

Albert Creek Bird Observatory Final Report 2009



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2009

The 2009 operation of the Albert Creek Bird Observatory was made possible due to support and financial contributions from the following organizations.



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Cover Photos:
Top: Magnolia Warbler (Photo: Ted Murphy-Kelly)
Bottom: Tennessee Warbler (Photo: Jillian Johnston)

EXECUTIVE SUMMARY

The Teslin Lake Bird Observatory completed its ninth consecutive year of operation, including both the spring and fall migration seasons. During the spring, the observatory operated in a reduced capacity with 25 days between May 13 and June 6. A total of 1,576 birds on 39 species were banded and 108 species were encountered. The duration of the fall season was also reduced; a total of 43 days were operated between August 11 and September 22. A total of 2,024 individuals of 40 species were banded and 86 species were observed. Although the focus of the observatory is songbirds, other birds including waterbirds, waterfowl, shorebirds and raptors were also monitored. Due to the expanse of wetland habitat at the study site, wetland associated species such as Northern Waterthrush, Common Yellowthroat and Lincoln's Sparrow were once again captured in relatively high numbers. Due to the geographic location of the study site, the observatory is able to monitor species at the extreme northwestern extent of their breeding range. This includes species such as Cape May Warbler, Western Tanager, Swamp Sparrow and White-throated Sparrow. The observatory also continues to participate in add on studies including a color banding/feather collection project on Rusty Blackbird, a COSEWIC species of Special Concern. The educational capacity of the observatory is very important and the 2009 season involved a record number of visitors to the study site including three school groups.

ACKNOWLEDGEMENTS

Station management and logistical planning was completed by Master Permit holder Ted Murphy-Kelly. Bander In Charge duties were split between Jukka Jantunen (spring) and Jillian Johnston (fall). Numerous volunteers assisted with day to day activities of the observatory including the following long term individuals; Julie Bauer (Haines Junction, YT), Terry Skjonsberg (Haines Junction, YT), Gwen Baluss (Juneau, AK), Phil Gaddis (Portland, OR), Jill Gaddis (Portland, OR) and Sergio Marrocoli (Wales). Data entry and management was completed by Ben Schonewille. Data analysis and reporting was completed by Ben Schonewille with assistance from Ted Murphy-Kelly, Jukka Jantunen and Jillian Johnston.

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1.0 Introduction

The Albert Creek Bird Observatory operated during both the spring and fall migration seasons in 2009. The station completed its ninth year of operation thanks to financial help from several government and non-government agencies including Environment Yukon (Environmental Awareness Fund), Canadian Wildlife Service, Yukon Bird Club, Ducks Unlimited Canada, Lotteries Yukon and the Shell Environment Fund.

The goals of the Albert Creek Bird Observatory are to:

- Continue to gather baseline information on birds and bird migration in the Liard basin area including specific studies such as feather collecting for stable isotope analysis, color banding, tick collection and molt scoring.
- Collect data to facilitate the long term monitoring (*i.e.* trend analysis) of birds in the southern Yukon.
- Provide a setting for the public including school groups to learn about birds and bird migration.
- Provide employment and training opportunities for students and volunteers.
- Provide a unique tourist attraction for the community of Watson Lake.

The observatory serves as a method of carrying out research on birds which is shared through an international database. This is due to the possibility of a banded bird being recaptured across international borders. Many of the birds banded at Albert Creek are highly migratory spending the winter months as far south as Central and South America. The observatory also serves to continue gathering baseline data of birds in the Liard region, and the Yukon as a whole. Due to the large landmass of the territory, and the relatively few advanced birders in the Yukon, there is still a great deal to be learned regarding the bird life of the Yukon. This is even more pronounced in the southeast Yukon, where a number of species are at the extreme northwest edge of their range. A number of species are not regularly found west of Albert Creek, thus allowing the observatory to monitor these species in the territory. The observatory serves as a highly valuable research and monitoring project to better understand the distribution of many of the Yukon's bird species, many of which are considered uncommon or rare.

The observatory also plays a role in education as a place where the public, volunteers and students can take part in a unique, community based research project. Across the Yukon (and the world), there are numerous people who have an interest in birds; however, many find it a daunting task to learn the various species. For such people, a visit to the observatory can be extremely rewarding as they often have the opportunity to view a wide variety of bird species up close.

2.0 Methods

A brief summary of the field protocol is described in the following section; however, a detailed protocol document is currently being developed.

The primary method of monitoring the movement of birds through the study site is the use of mist nets for the purpose of capturing and banding birds. The observatory operates with 23 standard mist nets (Figure 1). All nets are 30 mm mesh and 12 m in length, with the exception of nets 18 and 22 which are 18 m in length. The standard mist netting effort begins at official sunrise and continues for 6 hours. The full mist netting effort is achieved only on days when adequate personnel are present onsite and weather conditions are favorable. If this is not possible, the effort is reduced in the number of nets operated rather than reducing the duration of effort.

To supplement the banding data, 10 point count stations (5 minute counts) were established within the count area and sampled opportunistically during the fall season only. Incidental observations are also collected while conducting other tasks at the observatory.

2.1 Study Site

The bird observatory is located along Albert Creek in the Liard River Valley 15km west of the community of Watson Lake in the southeast region of the Yukon Territory. The majority of the site is composed of a regenerating forest with the marsh being the defining feature of the study site. The area is dominated by willow (*Salix* spp.), alder (*Alnus* spp.) and regenerating white birch (*Betula papyrifera*) with some mature white spruce (*Picea glauca*), trembling aspen (*Populus tremuloides*) and balsam poplar (*Populus balsamifera*) scattered throughout. The under story vegetation within the regenerating portion of the study site consists primarily of red clover (*Trifolium pretense*), fireweed (*Epilobium angustifolium*), yarrow (*Achillea millefolium*), red raspberry (*Rubus idaeus*), prickly rose (*Rosa acicularis*) as well as various grass species (*Poa* spp). Within the stands of mature white spruce, the under story is dominated by various bryophytes and cranberry (*Vaccinium vitis-idea*) with willow, alder and red osier dogwood (*Cornus stolonifera*) scattered throughout.



3.0 Results & Discussion

A total of 3,589 birds of 53 species were banded during 2009 as summarized in Table 1 – 2 and Figure 2. The all time total number of birds banded at Albert Creek is now 30,340 birds of 83 species/forms (Appendix 1) and 157 species/forms have been observed (Appendix 2). Each component of the 2009 data is summarized and presented in the following subsections; however, a detailed account of the 2009 estimated total data is shown in Appendix 3.

Table 1. Summary statistics of the 2009 spring and fall seasons.

Season	Start Date	End Date	# of Days Operated	Species Banded	Individuals Banded	Net Hrs.	Birds Banded / 100 Net Hrs	Species Observed
Spring	13 May	6 Jun	25	39	1,576	2,527	62.4	108
Fall	11 Aug	22 Sep	43	40	2,024	3,917	51.7	86

