

Final 2010 Fall Banding Report



**Kiptopeke State Park
Cape Charles, Virginia**

**Conducted by
Coastal Virginia Wildlife Observatory**

18 August – 22 November 2010

**Compiled and written by
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INTRODUCTION

This season was the 48th consecutive fall of passerine banding at Kiptopeke and the 14th that a full-time bander has been employed by CVWO (formerly KESTREL). This research was funded in part by funds provided by the Virginia Department of Game and Inland Fisheries through a Federal Aid in Wildlife Restoration Grant through the U.S. Fish and Wildlife Service. The banding station is located within Kiptopeke State Park and is about 3.5 miles from the tip of the Delmarva Peninsula and is adjacent to the Chesapeake Bay.

This fall, the season ran from 18-August through 22-November. Banding was achieved on 92 days with just five days being wiped out completely by weather events. However, 26 additional days were affected by rain and wind, either by early closure of the station or limiting the number of nets opened. A total of 13,235 nets hours were amassed using 26 total mist nets. Most of the net array was the same as in previous seasons and included nets around a brush pile, in forested areas, field edges, and swampy interdune and dry partly-forested dune areas. The most notable change was the addition of 6 new net locations in the scrub-shrub field area just south of the main array.

In all 8,470 birds were trapped, a total well above the mediocre showing from 2009 and representing one of the highest in the last decade. Ninety-five species were banded, which is about average for this station. High points of the season included a very good start in August, with the 452 banded that month a station record. Also a modern-era record, the 880 birds caught 30-October was preceded a day earlier by 662, not surprisingly a record for back-to-back days.

METHODS

Twenty-six mist nets were used in the fall of 2010. Standard 12-meter nets were used in each net location. Several previously used net locations were discontinued, namely F1 and F2 in an area of open forest canopy with little understory as well as B1 and B2 in a high foot traffic area. Nets F3, F4, F5, F6, F9 and F10 were again used in an area of mixed mature forest with some understory. Nets F7, F8, F11 and F12 were used this year as well to take advantage of the forest edge and worked particularly well catching migrants arriving into the banding area early in the morning. Additionally, nets labeled F13, F14, F15, F16, F17 and F18 were added to the overall array and in a new location. This was in the area that once was an old soy bean field that has grown up in recent years in baccharus, dog-fennel and small pine trees. Nets B3, B4 and B5 were once again set up along the brush pile and were most effective at capturing sparrows and other later season migrants although mimics were often found here as well. Nets S1, S2 were used once more in an area of open pine woods with nets S3, S4, S5 placed again in a swampy swale between a ridge and a dune area. This low area is overgrown mainly with wax myrtle and green brier but has some larger and medium-sized trees mixed in with the lower plant growth. This is probably the most productive area consistently of the whole net array but is very much dependent on how wet it is in any given season. Nets S6 and S7, new locations added last year, were again used. These are in a small patch of forest in an area of dune and adjacent to scattered clumps of wax myrtle.

The net array was opened each day approximately one-half hour before sunrise, although occasionally earlier on some clear mornings after a front in hopes of catching nocturnal species. Most days the station was run for six hours. Net-checks were generally run at 45-minute intervals after opening but on the busiest days it was necessary to have net-runners employed continuously. Weather of course played a role day to day in how the station operated and when nets were opened. There were quite few days when not all nets could be opened because of exposure to wind from a particular direction or nets were closed because of an increase in wind during the course of the morning. Also, there were a number of days when there was showers or persistent drizzle. During these situations it was necessary to make net-runs more frequently and to keep an eye on the weather in the event that the station had to be closed completely. Older nets in disrepair and those damaged by deer were replaced as needed.

For most species, the same data were taken as in previous seasons and included date of capture, time of capture, net it was extracted from, bander, species, number of band placed on bird, age of bird and how aged, sex of bird and how sexed, wing cord, tail length, fat score, keel score, body and flight feather molt, skull ossification value and mass. Supplementary measurements were taken on *Empidonax* flycatchers to help separate similar species. These included tarsus and culmen measurements as well as a detailed comparison of primary lengths and some additional plumage characters. Wing formula measurements were made useful in confirming the ID of Bicknell's Thrushes as well. Culmen length was used to sex American Woodcocks and some tarsus measurements were taken on Carolina Chickadees.

RESULTS

This year, the fall banding season ran from 18-August through 22-November. Out of 97 possible days for banding, the station was run on 92 days. The total of five days missed is well below the average for a typical season which is about nine (Runco, 2008). In all 13, 235.25 net hours were logged at the station which is a record, perhaps not surprising given the addition of new nets (although only a net gain, pardon the pun, of two nets over last season because of the elimination of four nets) as well as the lack of missed days during the whole season.

Overall the weather this fall was typical of most; dry and warm for much of the early part of the season, with rain and weather fronts during the middle portions of the fall and more wind events as well in the second half of the year. Wind was a particularly significant factor, affecting a total of 17 days overall either by limiting the number of nets opened or causing early closure. This compares to only 8 days when rain was a limiting factor. This excludes those days when the station was not open at all.

As mentioned earlier, August was a record month with 452 birds tagged. Much of this was due to a weak frontal system on the 21st and 22nd after which there was a stretch of ten days of clear weather with either north or west component winds.

The next major weather event was Hurricane Earl that passed quickly through the region 3-September. After the passage of the storm, winds were favorably from the north and produced the first 100+ day on the 5th with 105 birds banded. During much of the remainder of the month, migration was steady if not heavy with peak days corresponding nicely with some small fronts followed by northwest winds on the 11th, 15th, 20th and 26th. An unstable and slow-moving mass of air dominated the end of September and the first part of October, bringing damp and intermittently rainy weather to the Shore during that time frame. Perhaps surprisingly, there was a fair bit of migration when it wasn't raining outright and the station was able to be operational. In all September ended with a total of 1,378 birds banded.

