flown into the nets but escaped. The lower than average number of birds this fall can be attributed to the markedly reduced number of a) American Goldfinches – which only arrived in good numbers in the latter half of the season (nearly 600 had been banded in both 2013 & 2014 but only 229 – about 40% as many - this year); b) grassland (prairie) species (the typical sparrows and some warblers); and c) several edge and woodland species (Downy Woodpecker, Tufted Titmouse, Brown Creeper, Ruby-crowned Kinglet (only 4 all season compared to 68 last fall), Hermit Thrush, American Redstart, and White-throated and White-crowned sparrows). Despite the "low" numbers for many species, there were several 2018 highlights as well. The station's first Summer Tanager (the only new species added to the station total – bringing that total to 123) was captured and new high counts were established for eight species. There were five species for which new high totals for a fall season were achieved and five species tied the previous high total for any season. Although the nets within the woodlands were responsible for capturing several species not caught in other habitats, only three of the 9½ were consistently productive. The prairie nets were a major disappointment again this year (based on their production in years past); however, all seven of the feeder-area nets and four of the six edge nets were productive. The fall's complete list of species captured and the number of each banded appears in the **APPENDIX.** In addition to the mist net captures, 3 Ruby-throated Hummingbirds were captured and banded as a result of the hummingbird trap.

The "cold fronts", which often trigger birds to head south in mass numbers, were few and far between. Of the four or five that appeared on the radar screen as potentially good migration nights, only two turned out well. November started off fine, but two inches of snow fell on the 9th. Temperatures then dropped into the teens between the 11th and 13th and another five inches of snow fell on the 14th and 15th (breaking a 1951 record for accumulated snow for the first half of the month). As a result of these inoperable conditions, banding operations were cancelled for five days. The return of a day of "favorable" weather on the 17th, allowed the station to be closed as the final day of fall operations.

The average of 31.9 birds per day this fall was 1.3 birds below the six-year average and 9.8 birds per day below the 41.7 record of 2014. However, this year's average (along with those of 2015 & 2016) included "'shortened" days (both by fewer nets used and/or fewer hours of operation) because of rain and excessive wind (which reduced the number of potential birds that could have been captured). A new record was established this year (by one hour) for the number of net hours of operation. The 5670 figure (and the number of all net hours since 2014) includes a 10% reduction for the "excessive" number of large holes in and other damage to the nets (unrepairable holes, primarily deer-caused – which reduced the potential for capturing and holding birds). Needless to say, other animals (such as squirrels) and larger birds in the process of escaping (i.e., Great Blue Heron and hawks) left sizeable holes in the nets as well.

TABLE 2 identifies a) the 10 most commonly banded species this fall and compares them with the totals of the five previous fall seasons, and b) the species that are typically in the top 10 (in approximate descending order) at most other eastern and midwestern fall banding stations. Only three of the "typical" top 10 were represented in the LLCC BBS Top 10 this fall. The American Goldfinch returned to the top of the list again; the Palm Warbler made the list for the first time and the Common Yellowthroat the second time.

In contrast to the most common birds, 16 species were represented by a single individual this fall (compared to 12, 14, 17, 12 & 10 from 2013 to 2017, respectively), and another 4 by just two birds. In addition to the new species and the other seven new high totals, some near-record highs (3 or fewer birds short) occurred for the Eastern Phoebe, Black-capped Chickadee, Blue Jay, House Wren, Nashville Warbler and Indigo Bunting. Other interesting fall captures included two Sharp-shinned Hawks, two Marsh Wrens (in the same net at the same time), ten Cedar Waxwings (nearly all captured as single birds), single Black-throated Blue and Blackburnian warblers, and a Savannah Sparrow. The most likely "non-captures" were identified above. Some of the species for which "lower than typical numbers" banded were (with the 2018 total followed by the highest fall season total): Downy Woodpecker (14 and 33), Tufted Titmouse (11 and 33), Brown Creeper (7 and 25), Ruby-crowned Kinglet (4 and 68), Hermit Thrush (19 and 44), and American Redstart (10 and 61). Other species with low numbers included most flycatchers, all vireos, Golden-crowned Kinglet, Wood Thrush and some sparrows.