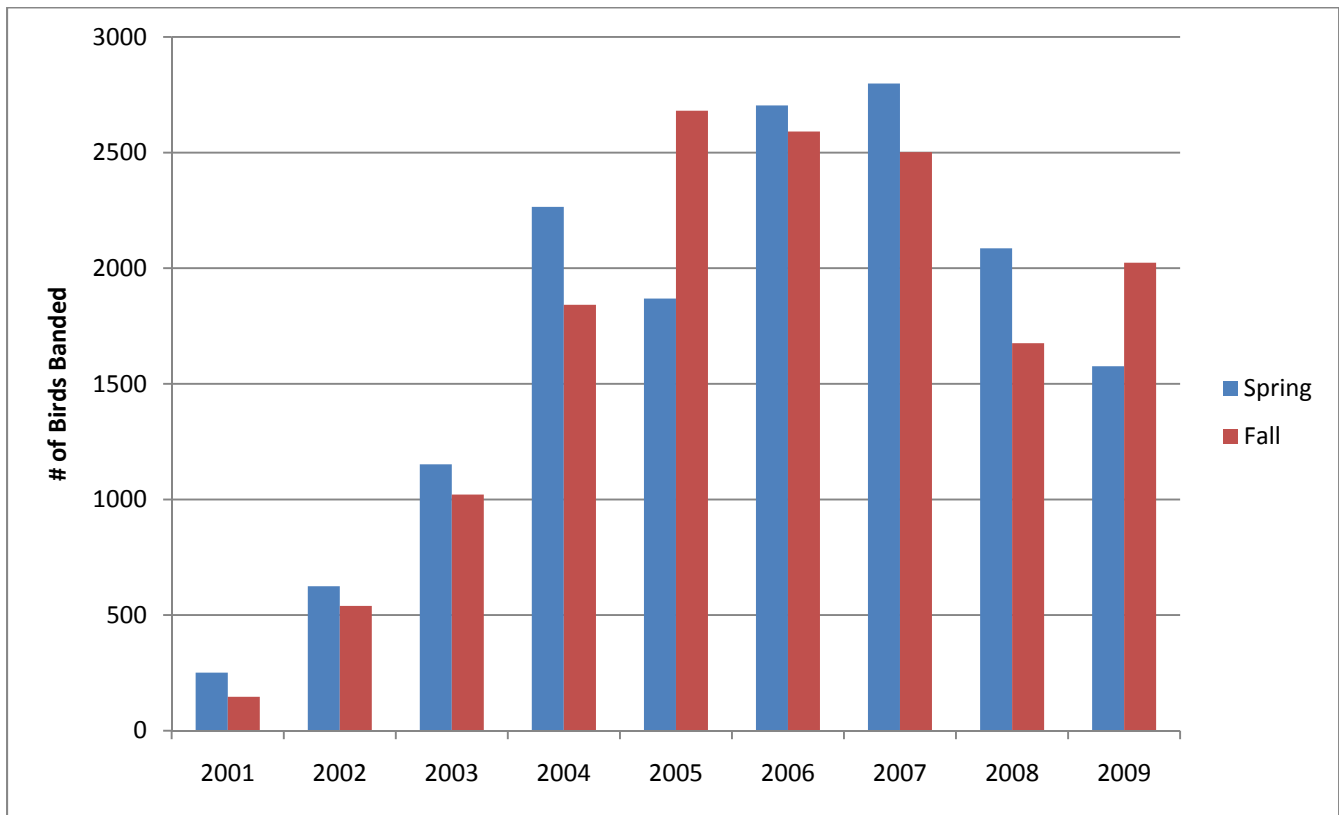


Figure 2. Banding totals at Albert Creek over the period of 2001 to 2009.

Table 2. Birds banded at Albert Creek during the spring and fall of 2009.

Common Name	Latin Name	Spring Total	Fall Total	Common Name	Latin Name	Spring Total	Fall Total
Solitary Sandpiper	<i>Tringa solitaria</i>	2		Cape May Warbler	<i>Dendroica tigrina</i>	1	
Wilson's Snipe	<i>Gallinago delicata</i>	1		Yellow-rumped Warbler	<i>Dendroica coronata</i>	505	90
Sharp-shinned Hawk	<i>Accipiter striatus</i>		4	Townsend's Warbler	<i>Dendroica townsendi</i>		2
Yellow-bellied Sapsucker	<i>Sphyrapicus varius</i>	9	5	Blackpoll Warbler	<i>Dendroica striata</i>	65	36
Hairy Woodpecker	<i>Picoides villosus</i>	1		Black-and-white Warbler	<i>Mniotilta varia</i>	1	
Yellow-bellied Flycatcher	<i>Empidonax flaviventris</i>		6	American Redstart	<i>Setophaga ruticilla</i>	2	38
Alder Flycatcher	<i>Empidonax alborum</i>	35	92	Northern Waterthrush	<i>Seiurus noveboracensis</i>	113	204
Least Flycatcher	<i>Empidonax minimus</i>	1	7	Common Yellowthroat	<i>Geothlypis trichas</i>	35	238
Hammond's Flycatcher	<i>Empidonax hammondi</i>	2	4	Wilson's Warbler	<i>Wilsonia pusilla</i>	274	158
Dusky Flycatcher	<i>Empidonax oberholseri</i>		2	Western Tanager	<i>Piranga ludoviciana</i>	3	
Northern Shrike	<i>Lanius excubitor</i>		1	American Tree Sparrow	<i>Spizella arborea</i>	28	117
Warbling Vireo	<i>Vireo gilvus</i>	5	14	Chipping Sparrow	<i>Spizella passerine</i>	2	4
Black-capped Chickadee	<i>Poecile atricapillus</i>		8	Savannah Sparrow	<i>Passerculus sandwichensis</i>	37	28
Boreal Chickadee	<i>Poecile hudsonica</i>		27	Fox Sparrow	<i>Passerella iliaca</i>	11	53
Ruby-crowned Kinglet	<i>Regulus calendula</i>		122	Lincoln's Sparrow	<i>Melospiza lincolnii</i>	32	104
Gray-cheeked Thrush	<i>Catharus minimus</i>	2	10	Swamp Sparrow	<i>Melospiza georgiana</i>		17
Swainson's Thrush	<i>Catharus ustulatus</i>	19	43	White-throated Sparrow	<i>Zonotrichia albicollis</i>	7	22
Hermit Thrush	<i>Catharus guttatus</i>	2	9	White-crowned Sparrow	<i>Zonotrichia leucophrys</i>	64	26
American Robin	<i>Turdus migratorius</i>	9		Golden-crowned Sparrow	<i>Zonotrichia atricapilla</i>	3	
Varied Thrush	<i>Ixoreus naevius</i>		5	Dark-eyed Junco	<i>Junco hyemalis</i>	16	96
American Pipit	<i>Anthus rubescens</i>		1	Lapland Longspur	<i>Calcarius lapponicus</i>	6	
Bohemian Waxwing	<i>Bombycilla garrulus</i>	2		Red-winged Blackbird	<i>Aegialais phoeniceus</i>	2	
Cedar Waxwing	<i>Bombycilla cedrorum</i>		1	Rusty Blackbird	<i>Euphagus carolinus</i>	1	10
Tennessee Warbler	<i>Vermivora peregrina</i>	8	137	White-winged Crossbill	<i>Loxialeucoptera</i>		1
Orange-crowned Warbler	<i>Vermivora celata</i>	170	98	Purple Finch	<i>Carpodacus purpureus</i>	4	
Yellow Warbler	<i>Dendroica petechia</i>	96	157	TOTAL INDIVIDUALS		1576	2024
Magnolia Warbler	<i>Dendroica magnolia</i>		27	TOTAL SPECIES		38	40

As is typically the case during the spring season, the peak in birds captured was the period between the 20th and 24th of May with a second smaller peak in activity during the final few days of May (Figure 3). There is natural variation from year to year, caused especially by differing weather patterns. Albert Creek experienced its highest daily banding total of 341 birds (160 net hours; 214 birds per 100 net hours) on May 23rd. Notable banding totals from this day were as follows; Yellow-rumped Warbler (134), Wilson’s Warbler (110), Northern Waterthrush (33) and Blackpoll Warbler (15).

The peak of activity during the fall season occurred on August 24th when a total of 211 birds were banded (65.25 net hours; 323 birds per 100 net hours). An extended period of inclement weather grounded a high number of migrants and some notable banding totals from this day included; Wilson’s Warbler (47), Yellow Warbler (45), Northern Waterthrush (37) and Alder Flycatcher (20). In most fall seasons, there is a notable spike in bird activity during the first week of September; however, this did not occur during 2009.