After all the wet weather cleared out and as a result of the first really strong cold fronts of the fall, songbird migration picked up in earnest in October. The daily temps for much of September had been in the 80s but dropped down nicely into the 60s for a great deal of October. The weather overall was very favorable as well with little in the way of disruptive weather events other than some windy days. Winds for the month were predominately from the west and/or north. It seemed that a lot of days broke the hundred-bird mark during the October; one of the largest being 423 on 10th; which incidentally, was the largest day of the hawk count as well. The largest single migration event of the entire season was right at the end of the month after several days of south wind and some rain. A very strong cold front moved through the area on the 28th and 29th bringing with it thousands of migrants. With a bit better than half of the nets open because of high winds, 662 birds were caught on the 29th followed by a modern-era station record 880 on the 30th. Altogether October rounded out to a total of 5,786 birds caught.

As is typical, there was a fairly rapid slow down in migration in November with only two days breaking the 100-bird plateau. After some rain early in the month, the weather was quite consistent through to the end of the season and the number of birds banded per day was also consistently in the 20-40-bird range. For the month, 843 birds were caught and banded.

Figure 1 below shows the numbers of birds banded per day over the course of the season and illustrates very nicely the peak activity of migration in October and especially the large volume at the end of October.

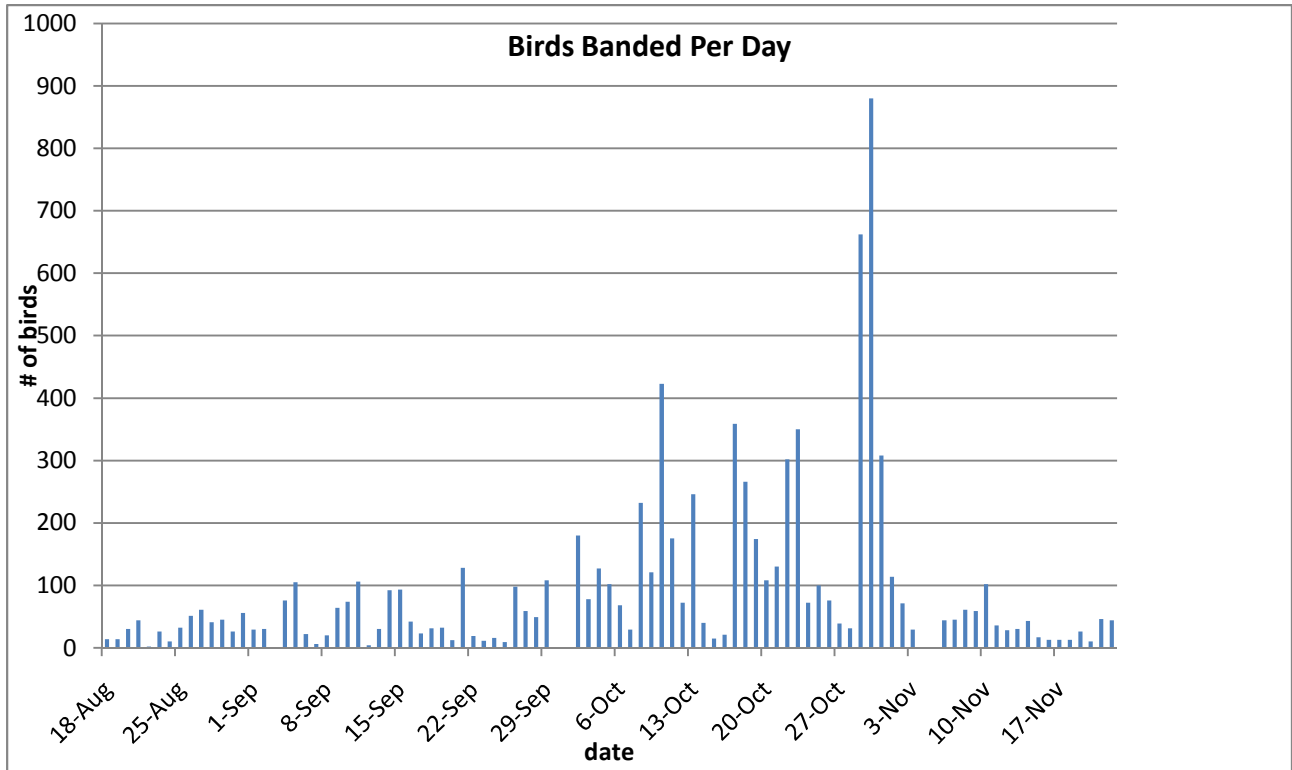


Figure 1. Birds banded by day, Kiptopeke Songbird Station, Fall 2010

In terms of species diversity, the season started out with fairly low variety comparatively; with most days in August having species totals in the teens and the average for the month was ten. This was true for most of September as well but there was a sprinkling of days that broke the twenty bird mark with five days in all in the month with twenty or more bird species banded. For the month, an average of fourteen species was banded per day. The peak in diversity on the whole was during 8-10 October when 32, 27 and 25 species were banded on those days respectively. The second highest total overall was 28 species banded October 17th and 26 were banded on October 30th. There were nine days in all in the month on which more than twenty species were banded and the average for the month was eighteen species per day. November rounded out the season with an average of ten species banded each day with fifteen being the highest number recorded on November 2nd.

The graph below (Figure 2) shows the number of species per day over the course of the season with a peak in diversity seen during the first and second week of October.