TABLE 2
The 10 most commonly banded species

	2013	2014	2015	2016	2017	**2018**
American Goldfinch	579	629	243	336	300	**229**
Dark-eyed (Slate-colored) Junco	104	169	284	269	296	**199**
Chipping Sparrow	84	180	27*	29*	29*	**185****
Yellow-rumped (Myrtle) Warbler	88	17	84	120	66	**142**
House Sparrow	91	178	67	80	60	**128**
House Finch	52	216	102	250	390	**94**
Palm Warbler	5*	17*	17*	29*	29*	**84****
American Robin	37*	57*	84	53*	77	**79**
Song Sparrow	86	48*	120	60	51	**65**
Common Yellowthroat	27*	20*	17*	54	32*	**63****

* Not in the Top 10 these years
** New Fall Season high

Species typically in top 10 (all fall years combined)

White-throated Sparrow
American Goldfinch
Yellow-rumped Warbler
Gray Catbird
Hermit Thrush
Ruby-crowned Kinglet
American Robin
Northern Cardinal
Magnolia Warbler
Swainson's Thrush
Ovenbird
Nashville Warbler
Golden-crowned Kinglet

In terms of species groups banded, there were: 21 woodpeckers of 4 species, 38 flycatchers of 6 species (of which half were Eastern Phoebes), 4 vireos of 1 species, 63 wrens of 4 species (41 House Wrens), 171 thrushes of 7 species, 508 warblers of 21 species, and 584 sparrows of 11 species. As always, an occasional casualty occurs; fortunately, the number of "normal" casualties continued to be extremely low; however, of the sixteen this year (the highest seasonal total ever), twelve were killed directly by the site's "tame" deer attempting to eat them while still in the nets (personal observation—multiple observers). As usual, the station continued to be the benefactor of more than a dozen specimens 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 previously banded. This year, 64 were captured as "**returns**" [birds banded 90 or more days earlier]; the oldest: a chickadee banded in the spring of 2014 and a Blue Jay in the fall of 2014. Another 387 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). **TABLE 3** identifies the number of returns for each species and the seasons they were banded.

TABLE 3
Returns* from past seasons

	Sprg 2014	Fall 2014	Sprg 2015	Fall 2015	Sprg 2016	Fall 2016	Sprg 2017	Fall 2017	Sprg 2018	
Downy Woodpecker						1	1	2		= 4
Blue Jay		1						1	1	= 3
Black-capped Chickadee	1					3	2	2	1	= 9
Tufted Titmouse				1	1	2		1		= 5
White-breasted Nuthatch								1		= 1
Carolina Wren								1	1	= 2
House Wren								1	1	= 2
Eastern Bluebird									1	= 1
Common Yellowthroat								1	1	= 2
Chipping Sparrow							1			= 1
Song Sparrow						1		1	1	= 3
Slate-colored Junco							1	2	1	= 4
Northern Cardinal			1		1		3	2	3	= 10
House Finch			1							= 1
American Goldfinch						2	3	1	5	= 11
House Sparrow						2		1	2	= 5
*Returns: Birds banded at the site 90 or more days previously (earliest bandings were in fall of 2012.)										= 64

The five issues affecting banding operations (and, in some cases, the potential number of nets used each day) were wind, rain, leaves, people and deer. Very little could be done about the wind and rain except to furl nets that had been opened at dawn, or elect not to open them at all. As for leaves, when leaves are in the nets, the number of birds captured are reduced in two ways: 1) the birds can see and therefore avoid the leaf-filled nets, and 2) considerable time is required by extractors to take leaves out of the nets and during that time, when people are present, birds are reluctant to fly into the capture area. [This year, however, unlike most previous fall seasons, a heavy leave-fall (which normally occurs on five or more days each fall) only occurred once; however, there were several moderate leaf-fall days.] Of course, all leaves, parts of leaves, small sticks (and anything else) must be totally removed from the nets prior to each day's furling so that the nets can be easily unfurled the next morning. As for visiting people, there are four types: full classrooms, interested students (some earning extra classroom credits), periodic wanderers, and those with dogs. The classroom groups, students and periodic wanderers don't usually affect banding operations unless they linger for extended periods or stage as a group in close proximity to active nets – especially the nets close to the campus lake. Then there are two categories of people with dogs: 1) those whose dogs are either on leashes or trained not to stray and 2) those who permit their dogs to run freely. Fortunately none of the nets were damaged by running dogs this fall. Then there are the deer (and more deer). This was the worst season we've ever experienced. The only hope remains that the deer learn where the nets are when furled (and readily visible) and avoid them when unfurled (not visible); however, that was not the case this fall and at least six nets were totally destroyed and several others have gaping holes where the deer "ran through" them. When the deer are caught off-guard (which they sometimes are), or are in pursuit of other deer (very common this fall – at least four bucks rutting in the area), they disperse quickly--and a net in their departure path does not stop them. The deer in the area of the banding station are so tame, they don't even flee when you actively try to chase them away. Occasionally a deer will use its nose to lift up the bottom trammel of a net and slither underneath before scampering away.