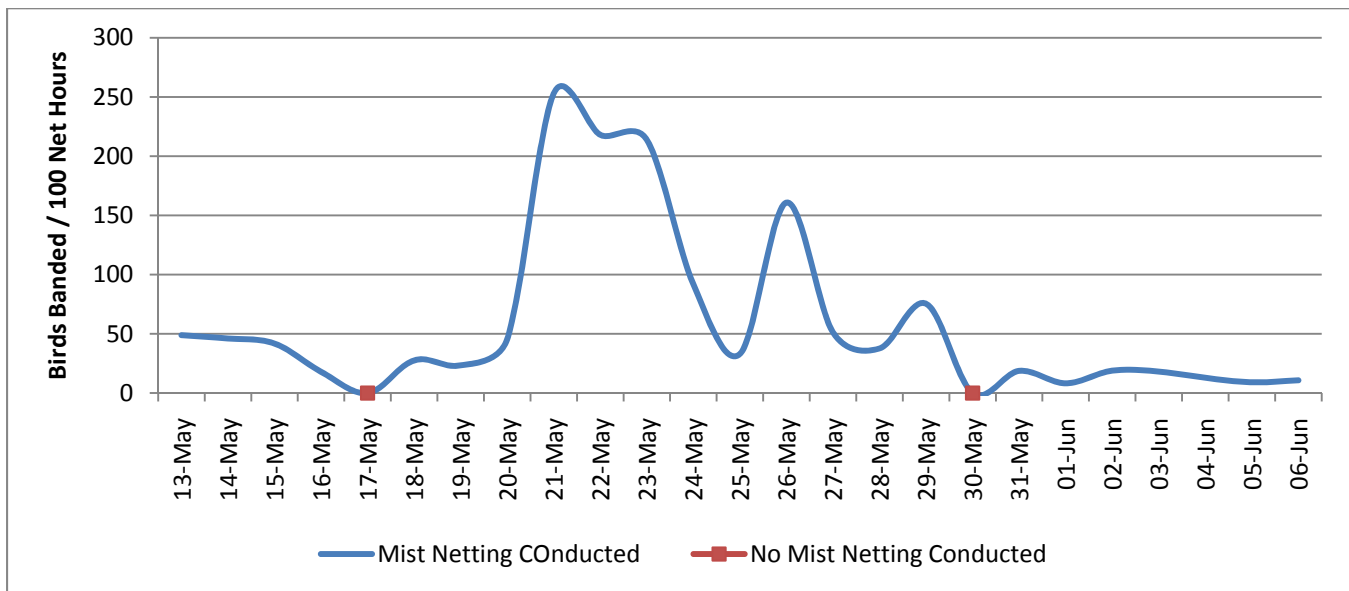


Figure 3. Summary of birds banded per 100 net hours during the spring of 2009.

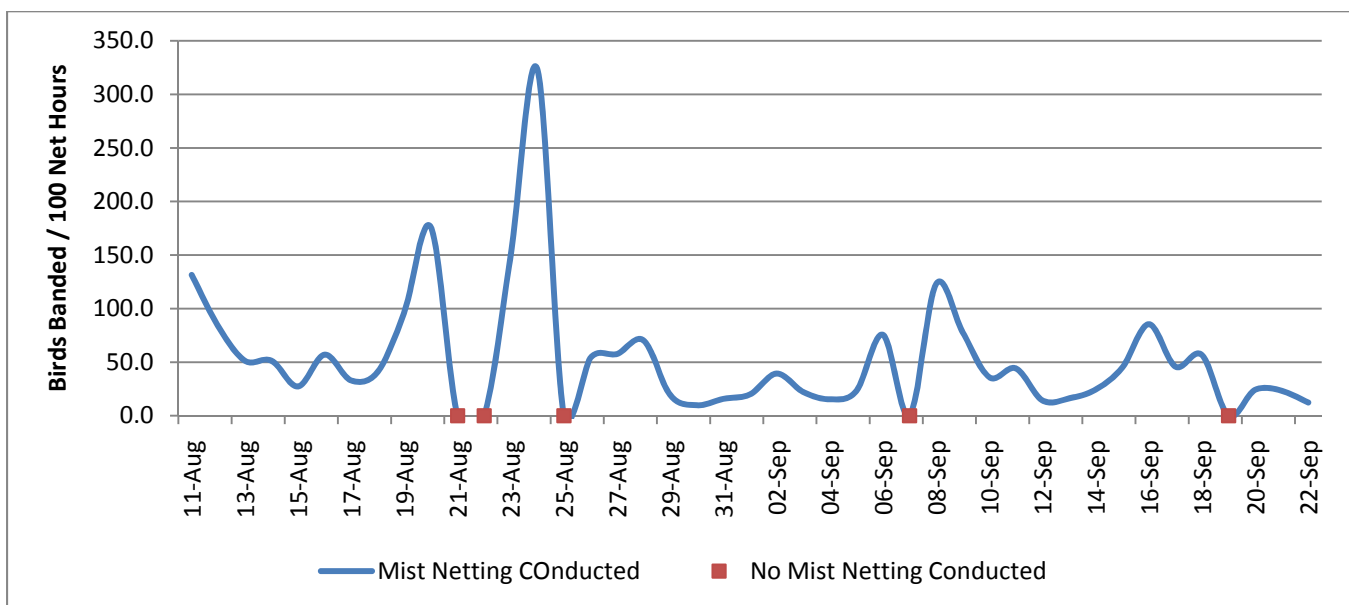


Figure 4. Summary of species banded per 100 net hours during the fall of 2009.

As shown by Table 3 and Table 4, banding totals of frequently encountered species vary from year to year. There are slight differences in seasonal rankings of banding totals; however, a number of species are often captured in similar numbers from year to year.

Table 3. Top 10 species banded during the spring of 2009 in comparison to past years.

SPECIES	INDIVIDUALS BANDED PER 100 NET HOURS						
	2009	2008	2007	2006	2005	2004	2003
Yellow-rumped Warbler	19.98	9.35	2.41	8.32	1.83	6.94	4.63
Wilson's Warbler	10.84	3.92	7.88	9.10	11.12	12.99	12.43
Orange-crowned Warbler	6.73	7.30	5.36	4.89	2.12	7.40	4.44
Northern Waterthrush	4.47	0.67	3.10	2.08	1.01	1.79	1.52
Yellow Warbler	3.80	4.48	5.57	7.15	0.66	1.58	2.10
Blackpoll Warbler	2.57	1.89	1.22	1.42	0.34	0.57	0.71
White-crowned Sparrow	2.53	2.97	4.63	0.32	5.42	4.76	0.19
Savannah Sparrow	1.46	1.14	1.49	0.96	0.62	0.98	0.87
Alder Flycatcher	1.39	0.45	0.60	1.83	0.46	0.49	0.52
Common Yellowthroat	1.39	0.99	1.82	1.42	0.38	0.44	1.13
TOTAL NET HOURS	2,527	4,644	4,683	4,376	4,963	3,864	3,089

Table 4. Top 10 species banded during the fall of 2009 in comparison to past years.

SPECIES	INDIVIDUALS BANDED PER 100 NET HOURS						
	2009	2008	2007	2006	2005	2004	2003
Common Yellowthroat	6.08	2.99	3.21	3.80	1.89	2.12	2.42
Northern Waterthrush	5.21	3.05	3.67	1.62	2.50	1.88	1.11
Wilson's Warbler	4.03	2.29	2.47	3.63	1.69	4.01	2.79
Yellow Warbler	4.01	1.46	3.16	2.08	2.37	3.14	1.68
Tennessee Warbler	3.50	0.44	0.33	0.25	0.48	0.24	0.47
Ruby-crowned Kinglet	3.11	0.83	2.72	6.86	3.18	0.93	4.21
American Tree-Sparrow	2.99	0.96	1.72	3.72	2.38	1.30	0.87
Lincoln's Sparrow	2.66	0.89	1.09	2.07	1.72	1.80	1.41
Orange-crowned Warbler	2.50	1.36	2.25	2.52	1.94	3.93	1.75
Dark-eyed Junco	2.45	0.61	1.20	2.98	9.30	0.87	1.31
TOTAL NET HOURS	3,917	6,385	6,762	6,002	6,290	5,058	2,972

As all birds are aged during the banding procedure, it is possible to assess the relative health of bird populations using age ratios.

Data from the fall migration season is more useful for assessing the reproductive output of migrating birds (Table 6). However, the Albert Creek site hosts numerous breeding birds and therefore, the birds captured are a mixture of local breeders, their offspring and migrant individuals. Capture rates of wetland associated breeding species such as Common Yellowthroat, Lincoln's Sparrow and Northern Waterthrush are likely influenced strongly by local productivity. The record high number of Tennessee Warblers banded during the fall season is likely due to a spike in local productivity by this species. In the future when population trend analysis is completed, migration windows will be determined for each species to allow the data for local birds to be separated from that of the migrant individuals.

Table 5. Age breakdown of the top 10 species banded during the spring 2009 season.