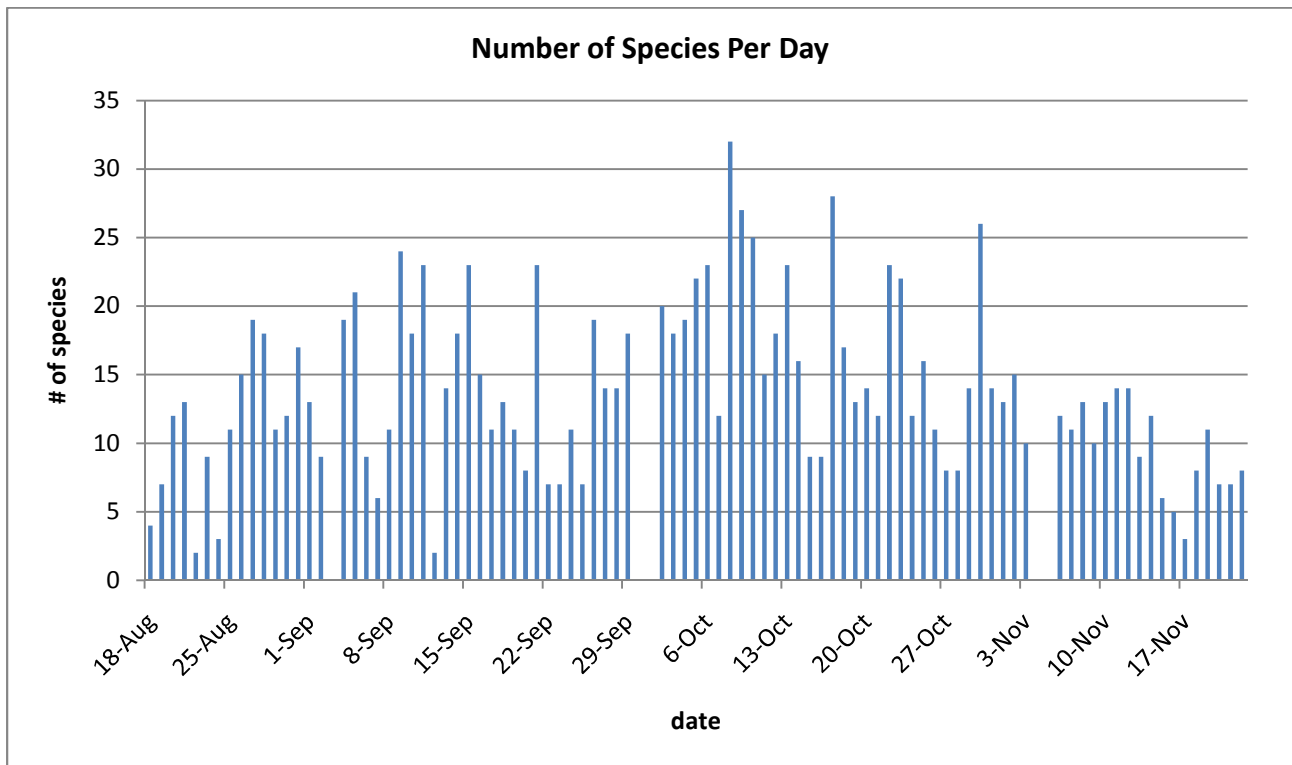


Figure 2. Number of species banded per day, Kiptopeke Songbird Station, Fall 2010

As related earlier, 13,235 net hours were logged over the course of the season this year. Because of their tendency to be exposed to the wind, the brush pile nets as well as F7 and F8 accumulated the fewest number of hours. Nets F3 and F4 in the interior of the forest area as well as much of the S-group seemed to be less vulnerable and racked up the most net hours. The overall capture rate was 0.64 birds per net hour which is about average for the station but up from last season's dismal 0.38. Below is a comparison of capture rates 1997-10 (Figure 3). The overall average for this time frame is 0.68.

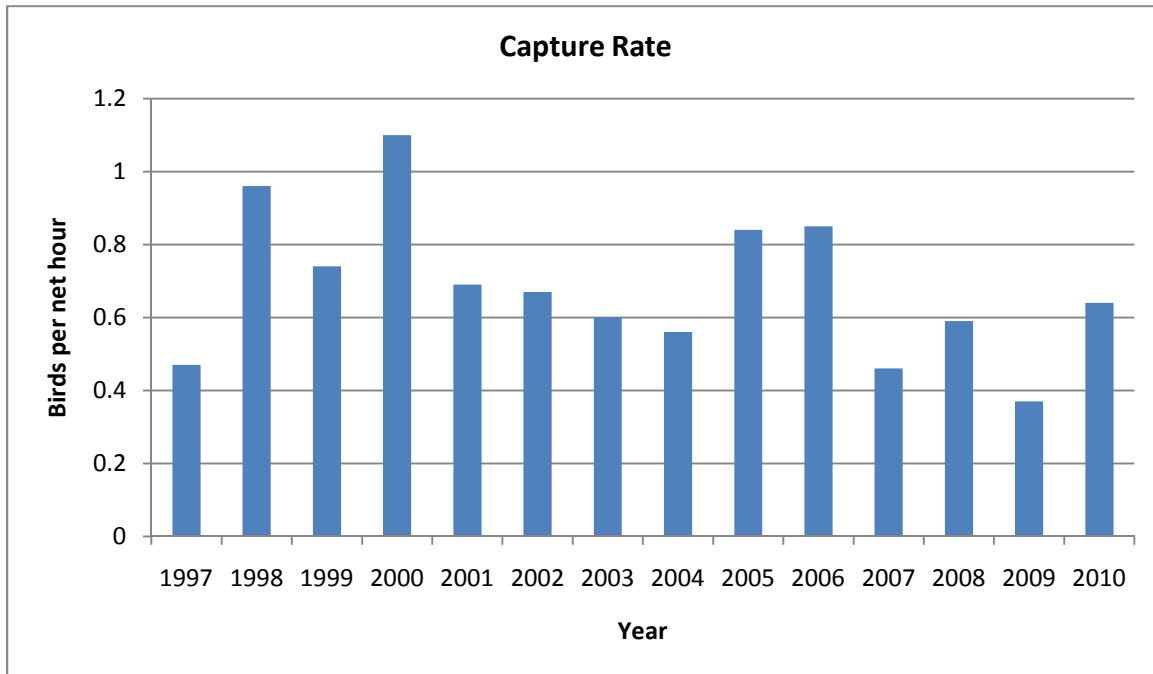


Figure 3. Capture rate over time, Kiptopeke Songbird Station, Fall 2010

When comparing capture rates for individual nets (Figure 4), the new net placements (F13-F18) did very well as a grouping and as single nets. The low scrub-shrub seemed ideal for migrants early in the day but less so as this area became more exposed to sun and wind from mid to late morning. Other nets that did well were those on the forest edge (F12 and F6) reflecting the movement of migrants in the early morning and also the movements of Myrtle Warblers during days with large numbers of that species. The champion net was S4 with a capture rate of 2.16. There are a number of factors that influence this: the location in a wet swale and the movement of birds, particularly Myrtle Warblers, in the area from mid-morning into the afternoon. Particularly in wet years, this is probably the best area in the immediate vicinity for foraging purposes for a host of small and medium-sized songbirds.