The banding "headquarters" (facility) continued to be a major blessing, not only as a safe and dry place to house the "bird-mobile" and banding materials, but also 1) as a work-site on the cold, windy and misty days, 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 work station. We will always be grateful to the LLCC Work Force Careers Center for making this facility possible. Of course, the backbone of the station's operations is its volunteers. During this fall's season at least 29 individuals volunteered one or more days at the station and 15 of them five or more days.

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; c) Lawrence Strubhart for preparing special net lanes in the prairie and taking care of downed trees and other grounds issues that needed attention; d) Wayne Huckabee and Jim Mordacq who regularly arrived early on Wednesdays to unfurl the nets; e) many regular assistants (notably Paul Biggers, Chad Cremer, Joe Gardner, Tim Hargrove, Wayne Huckabee, Betty Kleen, Jim Mordacq, Nic Morgan, Asya Rahlin, Nancy Redman, Andrew Sharp, Susan Shaw, Trevor Slovick and Holly Thompson); f) Paul Biggers and Anthony Rothering for reviewing and providing pertinent comments on the draft of this report, g) Paul Biggers for keeping the bird-mobile clean and operable; and h) everyone else who helped and/or visited the station (including dozens of LLCC and a few UIS students in addition to the 9 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; to the Redmans for unique grants through Phillips 66; and to several contributors and anonymous donors.

The LLCC BBS is scheduled to resume next spring from 21 March through 25 May. See you then.

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APPENDIX: 2018 Fall Banding Summary

Bold Face = New Station Species (1)

** new seasonal high total (8 species)
* new fall season high total (5 species)
T ties high total all seasons (5 species)
t ties fall season high total (5 species)

Sharp-shinned Hawk	2 Tt
Cooper's Hawk	1
Mourning Dove	8
Ruby-throated Hummingbird	3
Red-bellied Woodpecker	4
Yellow-bellied Sapsucker	1 Tt
Downy Woodpecker	14 d
Northern Flicker	2
Eastern Wood-Pewee	4
Yellow-bellied Flycatcher	1
Traill's Flycatcher	5
Least Flycatcher	8 **
Eastern Phoebe	19
Great Crested Flycatcher	1 t
Red-eyed Vireo	4
Blue Jay	20
Black-capped Chickadee	28
Tufted Titmouse	11 d
White-breasted Nuthatch	10 **
Red-breasted Nuthatch	7
Brown Creeper	7 d
Carolina Wren	15 **
House Wren	41
Winter Wren	5
Marsh Wren	2 T*
Golden-crowned Kinglet	7 d
Ruby-crowned Kinglet	4 d
Eastern Bluebird	2
Veery	3
Gray-cheeked Thrush	14
Swainson's Thrush	53
Hermit Thrush	19
Wood Thrush	1
American Robin	79
Gray Catbird	37 *
Brown Thrasher	8
Cedar Waxwing	10
Blue-winged Warbler	1 t
Tennessee Warbler	45
Orange-crowned Warbler	12
Nashville Warbler	34
Northern Parula	4
Chestnut-sided Warbler	4
Magnolia Warbler	36
Black-throated Blue Warbler	1 Tt
Yellow-rumped (Myrtle) Warbler	142
Black-throated Green Warbler	4
Blackburnian Warbler	1 Tt
Palm Warbler	84 **
Bay-breasted Warbler	3
Black-and-white Warbler	16 **
American Redstart	10
Ovenbird	27
Northern Waterthrush	16
Mourning Warbler	1
Common Yellowthroat	63 **
Wilson's Warbler	3
Canada Warbler	1
Summer Tanager	**1 ** **
Eastern Towhee	1
American Tree Sparrow	1
Chipping Sparrow	185 **
Field Sparrow	8
Savannah Sparrow	1
Fox Sparrow	5
Song Sparrow	65
Lincoln's Sparrow	7
Swamp Sparrow	45
White-throated Sparrow	60
White-crowned Sparrow	8
"Slate-colored" Junco	199
Northern Cardinal	49
Rose-breasted Grosbeak	1
Indigo Bunting	19 *
Brown-headed Cowbird	1 *
Purple Finch	1
House Finch	94
American Goldfinch	229
House Sparrow	128
Total Birds Banded	2076
Total Species Banded	79

d = major decrease since 2017