Species	2009			
	# Banded	% Second Year (SY)	% After Second Year (ASY)	% After Hatch Year (AHY)
Yellow-rumped Warbler	505	55	37	8
Wilson's Warbler	274	42	53	5
Orange-crowned Warbler	170	35	61	4
Northern Waterthrush	113	47	46	7
Yellow Warbler	96	42	54	4
Blackpoll Warbler	65	35	62	5
White-crowned Sparrow	64	50	45	5
Savannah Sparrow	37	24	49	27
Alder Flycatcher	35	0	0	100
Common Yellowthroat	35	51	40	9

Table 6. Age breakdown of the top 10 species banded during the fall 2009 season in comparison to the previous three fall seasons.

Species	2009		2008		2007		2006	
	TOTAL	% HY	TOTAL	% HY	TOTAL	% HY	TOTAL	% HY
American Tree-Sparrow	117	96	61	75	116	83	223	61
Common Yellowthroat	238	92	191	81	217	92	228	93
Dark-eyed Junco	96	68	106	56	81	78	179	63
Lincoln's Sparrow	104	86	57	75	74	84	124	90
Northern Waterthrush	204	78	195	77	248	88	97	91
Orange-crowned Warbler	98	73	87	61	152	78	151	97
Ruby-crowned Kinglet	122	96	53	89	184	89	412	86
Tennessee Warbler	137	99	28	93	22	82	15	80
Wilson's Warbler	158	88	146	72	167	82	218	85
Yellow Warbler	157	83	93	67	214	79	125	94

At Albert Creek, observations suggest that the majority of birds travel throughout the study site feeding in various habitats associated with the various wetland habitats in the area. The nets with lower capture rates are typically located in areas of taller vegetation. For example, net #18 is located in a mature white spruce stand which likely under samples the birds in this area of which the majority likely pass above the net. The

more productive net lanes (# 6 – 13, 17) are located in shrub thickets near wetland edges. These areas are likely the more productive feeding areas within the site and the relatively low vegetation height allows higher numbers of birds to be captured.

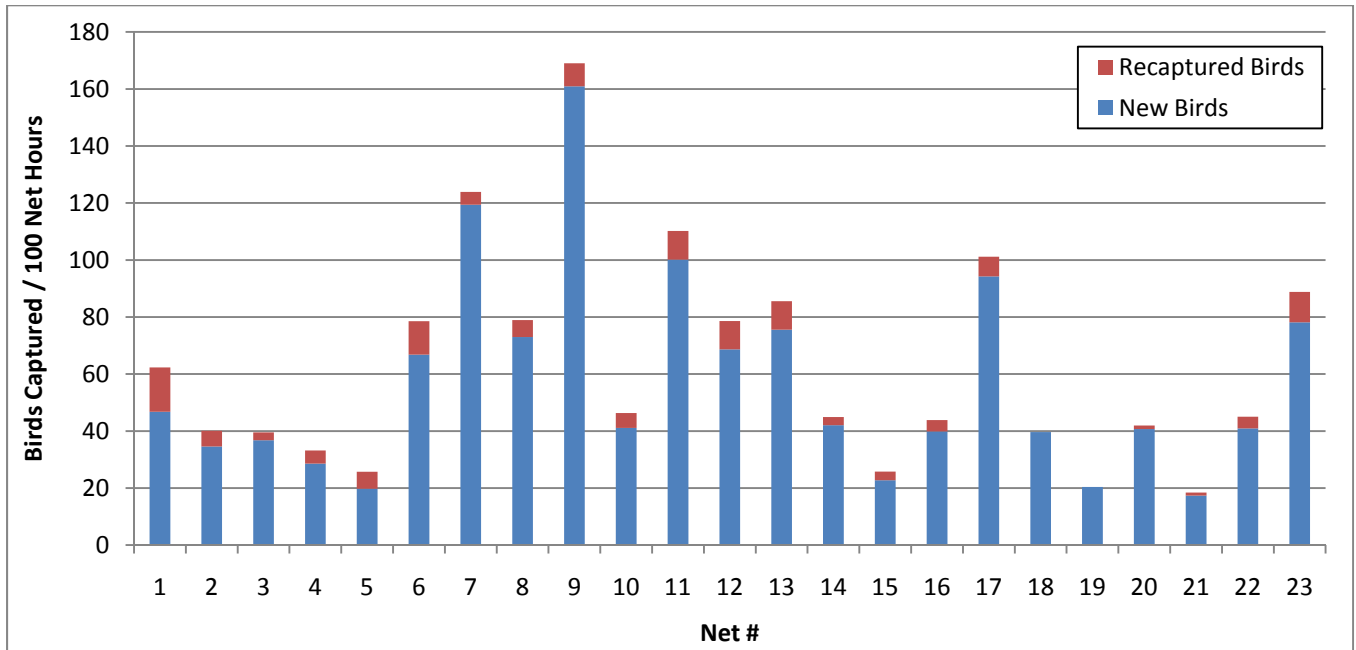


Figure 5. Number of birds banded per 100 mist net hours during the spring of 2009.

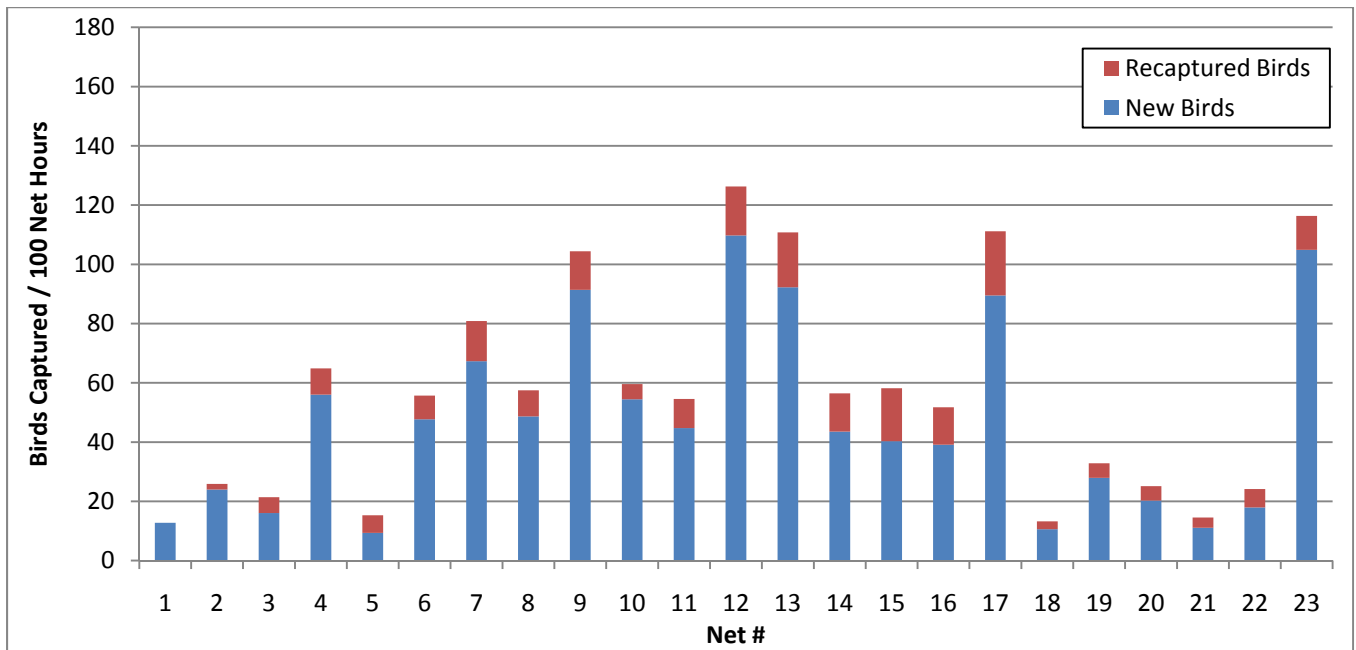


Figure 6. Number of birds banded per mist net during the fall of 2009.

3.1 *Migration Timing*

For a number of species which are encountered frequently at the observatory, it is possible to utilize the banding data set to view the migration timing. Appendices 4 and 5 show average daily banding totals as a surrogate for spring and fall migration timing at Albert Creek. These figures contain data from 2004 – 2009 and also note that the Y axis on these figures show a 3 day running average for the number of individuals banded. This method averages the migration timing to reduce day to day variability and make the pattern more apparent.