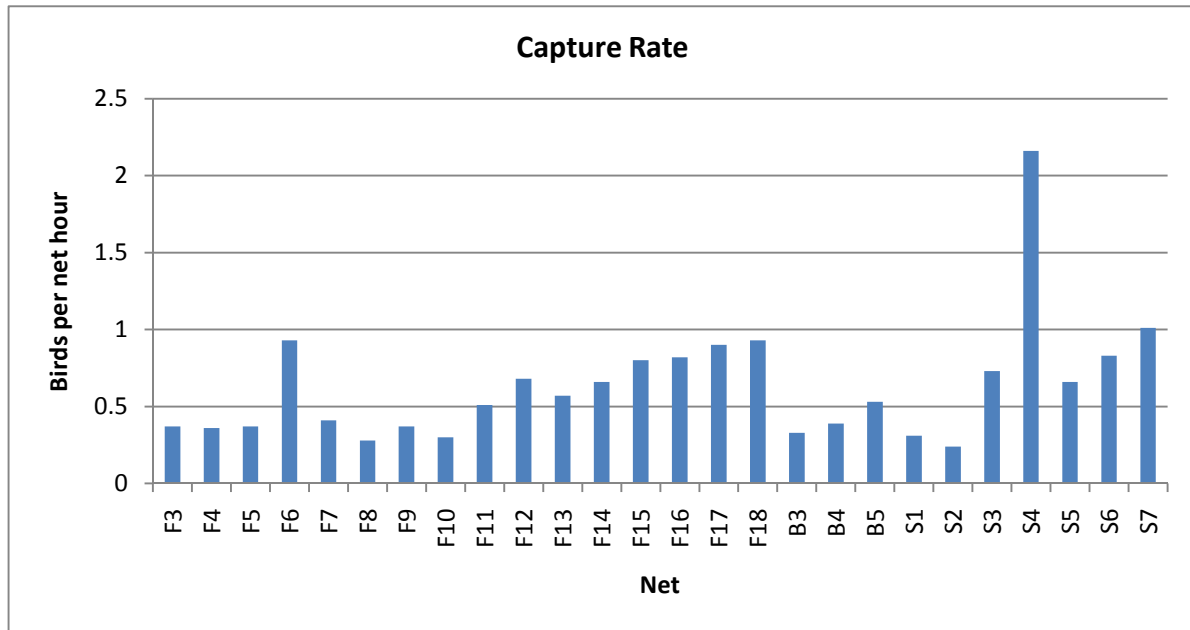


Figure 4. Birds caught per net hour for each net location, Kiptopeke Songbird Station, Fall 2010

Total capture obviously mirrors capture rate so it is not surprising that F13-F18 trapped a large number of birds with F18 capturing 491 birds, the third highest total overall. Again S4 gathered the largest number and was the only net over a thousand captures with 1,132 netted. F7 was next highest with 510, a number influenced largely by several good days during the Myrtle peak. F6 garnered the fourth highest total with 490 birds caught. As a group F13-F18 caught 2,456 birds, representing 29% of all captures. Perhaps more impressive is if we disregard the Myrtle total altogether for purposes of comparison. In this case, these six nets trapped 41% of all birds banded this year!

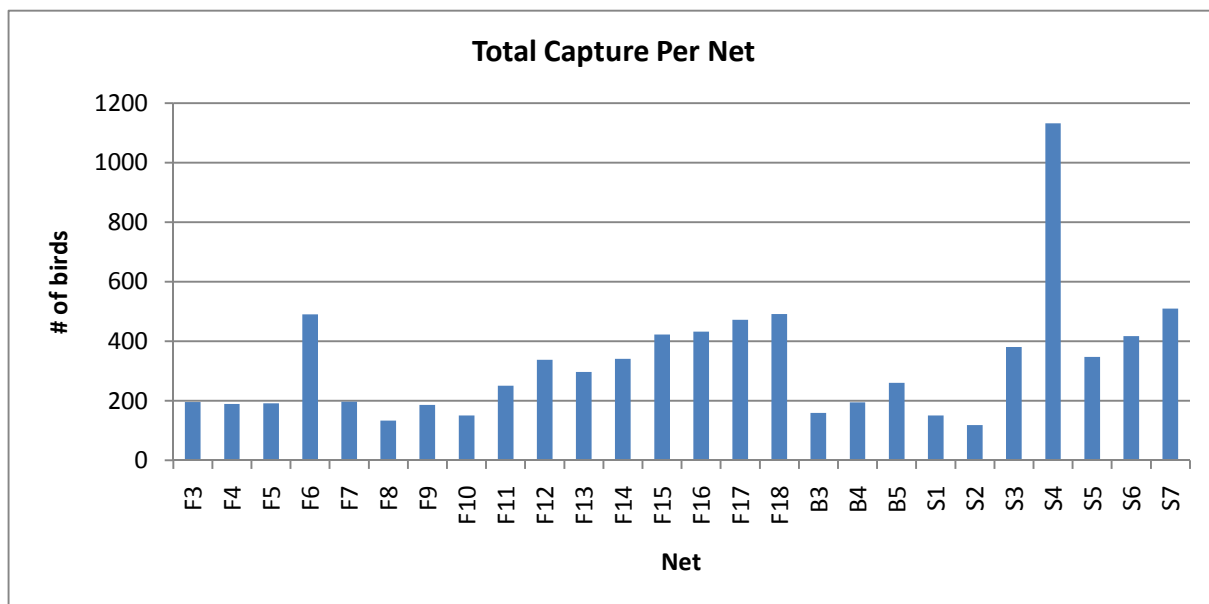


Figure 5. Birds captured per net, Kiptopeke Songbird Station, Fall 2010

The chart below is a summary of all species banded this fall including total number caught, capture rate expressed as birds per thousand net hours, first and last date captured as well as the number and date on which the highest numbers were caught (Table 1). Bold print indicates any number that equals or exceeds numbers caught in any other year since 1997. Broad-winged Hawk is shown in bold as a new species in this time frame.

Species	Total Number of Birds Banded	Birds/thousand net hours (Capture rate)	First date of capture	Last date of capture	Peak date
Sharp-shinned Hawk	21	1.59	19-Sep	20-Nov	2 on 14-Nov
Broad-winged Hawk	1	0.08	21-Oct	21-Oct	1 on 21-Oct
American Woodcock	7	0.53	13-Oct	19-Nov	2 on 13-Oct
Eastern Screech-owl	1	0.08	19-Sep	19-Sep	1 on 19-Sep
Yellow-billed Cuckoo	7	0.53	10-Oct	26-Oct	2 on first & last date
Red-bellied Woodpecker	2	0.15	28-Aug	6-Nov	1 on first & last date
Downy Woodpecker	1	0.08	2-Sep	2-Sep	1 on 2-Sep
Hairy Woodpecker	3	0.23	5-Sep	24-Sep	1 on 5, 19, 24-Sep
Yellow-bellied Sapsucker	1	0.08	8-Oct	8-Oct	1 on 8-Oct
Yellow-shafted Flicker	2	0.15	14-Nov	16-Nov	1 on first & last date
Eastern Wood Pewee	10	0.76	15-Sep	8-Oct	3 on 21-Sep
Least Flycatcher	7	0.53	26-Aug	11-Sep	2 on 28-Aug
Yellow-bellied Flycatcher	8	0.60	20-Aug	24-Sep	2 on 20, 27-Aug
Acadian Flycatcher	7	0.53	20-Aug	26-Sep	1 on each date
Traill's Flycatcher	77	5.82	19-Aug	5-Oct	10 on 31-Aug
Eastern Phoebe	10	0.76	8-Oct	30-Oct	3 on 8-Oct
Great Crested Flycatcher	5	0.38	23-Aug	1-Sep	2 on 26-

					Aug
Eastern Kingbird	1	0.08	28-Aug	28-Aug	1 on 28-Aug
White-eyed Vireo	11	0.83	19-Aug	18-Sep	2 on 21-Aug & 15-Sep
Blue-headed Vireo	3	0.23	2-Oct	31-Oct	1 on 2-Oct, 19-Oct, 31-Oct
Philadelphia Vireo	3	0.23	8-Sep	11-Sep	1 on 8, 10, 11-Sep
Red-eyed Vireo	142	10.73	21-Aug	22-Oct	15 on 11-Sep
Blue Jay	9	0.68	12-Oct	9-Nov	2 on 12-Oct
Carolina Chickadee	7	0.53	20-Aug	27-Sep	2 on 20-Aug
Tufted Titmouse	11	0.83	25-Aug	18-Nov	2 on 22-Oct
Red-breasted Nuthatch	28	2.16	8-Sep	21-Nov	6 on 30-Oct
Brown Creeper	28	2.16	9-Oct	13-Nov	4 on 17-Oct
Ruby-crowned Kinglet	122	9.22	20-Sep	21-Nov	35 on 8-Oct
Golden-crowned Kinglet	104	7.86	2-Oct	19-Nov	13 on 30-Oct
Carolina Wren	35	2.64	18-Aug	30-Oct	6 on 21-Aug
House Wren	77	5.82	9-Sep	12-Nov	16 on 21-Sep
Winter Wren	13	0.98	8-Oct	30-Oct	4 on 30-Oct
Blue-gray Gnatcatcher	6	0.45	19-Aug	21-Sep	3 on 19-Aug
Wood Thrush	2	0.15	13-Sep	28-Sep	1 on first & last date
Veery	127	9.60	25-Aug	2-Oct	24 on 11-Sep
Hermit Thrush	226	17.08	8-Oct	22-Nov	64 on 29-Oct
Swainson's Thrush	26	1.96	31-Aug	22-Oct	4 on 2-Oct
Gray-cheeked Thrush	28	2.16	29-Sep	16-Oct	9 on 2-Oct
Bicknell's Thrush	4	0.30	3-Oct	12-Oct	1 on 3,4, 10, 12-Oct

American Robin	23	1.74	17-Oct	20-Nov	8 on 29-Oct
Gray Catbird	512	38.69	27-Aug	22-Nov	67 on 2, 8-Oct
Northern Mockingbird	12	0.91	19-Aug	1-Nov	3 on 28-Aug & 6-Sep
Brown Thrasher	18	1.36	19-Aug	30-Oct	2 on 21-Sep; 6, 8, 9, 10-Oct
Blue-winged Warbler	2	0.15	9-Sep	8-Oct	1 on first & last date
Nashville Warbler	10	0.76	4-Sep	18-Oct	2 on 9-Oct
Tennessee Warbler	2	0.15	21-Sep	26-Oct	1 on first & last date
Orange-crowned Warbler	2	0.15	6-Oct	30-Oct	1 on first & last date
Northern Parula	95	7.18	5-Sep	2-Nov	15 on 29-Sep
Yellow Warbler	6	0.45	17-Sep	6-Oct	3 on 3-Oct
Magnolia Warbler	60	4.53	23-Aug	13-Oct	7 on 5 & 29-Sep
Chestnut-sided Warbler	3	0.23	14-Sep	14-Oct	1 on 14-Sep, 21-Sep, 14-Oct
Cape May Warbler	8	0.60	4-Sep	4-Oct	3 on 9-Sep
Black-throated Blue Warbler	186	14.05	23-Aug	30-Oct	26 on 8-Oct
Black-throated Green Warbler	1	0.08	25-Aug	25-Aug	1 on 8-Aug
Myrtle Warbler	4,252	321.27	14-Sep	22-Nov	707 on 30-Oct
Prairie Warbler	20	1.51	20-Aug	22-Oct	3 on 10-Sep
Western Palm Warbler	102	7.71	9-Sep	11-Nov	14 on 11-Sep
Yellow Palm Warbler	32	2.42	13-Sep	12-Nov	4 on 13-Oct
Pine Warbler	5	0.38	26-Aug	18-Oct	2 on 8-Sep
Blackpoll Warbler	61	4.61	5-Sep	12-Nov	20, 4-Oct
Bay-breasted Warbler	2	0.15	3-Oct	8-Oct	1 on first & last