3.2 *Band Recoveries / Returns*

In previous years, the relatively high number of local breeding birds has resulted in numerous band returns from previous years. During 2009, 49 birds of 16 species were recaptured from previous years of the observatory's operation (Table 7). The majority of the band returns were common breeding bird species at the study site; Common Yellowthroat (17, 35%), Northern Waterthrush (8, 16%).

A relatively small proportion (7% spring, 11 % fall) of all birds banded during the 2009 season were recaptured within the same season (Table 8, Table 9, Appendix 6, Appendix 7). These results shown that although a portion of the birds stopover at the study site during migration, the majority of the birds depart shortly afterwards. The expanse of marsh within the study site likely serves as valuable feeding habitat for birds during migratory stopover. For the purposes of migration monitoring, it is a desirable situation for a high level of turnover of birds at the site as there is less potential for double counting birds on consecutive days.

Table 7. Summary of band returns during the spring and fall seasons of 2009.

Species	Band Number	Banded		2009 Recapture Date	Recapture Events							
		Date	Age – Sex		2006		2007		2008		2009	
					Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall
Sharp-shinned Hawk	1013-51139	17-Aug-08	AHY - M	29-May-09							✓	
Yellow-bellied Sapsucker	1951-49102	28-Jul-05	HY-U	31-May-09	✓		✓		✓	✓	✓	
Warbling Vireo	2430-42411	25-May-06	SY-U	02-Jun-09				✓			✓	
Warbling Vireo	2430-39860	07-Jun-06	AHY-U	05-Jun-09			✓		✓		✓	
Warbling Vireo	2490-54559	26-May-07	ASY-U	03-Jun-09							✓	
Warbling Vireo	2490-47900	01-Jun-08	AHY-U	26-May-09						✓	✓	
Alder Flycatcher	2490-46011	29-Jul-07	AHY-U	01-Jun-09							✓	
Swainson's Thrush	2261-82079	03-Jun-07	ASY-U	06-Jun-09							✓	
Hermit Thrush	2261-82608	15-May-09	SY-U	28-Aug-09								✓
American Robin	1142-15041	30-Apr-05	AHY-M	03-Jun-09			✓				✓	
American Robin	852-55911	15-May-06	SY - M	06-Jun-09			✓		✓		✓	
American Robin	1232-23805	17-Aug-07	AHY-M	04-Jun-09							✓	
Tennessee Warbler	2410-36316	28-May-05	ASY-M	29-May-09	✓				✓		✓	
Yellow Warbler	2490-47902	01-Jun-08	ASY-M	05-Jun-09						✓	✓	
Yellow-rumped Warbler	2490-47159	20-May-08	ASY-M	11-Aug-09						✓		✓
American Redstart	2410-36497	04-Aug-05	AHY-U	14-Aug-09								✓
American Redstart	2410-36726	05-Aug-06	AHY-F	03-Sep-09				✓		✓		✓
American Redstart	2480-02823	31-May-08	SY-F	11-Aug-09								✓
Northern Waterthrush	2400-25630	03-Aug-05	HY-U	12-Aug-09	✓		✓	✓	✓	✓	✓	✓
Northern Waterthrush	2430-43999	31-May-06	ASY-U	27-May-09			✓	✓			✓	
Northern Waterthrush	2490-54783	30-May-07	SY-U	28-May-09				✓	✓		✓	
Northern Waterthrush	2490-47753	27-May-08	ASY-U	06-Jun-09							✓	
Northern Waterthrush	2490-52087	06-Aug-08	AHY-U	01-Jun-09							✓	
Northern Waterthrush	2490-52209	08-Aug-08	AHY-U	26-May-09							✓	
Northern Waterthrush	2490-46181	10-Aug-08	HY-U	22-May-09							✓	
Northern Waterthrush	2490-49323	27-May-09	ASY-U	15-Aug-09								✓
Common Yellowthroat	2400-25457	25-Jul-05	AHY-F	11-Aug-09			✓	✓		✓		✓

Species	Band Number	Banded		2009 Recapture Date	Recapture Events							
		Date	Age – Sex		2006		2007		2008		2009	
					Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall
Common Yellowthroat	2400-24017	18-Aug-05	AHY-M	08-Aug-09		✓	✓	✓	✓	✓	✓	✓
Common Yellowthroat	2430-39890	27-Jul-06	HY-U	01-Sep-09				✓	✓	✓		✓
Common Yellowthroat	2430-39897	28-Jul-06	AHY-M	03-Jun-09			✓	✓	✓		✓	
Common Yellowthroat	2490-46146	08-Aug-07	HY-U	08-Aug-09							✓	✓
Common Yellowthroat	2490-46471	17-Aug-07	HY-M	26-Aug-09								✓
Common Yellowthroat	2490-48277	05-Sep-07	AHY-F	01-Jun-09					✓		✓	
Common Yellowthroat	2490-47903	01-Jun-08	AHY-M	12-Sep-09						✓		✓
Common Yellowthroat	2490-47917	02-Jun-08	SY-F	05-Sep-09						✓	✓	✓
Common Yellowthroat	2490-47980	23-Jul-08	AHY-F	28-Aug-09								✓
Common Yellowthroat	2490-47993	26-Jul-08	HY-U	01-Sep-09								✓
Common Yellowthroat	2490-52555	25-Aug-08	AHY-M	04-Jun-09							✓	
Common Yellowthroat	2490-49392	29-May-09	ASY-M	26-Aug-09								✓
Common Yellowthroat	2490-49369	29-May-09	ASY-M	28-Aug-09								✓
Common Yellowthroat	2490-49454	03-Jun-09	SY-F	19-Aug-09								✓
Common Yellowthroat	2490-49479	05-Jun-09	SY-M	12-Aug-09								✓
Common Yellowthroat	2490-49482	06-Jun-09	SY-F	01-Sep-09								✓
Western Tanager	2261-82061	26-May-07	ASY-F	06-Jun-09							✓	
Lincoln's Sparrow	1921-93288	01-Aug-08	HY-U	28-May-09							✓	
Lincoln's Sparrow	1921-93401	17-Sep-08	HY-U	14-May-09							✓	
Lincoln's Sparrow	1921-93545	23-May-09	ASY-U	04-Sep-09								✓
Lincoln's Sparrow	1921-93560	02-Jun-09	SY-U	01-Sep-09								✓
Rusty Blackbird	852-55940	28-Aug-06	HY-M	17-Sep-09								✓

3.4 Molt Scoring

As supplementary information, data was collected on the stage of molt for a portion of the birds banded. Although information on the preformative molt (amount of juvenile plumage remaining) was collected for juvenile (HY) birds, a particular emphasis was placed upon collecting wing molt scores for molting adult (AHY) individuals. Using methodology in Ginn and Melville (1983), each primary and secondary flight feather was assigned a rank of zero (old feather remaining) to five (new feather fully grown).

A total of 69 molt scores were obtained from 14 species. This data is useful for studying molt of various species such as is shown by the following figure for Common Yellowthroat (**Error! Reference source not found.**).