					date
Black and white Warbler	88	6.65	20-Aug	18-Oct	12 on 27-Aug
American Redstart	523	39.52	18-Aug	6-Nov	49 on 5-Sep
Worm-eating Warbler	2	0.15	27-Aug	5-Sep	1 on first & last date
Ovenbird	73	5.52	18-Aug	17-Oct	7 on 21-Sep
Northern Waterthrush	75	5.67	20-Aug	17-Oct	6 on 4-Sep
Mourning Warbler	4	0.30	5-Sep	13-Sep	1 on 5, 9, 11, 13-Sep
Connecticut Warbler	5	0.38	27-Sep	15-Oct	2 on 27-Sep
Kentucky Warbler	1	0.08	28-Aug	28-Aug	1 on 28-Aug
Common Yellowthroat	186	14.05	21-Aug	18-Oct	23 on 14-Sep
Hooded Warbler	4	0.30	30-Aug	8-Oct	1 on each date
Canada Warbler	5	0.38	20-Aug	11-Sep	2 on 27-Aug
Wilson's Warbler	3	0.23	5-Sep	5-Oct	1 on 5, 9-Sep & 5-Oct
Yellow-breasted Chat	21	1.59	26-Aug	13-Oct	4 on 31-Aug
Eastern Towhee	21	1.59	9-Oct	18-Nov	3 on 23 & 31-Oct
Field Sparrow	96	7.25	20-Aug	22-Nov	15 on 14-Nov
Clay-colored Sparrow	1	0.08	25-Sep	25-Sep	1 on 25-Sep
Chipping Sparrow	22	1.66	8-Oct	22-Nov	3 on 10-Oct
Savannah Sparrow	2	0.15	10-Oct	17-Oct	1 on first & last date
Grasshopper Sparrow	1	0.08	9-Sep	9-Sep	1 on 9-Sep
Fox Sparrow	6	0.45	7-Nov	22-Nov	2 on 19-Nov
Song Sparrow	174	13.17	8-Oct	22-Nov	19 on 31-Oct
Swamp Sparrow	75	5.67	8-Oct	21-Nov	10, 29-Oct
Lincoln's Sparrow	2	0.15	8-Oct	18-Nov	1 on first

					& last date
White-throated Sparrow	255	19.27	8-Oct	21-Nov	56 on 30-Oct
White-crowned Sparrow	2	0.15	22-Oct	24-Oct	1 on first & last date
Slate-colored Junco	76	5.74	5-Oct	22-Nov	9 on 30-Oct
Summer Tanager	4	0.30	26-Aug	15-Sep	1 on each date
Scarlet Tanager	1	0.08	11-Sep	11-Sep	1 on 11-Sep
Northern Cardinal	53	4.00	18-Aug	12-Nov	5 on 18-Aug
Rose-breasted Grosbeak	1	0.08	2-Oct	2-Oct	1 on 2-Oct
Blue Grosbeak	16	1.21	19-Aug	27-Oct	2 on 4-Sep & 14-Sep
Indigo Bunting	53	4.00	22-Aug	17-Oct	11 on 2-Oct
Baltimore Oriole	10	0.76	27-Aug	29-Aug	7 on 8-Aug
Purple Finch	1	0.08	22-Oct	22-Oct	1 on 22-Oct
American Goldfinch	11	0.83	17-Oct	14-Nov	3 on 30-Oct & 11-Nov
Total Individuals	8,470				
Net Hours	13,235.25				

Table 1. Season summary, Kiptopeke Songbird Station, Fall 2010

DISCUSSION

This season's banding effort overall proved to be very successful. The 8,470 birds banded is the fourth highest total and the largest since 2006. Ninety-five species in all were tagged which is more or less a standard total for this site. With the addition of six new nets, the 13,235 total net hours ended up being the most since a full time bander was hired in 1997. If we look at the results a bit more qualitatively, the 0.64 birds per net hour is about an average capture rate for the site and if we calculate that rate without the six new nets, the value is 0.59 birds per net. Those nets alone had a capture rate of 1.3! This underscores rather resoundingly how important the addition of these net locations was to the overall success of the season.

Altogether, 11 species either exceeded or tied their highest totals ever: Veery, Northern Parula, Red-breasted Nuthatch, Blue Grosbeak, Baltimore Oriole, Cape May Warbler, Great Crested Flycatcher, Mourning Warbler, Hairy Woodpecker, Kentucky Warbler and Broad-winged Hawk. Broad-winged Hawk was added as a new species, although I believe there were a couple banded in the historic era. Quite a few other species had outstanding if not record years, most notably Blackpoll Warbler, American Redstart and Red-eyed Vireo which were both seen in their second highest totals. Other highlights included Clay-colored Sparrow, Eastern Screech-owl and Northern Saw-whet Owl, all infrequent captures at the station. The Saw-whet was actually a retrap so does not show up in the overall banding totals.

On the low side were Wood Thrush and Eastern Phoebe. The ten Phoebes ties the lowest total ever and the two Wood Thrushes tallied is the lowest mark since 2002. Black-throated Blue Warblers recovered considerable from last year's lowest total ever but were still a bit off their average. As well, Swamp Sparrow saw its lowest total since 2003 and Common Yellowthroat was off a bit too. Marginally below its average was Golden-crowned Kinglet.

The top twenty represents species with 75 or more captures, 13 of which broke the century plateau. As is perennially the case, Myrtle Warblers were the most frequently captured bird. Most impressive in my mind though were the three species that more than doubled their seasonal averages: Northern Parula, Veery and Northern Waterthrush. Below in Table 2. are the top-twenty along with their total captures, 13- yr. average and the breakdown of the total as percentage of hatch-year birds. Note that kinglet percentages have not been noted as individuals with full ossification are recorded as unknown age.

Species	Total Captures	13-year average	% HY
Myrtle Warbler	4252	3299	92.1
American Redstart	523	385	92.7
Gray Catbird	512	427	96.5
White-throated Sparrow	255	187	92.9
Hermit Thrush	226	153	97.8
Common Yellowthroat	186	216	96.8
Black-throated Blue Warbler	186	243	97.9
Song Sparrow	174	153	90.8
Red-eyed Vireo	142	81	88.1
Veery	127	62	96.9
Ruby-crowned Kinglet	122	101	-
Golden-crowned Kinglet	104	109	-
Western Palm Warbler	102	82	90.2
Field Sparrow	96	82	84.4
Northern Parula	95	37	97.9
Black and white Warbler	88	83	98.9
Trail's Flycatcher	77	52	93.6
House Wren	77	59	96.1
Slate-colored Junco	76	59	93.4
Northern Waterthrush	75	36	98.7
Swamp Sparrow	75	91	93.3

Table 2. Top twenty species by capture, average since 1997 & % hatch-year, Kiptopeke Songbird Station, Fall 2010

Myrtle Warblers were again the top species with 4,252 total birds captured. This is the fourth highest total since 1997 and is 29% above the yearly average in that time frame. The largest single day was the 707 banded 30-October, a record for the station. This was on the heels of the 509 tallied the day before! Interestingly this large movement at the end of October is a week to ten days behind the typical peak of migration for the species. The overall total represents 50.1% of the entire capture for the season which is about normal.

American Redstarts were the second most abundant bird this year with the 523 trapped some 36% above the average for the species. The total is also the second highest ever and is only eclipsed by the 799 seen in 1998. The overall number is also a nice recovery from last season's 225, the lowest tally ever. The most captured in one day was 49 on 5-September. Most Redstarts were caught from mid August through September but we managed to catch a straggler 6-November.

The third most frequently caught bird was Gray Catbird. For the fall, 512 Catbirds were caught, the fifth highest total since 1997. This sum is 20% higher than the average for the species and significantly higher than the 377 posted in 2009. The mid September to mid October time frame was when most birds passed through the station with peak days being 2-October and 8-October. Sixty-seven Catbirds were banded on both of those dates. A few were caught into November.

In fourth place this year was White-throated Sparrow. A total of 255 were trapped in 2010, the fifth highest number and about 36% higher than the average since 1997. This species along with Hermit Thrush and Myrtle Warbler were part of a huge migration event at the end of October this year when thousands of birds moved across the Eastern Shore after a strong cold front. Close to half of our total for this species were caught in the last three days of October. Although the largest single day was the 56 banded 30-October, migration was generally steady for White-throats from mid October through to the end of the banding.

Hermit Thrushes were the fifth most frequently caught bird this season. Altogether 226 were banded which is an impressive 48% above the 13-year average. This number is the third highest since 1997 and is more than double last year's total for the species. Interestingly, Hermit Thrush migration mirrored pretty closely that of White-throats, beginning in mid October and continuing more or less to the end of the season although more numerous overall in November. The peak flight was 64 on 29-October as part of that large migration of songbirds seen on the Shore at that time.

The 186 Common Yellowthroats banded this fall make it the sixth most numerous capture. This was one of only a few species that had a below average year with the overall tally 14% lower than the standard. The most caught in one day was the 23 on 14-September with most of the migration happening from the last couple of days of August through to the first week of October.

Matching the total set by Yellowthroats, 186 Black-throated Blue Warblers were trapped in 2010. This species also had an off year, the total being about 23% below average and the fourth lowest since 1997. It was however a bit of a recovery over the lowest total ever of 101 in 2009. The migration window was mainly the month of September through about the third week of October with the single-day high being 26 on 8-October.

Eighth overall was the Song Sparrow tally of 174, the fifth highest total in the last thirteen seasons and 14% higher than the average in that time frame. The species peaked at 19 individuals on 31-October. This species was also part of that large movement of songbirds at the end of October but on a smaller scale. The overall migration for the species as a whole was similar to White-throated Sparrows, picking up in mid October and lasting by and large to the end of the season.

Red-eyed Vireos tallied 142 captures this year, making it the ninth most numerous bird at the station in 2010. This mark is the second highest since 1997 (175 banded in 2004) and only the third total over the 100-bird plateau. It is also some 75% above the average for the species! Migration was from the last week of August through September, dropping off sharply in early October. The peak flight was 15 on 11-September with a late bird banded 22-October.

Rounding out the top-ten was Veery. The 127 Veeries ties the previous high mark established in 2006 and is an astounding 105% above the thirteen-year average. Most were banded from the last week

of August through the third week of September with the last caught 2-October. The highest tally on one day was 24 on 11-September.

The eleventh most abundant capture at the station this year was Ruby-crowned Kinglet. The 122 banded ties the fourth highest total since 1997 and is essentially double the total of 58 from a year ago, the second lowest total on record. The number this year is also 21% higher than the standard mark. The highest one-day total was 35 on 8-October. Ruby-crown migration was basically from the third week of September through October, dropping off to a trickle in November.

Occupying the twelfth spot this fall was Golden-crowned Kinglet. Golden-crowns were slightly off their average, with 5% fewer seen this year than in a typical season, although the 104 banded this year is the highest total since 2006. The species migration window was mainly from early October through to about the middle of November. They were most abundant on 30-October with 13 in all captured that day.

The thirteenth most abundant capture this fall was Western Palm Warbler with 102 birds trapped. This is 24% above the thirteen-year average and the fifth highest total since 1997. The species overall did very well, as the 32 Yellow Palms captured was a bit above the average also. Peaks numbers were seen on 11-September with 14 banded that day. Western Palms migrated through the Shore from the second week of September through October. Just three were caught in November.