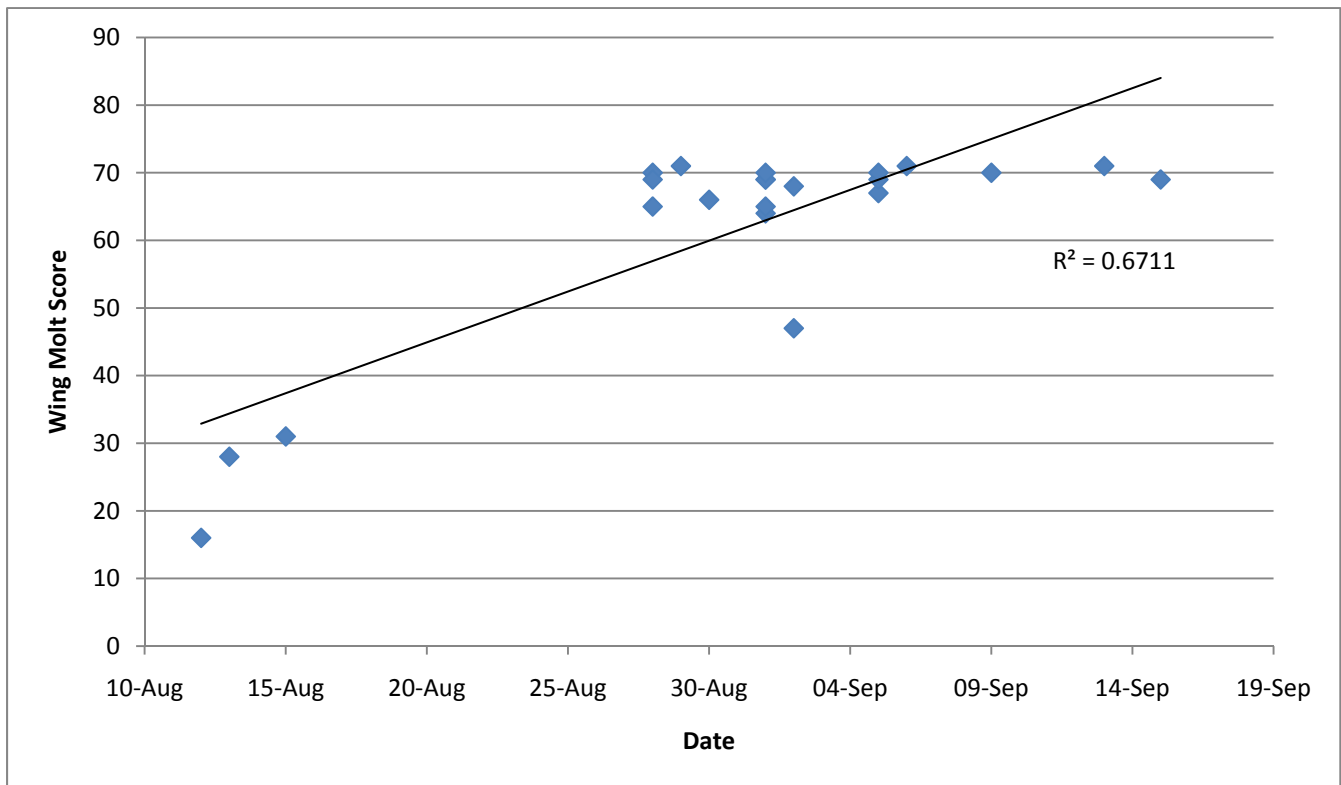


Figure 7. Common Yellowthroat wing molt score data.

Table 8. Summary of band repeats during the spring 2009 season.

Species	# of Individuals Recaptured	% of 2009 Original Bandings	Maximum # of Days From Original Banding	Minimum # of Days From Original Banding	Median # of Days From Original Banding	Average # of Days From Original Banding
Yellow-bellied Sapsucker	2	22.2	19	4	-	-
Hermit Thrush	1	50.0	4	-	-	-
American Robin	3	33.3	8	3	3	4.7
Orange-crowned Warbler	11	6.5	4	1	2	1.8
Yellow Warbler	6	6.3	2	1	1	1.3
Yellow-rumped Warbler	4	0.8	3	1	1.5	1
Common Yellowthroat	4	11.4	10	1	7	6.25
Northern Waterthrush	13	11.5	5	1	2	2.2
Wilson's Warbler	10	3.6	15	1	3	3.9
American Tree Sparrow	11	39.3	5	1	2	2.1
Fox Sparrow	3	27.3	4	1	1	2
Lincoln's Sparrow	5	15.6	11	1	4	4.4
Savannah Sparrow	6	16.2	3	1	1.5	1.7
White-crowned Sparrow	27	42.2	4	1	1	1.4
White-throated Sparrow	1	14.3	5	-	-	-
Dark-eyed Junco	6	40.0	11	1	2.5	4
Lapland Longspur	1	16.7	1	-	-	-

Table 9. Summary of band repeats during the fall 2009 season.

Species	# of Individuals Recaptured	% of 2009 Original Bandings	Maximum # of Days From Original Banding	Minimum # of Days From Original Banding	Median # of Days From Original Banding	Average # of Days From Original Banding
Alder Flycatcher	5	5.4	6	1	2	2.8
Black-capped Chickadee	3	37.5	19	3	7	9.7
Boreal Chickadee	1	3.7	10	-	-	-
Swainson's Thrush	3	7.0	2	1	2	1.7
Gray-cheeked Thrush	2	20.0	1	1	-	-
Hermit Thrush	1	11.1	4	-	-	-
Tennessee Warbler	22	16.1	6	1	3	3.1
Orange-crowned Warbler	5	5.1	13	1	2	3.8
Yellow Warbler	4	2.5	8	3	4	4.8
Yellow-rumped Warbler	2	2.2	22	1	-	-
Blackpoll Warbler	1	2.8	1	-	-	-
Magnolia Warbler	3	11.1	6	1	3	3.3
American Redstart	4	10.5	30	1	4	9.8
Common Yellowthroat	55	23.1	23	1	4	5.7
Northern Waterthrush	47	23.0	14	1	2	3.3
Wilson's Warbler	2	1.3	4	1	-	-
American Tree Sparrow	23	19.7	18	1	3	5.1
Fox Sparrow	2	3.8	3	1	-	-
Lincoln's Sparrow	14	13.5	33	1	4.5	7.8
Swamp Sparrow	7	41.2	28	3	13	14
Savannah Sparrow	4	14.3	4	1	1.5	2
White-crowned Sparrow	1	3.8	1	-	-	-
White-throated Sparrow	5	22.7	20	1	12	11
Dark-eyed Junco	2	2.1	1	-	-	-

3.4 *Interesting & Notable Captures / Observations*

As expected, the vast majority of birds banded and observed at Albert Creek in 2009 were species which are common and widespread north and west of the study site. The observatory captures a very diverse grouping of bird species; however, there is a notable difference in species captured during the spring and fall seasons. The section below outlines a number of interesting and/or notable captures and sightings from the 2009 fall season.

Note that this section utilizes the following terminology to describe the status of species at Albert Creek.

Common – Recorded annually, in at least modest numbers and/or on the major of days

Uncommon – Recorded annually, not in modest numbers and/or not on the majority of days

Rare – Recorded annually, but in low numbers

Casual – Not recorded annually, but recorded during at least two years

Accidental – One record only

Gadwall

Previously recorded once during the spring season (2008), a single Gadwall was seen on June 1, 2009. This species is considered casual at Albert Creek during the spring season.

Sora

This species is considered rare at Albert Creek during both seasons. Typically recorded late in the spring season and early during the fall season, this species was recorded on one day during 2009 (August 19).

Pileated Woodpecker

Considered uncommon at Albert Creek during both seasons, this species was only observed during the spring season of 2009. With single birds observed on all days, this species was observed on 7 days from May 16 to May 26. This species typically only found in the southeast portion of the territory and Albert Creek constitutes the only location where the species is regularly observed in the Yukon. Note that this species has been banded at the site; 1 in spring 2005, 2 in fall 2005.



Photo 1. Pileated Woodpecker banded at Albert Creek during the spring 2005 season (Photo Ted Murphy-Kelly).

Yellow-bellied Flycatcher

Considered rare at Albert Creek during the spring and fall, this species is typically captured in very low numbers during both seasons. During 2009, none were encountered in spring, however; 6 individuals (all HY) were banded during the fall. These included the following; 2 on August 14, 1 on August 17, 2 on August 24, and 1 on September 1. The all time banding total of this species to date is 22 individuals with the following record early/late dates; May 29 to June 14 and July 29 to September 3.



Photo 2. HY-U Yellow-bellied Flycatcher banded during the fall 2009 season (Photo Ted Murphy-Kelly).

Dusky Flycatcher

A casual species at Albert Creek during spring and fall, this is the least often encountered flycatcher species at the study site. Although not encountered every year, 2 individuals were banded during the fall season; 1 HY-U on August 12 and 1 HY-U on August 14. The all time banding total for this species to date is 5 individuals with the following record early/late dates; May 15 to May 31 and August 12 to September 3.

American Crow

A species which appears to be on the increase in much of the southern Yukon, this species is now considered to be uncommon in spring and rare in fall. During the spring, the species was observed on 6 days from May 11 to May 26, with single individuals seen on each day. In fall, the species was observed on 3 days from August 29 to September 9, with a site record of 9 individuals observed on September 8.