Field Sparrows were the fourteenth most plentiful bird see at the station this season. Ninety-six in all were banded which is the fifth highest total since 1997 and about 17% higher than the average. This species had one of the broadest capture windows, being trapped virtually from one end of the season to the other. However, I suspect that many or all of the early season birds were residents and migrants didn't really start coming through until mid October. The most captured in one day was 15 on 14-November.

Northern Parulas, at number fifteen, exceeded their average numbers by the largest margin of any species this year. The 95 banded bested the old high count of 79 in 2003 and is a whopping 157% above the yearly average of 37! While a few were trapped in early September, most Parulas came through from mid September through mid October. A late bird was banded 2-November. Peak numbers were seen 29-September with a total of 15 that day.

Black and white Warblers were the sixteenth most abundant bird banded this fall. A total of 88 were trapped, a mark that is 6% over the thirteen-year average for the species. The largest single-day tally was 12 on 27-August, which seems a bit on the early side for the peak. Most were banded from late August until early October.

Seventeenth overall was Traill's Flycatcher with a total of 77 captures. This is the fourth biggest total since 1997 and some 48% higher than the average in that span of time. The migration window for the species was mid August through September with just the one capture for October on the 5th of that month. Ten were banded 31-August making it the largest one-day total.

Also with 77 captures was House Wren, a mark that is 31% better than the average since 1997. The total of 77 also ties the second highest total in 2004. The species peaked at 16 birds on 21-September but were trapped mainly from mid September through October. Just a few were banded in November.

The nineteenth largest tally was put up by Slate-colored Junco with 76 banded in 2010. This mark is 29% higher than the thirteen-year average and is the fourth largest total since 1997. Movements of this species were similar to that of Song and White-throated Sparrows, beginning in early October, picking up by mid month and continuing through to the end of the banding. The single-day high was on 30-October with 9 processed on that date.

Two species tied for the twentieth spot overall with 75 total captures. Northern Waterthrush exceeded its average by an impressive 108% with the 75 birds banded tying the second highest total since 1997. More Waterthrushes were banded on 4-September than any other day with a total of 6. Late August through mid October was when most of the birds were caught this year. Swamp Sparrows conversely, had a bit of an off year with the tally of 75 about 18% below norm. This total is also the lowest since 2003 but interestingly, exceeds all other years except one before 2003 back to 1997. This species peaked at 10 individuals on 29-October. Again, as with so many of the migrant sparrows, Swamps were seen from early October through to the end of the banding season.

RECOMMENDATIONS

Six new nets were added this season in an area of scrub-shrub south and east of the existing F-nets and brushpile. As discussed, these nets were very productive and accounted for a large portion of the overall capture (29%). Continued maintenance of this area, particularly in regards to the culling of pine trees at least in the immediate future, to keep the habitat as close to its present state is of paramount importance. Additionally, several new nets could be added to this array, perhaps four in all. I don't believe it is necessary at this time to drop any less productive nets but that may be a necessary option in the future. Whether by coincidence or otherwise, the barrier tape that was employed this year seemed to work in keeping the deer out of this area. It wouldn't be a bad idea to continue this in coming seasons.

While we appreciate the continued cooperation and assistance of the park in this matter, better care has to be taken in the maintenance of the brushpile. Any new material should be limited to brush only with no large pieces or logs added to the existing pile. The ground along the northwest side of the pile should be made level so that net placement can be as close to the pile as possible.

Better care needs to be taken in keeping all of the banding gear and station equipment in some sort of organized and single location during the off-season so we aren't running around all over looking for stuff we need. I believe part of the problem stems from gear being taken to and from the First Landing station. Expensive I realize, but excluding the actual bands and banding tackle-box, perhaps there should be a First Landing set of gear and a Kiptopeke set of gear.

THANKS

Over the course of many seasons, the Kiptopeke Songbird Station has come to be a second home of sorts to many folks who volunteer their time and resources to make the station run smoothly on a daily basis. Without these many volunteers, we couldn't do the work that we do and it also would not be nearly as enjoyable without their infectious enthusiasm and camaraderie. Foremost in my mind and with the greatest appreciation I must thank those individuals that are the stalwarts of the station: Joe Beatty, Jerri Howe and Nan LaRue; I owe you guys my deepest gratitude for your time and company all season long. For their continued effort and dedication I thank Mary Arginteanu, Jim and Debbie Bernat, Shirley Devan, John and Martha Dillard, Peter Doherty, Marty and Sandy Edmonds, Kit Fechtig, Chris and Betsy Foster, Bobbi Howe, Renee Hudgins, Terry Jenkins, Julie Kacmarcik, Clyde LaRue, Steve Living, Bob and Kathy Loomis, Zak Poulton, Rob Rankin, Lori Rutledge, Sheila Scoville and John Young. Also a thank-you goes to Ruth Beck and Colette Amici for helping with organizing educational programs this year.

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I would like to especially thank our master bander Bob Reilly. You are the banding guru and it was a great honor working with you this season. I learned a lot in a short period of time and look forward to working with you again next year.

A great big thank-you goes to this year's intern Jennifer Wilcox. She was always cheerful and energetic, eager to lend a hand in any task as well as a quick study; really the ideal intern. Also thanks to my other co-workers and co-conspirators for making this an enjoyable and successful season: Bob Chapman, Adam Gmyrek, Kaitlyn Parkins and Zak Poulton.

I would also like to thank the staff of Kiptopeke State Park, in particular Sam Sweeney, Dan Jordan and Sean Dixon, for their helpful assistance this year as always. Most notably, we thank the park for their contribution in the installation of the three solar panels in the research area. I know ours at the songbird station was used daily to run lights and scales as well as to run fans on those humid days back in August and early September. Also, a thank-you goes to the park for their continued maintenance of the brush pile. Also, a thank-you goes to the park for housing our intern Jennifer.

A deep-felt thank-you goes to the Eastern Shore of Virginia National Wildlife Refuge for once again hosting the staff this season. We are extremely appreciative of the privilege of staying on the refuge. I say a special thank-you to Sue Rice for her continued support and interest in all the research undertaken by CVWO.

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