European Starling

A new species for Albert Creek, a single European Starling was observed on May 16.

Cedar Waxwing

An accidental species during the spring season, this species is more often encountered during the fall, and as such it is considered a casual species in fall. In previous years, a mixture of adult and juvenile birds have been encountered early in the fall season suggesting that breeding is likely occurring at the site. During 2009, the species was encountered on 8 days from August 11 to September 2 with a high count of 12 individuals on August 13. Only a single individual (HY-U) was banded on August 11. The all time banding total for this species to date is 20 individuals all during the fall season with a high season total of 8 individuals during 2004 and 2007.



Photo 3. AHY Cedar Waxwing banded during the fall 2007 season (Photo Ted Murphy-Kelly).

Magnolia Warbler

At the extreme northwest edge of its North American breeding range at Albert Creek, this species is rare in spring and uncommon in fall. A late spring migrant in the Yukon, it is likely that a large proportion of individuals pass through the study site after the observatory is closed for the spring season. For 2009, a single individual was observed on May 29, however; none were banded. During the fall, the species was encountered on 13 days from August 11 to September 4 with a high count of 8 individuals on August 14. During the period, 27 individuals were banded; including 1 AHY and 26 HY. The all time banding total for this species to date is 261 individuals of which 239 have been banded during the fall. The highest spring banding totals to date are as follows; spring 2007 (5 banded) and fall 2007 and 2008 (38 banded).



Photo 4. HY Magnolia Warbler banded during the fall 2009 season (Photo Ted Murphy-Kelly).

Cape May Warbler

Prior to the establishment of the observatory during 2001, this species was known only from the extreme southwest Yukon. Since then, this species has been encountered quite regularly during the spring and fall and it is now considered rare during both seasons. During the past few years, the species has been encountered almost daily during late May and early June. For the 2009, the species was noted on 6 days from May 26 to Jun 6 (single birds on all days) and a single individual was banded on May 26. During fall, the species is typically encountered sporadically from late July to early September. The presence of singing males on territory in early June and the capture of juvenile plumaged birds in late July suggests that local breeding is likely occurring. The 2009 season was the first year since 2004 that the species was not observed during fall. The all time banding total to date for this species is 13 individuals comprised of 5 individuals during spring and 8 (5 HY, 3 AHY).



Photo 5. Adult male Cape May Warbler banded during spring 2008 (Photo Ted Murphy-Kelly).

Townsend's Warbler

Unlike many of the rare bird species at Albert Creek, the Townsend's Warbler is actually at the eastern extent of its breeding range at the site. This species is considered rare during both seasons and the presence of territorial singing males and capture of juveniles early during fall suggests that breeding is likely occurring in the vicinity of the study site. For 2009, the species was noted on only 1 day (May 21) during spring and 2 days during fall (August 23, 28). The all time banding total for this species is 16 comprised of 5 during spring and 9 (7 HY, 2 HY) during fall.



Photo 6. Female (left) and male (right) Townsend's Warbler banded during spring 2008 (Photo Jukka Jantunen).

Ovenbird

Now considered casual in spring and accidental in fall, this species was observed on one day during the spring season (June 5). To date, two individuals have been banded; SY on May 29, 2003, and HY on August 20, 2006. In the Yukon, this species is typically restricted to the extreme southeast portion of the territory.



Photo 7. HY Ovenbird banded during the fall of 2006 (Photo Ted Murphy-Kelly).

Black-and-white Warbler

Another species typically only found in the extreme southeast Yukon, this species is now considered casual in spring and accidental in fall. The species is encountered on a near year basis at the study site. For 2009, a single individual (SY-M) was banded on May 31 bringing the all time banding total to 5 (4 in spring, 1 in fall).



Photo 8. Black-and-white Warbler banded during spring 2007 (Photo Ted Murphy-Kelly).

Western Tanager

An exceptional find west of Albert Creek, this species is now encountered on a yearly basis (rare in spring and fall). Individuals are most often observed singing on territory in the final week of May and early June. During the spring of 2009, the species was noted on 21 days from May 22 to June 6 with 1-2 individuals observed each day. Three individuals were banded during spring; May 25, 26 and 29. This species was not observed during the fall season. The all time banding total for the species to date is 20 individuals; 11 in spring, 9 in fall.



Photo 9. Male Western Tanager banded during spring 2006 (Photo John Meikle).

White-throated Sparrow

One of the more common “southeast Yukon specialties”, this species is considered uncommon during spring and fall. For the spring 2009 season, the species was recorded on 18 days from May 23 to June 6 with a high count of 4 on May 23rd and a total of 7 banded. During fall, 22 were banded and the species was encountered on 24 days from August 20 to September 16 with a high count of 6 on August 20. The all time banding total to date for this species is 280; 117 in spring, 163 in fall.



Photo 10. HY White-throated Sparrow banded during fall 2009 (Photo Jillian Johnston).

Swamp Sparrow

A wetland associated species typically only found in the southeast portion of the Yukon, this species is considered uncommon during spring and fall. For the spring 2009 season, the species was recorded on 12 days from May 22 to June 6 with single birds encountered on all days and none were banded. During fall, 17 were banded and the species was encountered on 23 days from August 18 to September 20 with a high count of 5 on September 17. The all time banding total to date for this species is 187; 21 in spring, 116 in fall. The presence of numerous juveniles during the fall suggests that local breeding at the site is very likely.



Photo 11. HY Swamp Sparrow banded during fall 2009 (Photo Jillian Johnston).

3.4 *Rusty Blackbirds*

As part of an ongoing project in co-operation with Pam Sinclair (CWS-Whitehorse) and the Teslin Lake Bird Observatory, all Rusty Blackbirds captured with fitted with color bands (light green) in addition to the regular numbered leg band. The rationale for color banding individuals is to potentially increase re-sightings of banded individuals.

Additionally, a feather was collected from each Rusty Blackbird captured. Feather samples will be analyzed for stable isotopes in an effort to make linkages between breeding and wintering grounds used by this species. During spring 2009, a single individual was banded (ASY-F) and during fall, 10 individuals (8 HY, 2 AHY).



Photo 9. AHY-M Rusty Blackbird banded during fall 2009 (Photo Jillian Johnston).

3.5 *Species at Risk / Conservation Concern*

The observatory serves as a valuable data source for bird species at risk and of conservation concern. The geographic location of the observatory allows for monitoring of bird species within the northwestern Boreal Forest which may not be monitored sufficiently by other methods such as the Breeding Bird Survey. Table 10 summarizes the species at risk/conservation concern encountered at the observatory during 2009.

Table 10. Summary of bird species at risk/conservation concern encountered during 2009.

Common Name	Yukon General Status (CESCC 2006)	COSEWIC Status (COSEWIC 2009)	COSEWIC Priority for Assessment (COSEWIC 2009)	Spring			Fall			All Time Banding Total
				# Days Recorded	# Banded	# of Bird Days	# Days Recorded	# Banded	# of Bird Days	
Common Loon	Sensitive			15		15	18		18	
Trumpeter Swan	Sensitive			5		11	6		8	
Tundra Swan	Sensitive			2		2				
American Wigeon	Sensitive			12		42	1		8	
Northern Pintail	Sensitive			3		18	1		10	
Lesser Scaup	Sensitive		Low	2		116				
Osprey	Sensitive			4		4	1		1	
American Kestrel	May Be At Risk		Mid	12		12	3		3	1
Killdeer			Low	4		5				
Greater Yellowlegs	Sensitive			13		17				
Lesser Yellowlegs	Sensitive			18		33	1		1	
Long-billed Dowitcher	Sensitive			7		216				
Common Nighthawk		Threatened		1		5	1		1	
Belted Kingfisher			Mid	22		26	23		24	4
Pileated Woodpecker	May Be At Risk			7		7				3
Olive-sided Flycatcher	Sensitive	Threatened		3		3	2		2	10
Northern Shrike	Sensitive						6	1	6	8
Bank Swallow			Mid	12		261				
Boreal Chickadee			Low	4		4	27	27	84	109
Magnolia Warbler	Sensitive			1		1	13	27	34	261
Cape May Warbler	May Be At Risk			6	1	6				13
Townsend's Warbler	Sensitive			1		1	3	2	3	16
American Redstart	Sensitive			5	2	11	15	38	57	438
Ovenbird	May Be At Risk			1		1				2
Black-and-white Warbler	May Be At Risk			1	1	1				5
Western Tanager	May Be At Risk			15	3	21				20
White-throated Sparrow	Sensitive			18	7	40	24	22	58	280
Rusty Blackbird	Sensitive	Special Concern		14	1	39	33	10	174	317

3.6 Owl Banding

The site has been tested for the purposes of banding small owls using Boreal Owl and Northern Saw-whet Owl call playback. A total of 14.25 net hours were tabulated while targeting owls during the fall 2009 season, however; no owls were caught. Testing during the fall 2007 season resulted in the capture of two Boreal Owls and a single Northern Saw-whet Owl observed near the call playback station. Additional testing will be required to determine the feasibility of this add on component to the observatory's operation.

3.7 Visitors and Volunteers

Once again the observatory hosted numerous visitors and volunteers. For a large portion of days, the observatory was staffed by more than one qualified personnel. This was largely due to the presence and commitment of volunteers. Table 11 shows the number of hours spent at the observatory by visitors, volunteers and paid workers. Visitors were defined as those people who visited the observatory (often for a short time) and did not take part in activities at the observatory. Volunteers were those people which took part in the operation of the observatory (often extensively) without being financially compensated. Paid hours were spent by individuals being paid to be at the observatory. This category includes the Bander In Charge (Jillian Johnston Jukka Jantunen,) and individuals paid by other organizations (Yukon Government, Canadian Wildlife Service, etc).

Table 11. Hours spent at the bird observatory by visitors, volunteers and paid individuals.

Season	Observers				Visitors	
	Paid		Volunteer		# of Individuals	Hours
	# of Individuals	Hours	# of Individuals	Hours		
Spring	3	236	5	176	17	43
Fall	11	457	6	159	13	22

Note that the values shown for “paid hours” only include those spent at the observatory and do not include the extensive amount of data entry, data analysis, report writing and other communication of the observatory's results.

4.0 Conclusion

Despite shortened operational timing, the spring and fall migration seasons of 2009 marked another successful year for the Albert Creek Bird Observatory. Geographically, the southeast Yukon is a very bird rich region and Albert Creek illustrates this extremely well. The site is ideal for capturing birds in good numbers due to the wide variety of mixed successional vegetation surrounded by mature stands. The site will likely require some vegetation management (trimming) to be carried out in order to maintain an ideal canopy height for capturing birds.

The site continues to band a wide variety of species. Some species such as Wilson's Warbler, Yellow-rumped (Myrtle) Warbler, Yellow Warbler and Orange-crowned Warbler are banded in large numbers providing a large sample size for extensive study of these species, perhaps even subspecies work. Many species of birds are at the north or north western extent of their range at Albert Creek. Species such as Cape May Warbler, Western Tanager and Swamp Sparrow are encountered very regularly at the site despite not being found throughout much of the Yukon. This makes the station unique in the territory where many species can be studied and monitored which are only found in the southeast. The station also continues to add species to the list of birds occurring in the Watson Lake area.

Some of the stations protocols are different from those of more southerly stations in Canada. This is due to the unique variables which have to be considered when banding "north of sixty". All the net lanes have been in the same location for seven years now with the exception of three additional lanes which were added in the spring of 2007 to act as a replacement for flooded net lanes. It is important that these same net lanes are used every year without change. The testing of a nocturnal owl monitoring program initiated during 2007 will be continued during 2010 to increase the value of the data collected at the station. Note that the station's operation is normal following a field protocol which is currently being formalized into a separate document.

In order for the observatory to operate efficiently, a fully trained team of banders must be employed or qualified volunteers must be recruited. During the busiest days of migration we recommend that the station have at least four individuals who are all competent extractors and observers. Two of the four staff should be qualified banders. If this is achieved the station will likely reach it's full potential and more meaningful analyses of data can be achieved. In addition to migration monitoring and banding this project has incorporated other work such as feather collection for stable isotope analyses, bird tick collection, molt scoring and color banding of species of concern. Further specialized studies that we can "piggy back" on the daily operation of the station will add to the relevance of the work conducted at Albert Creek. A long-term financial commitment by government and or non-government agencies would insure the future of migration monitoring and banding at Albert Creek. Finally, we look forward to continuing to work with the local community of Watson Lake, student programs and first nations. We are always open to the public and encourage families, tourists and school groups to take advantage of this unique place of learning.

5.0 Recommendations

For 2010, it is hoped that financial support can be secured to once again operate the observatory at full capacity (ie-daily coverage) during the spring and fall migration seasons. Should funding/personnel restrictions be in place for 2010, it is recommended that the fall season be operated at full capacity (July 23 – September 23) prior to operating during the spring season.

6.0 References

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APPENDIX 1 –ALL TIME BANDING TOTALS

SPECIES	SPRING									FALL									TOTAL
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2001	2002	2003	2004	2005	2006	2007	2008	2009	
Sharp-shinned Hawk			3		1	2	1				1	1	3	2	6	4	1	4	29
American Kestrel					1														1
Solitary Sandpiper			1		3	12	9	1	2							2			30
Spotted Sandpiper							1									1			2
Wilson's Snipe			1		2	3	1		1						1	1			10
Boreal Owl								1								2			3
Belted Kingfisher						1	1									2			4
Yellow-bellied Sapsucker	1	2	7	15	9	17	16	9	9	1	1	8	21	14	18	16	10	5	179
Downy Woodpecker															1				1
Hairy Woodpecker			1	1	1				1										4
Three-toed Woodpecker								1				2	1						4
Black-backed Woodpecker												1							1
Northern Yellow-shafted Flicker		1		2	1		1	3				1	2	1	1	1			14
Pileated Woodpecker					1									2					3
Olive-sided Flycatcher				2		5	1	2											10
Western Wood-pewee			1			4		2											7
Yellow-bellied Flycatcher		1		2	1		1				4		1	2		2	2	6	22
Alder Flycatcher	5	19	16	19	23	80	28	21	35	5	27	80	217	174	183	253	202	93	1480
Least Flycatcher	1	5	3		2	3	4	2	1	3	9	8	19	16	12	14	11	7	120
Hammond's Flycatcher				1	12	14	9	2	2			2	2	14	8		7	4	77
Dusky Flycatcher								1						1		1		2	5
Say's Phoebe						1													1
Northern Shrike								1			1				4		1	1	8
Blue-headed Vireo												2	6	4	2	1			15
Warbling Vireo	2	8	6	11	10	7	7	3	5	3	19	17	28	34	22	26	17	14	239
Philadelphia Vireo												1							1
Red-eyed Vireo				1															1
Gray Jay	1	4	4	1	1		1					1	2	2	1				18
Tree Swallow							1	13											14
Violet-green Swallow								2											2
Black-capped Chickadee		4		5	2					4	5	3	12	13	16	10	16	8	98
Boreal Chickadee		5	6	1	1	3		3		8	7	7	6	8	8	13	6	27	109
Red-breasted Nuthatch			1							3			1			1			6
Golden-crowned Kinglet														3		3			6

Species	SPRING									Fall									Total
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2001	2002	2003	2004	2005	2006	2007	2008	2009	
Ruby-crowned Kinglet	17	20	24	51	18	246	75	88			29	125	47	200	412	184	53	121	1710
Gray-cheeked Thrush		9	1	18	2	22	13	2	2		4	1	10	8	17	8	5	10	132
Swainson's Thrush	2	25	21	53	19	46	55	15	19	1	7	65	104	133	93	137	70	43	908
Hermit Thrush		2	2	3	4	6	1	5	2	1	3	3	7	2	6	3	2	10	62
American Robin	3	6	10	13	19	31	18	5	9			3	6	1	2	2	1		129
Varied Thrush			1		2	3					2	3	3	2	7	3	5	5	36
American Pipit		1				5	1						2					1	10
Bohemian Waxwing			2		6	9		2	2										21
Cedar Waxwing												8				8	3	1	20
Tennessee Warbler	1	12	17	48	51	60	21	22	8	4	9	14	12	30	15	22	28	137	511
Orange-crowned Warbler	57		137	286	105	214	251	339	170	12	30	52	199	122	151	152	87	97	2461
Yellow Warbler	6	84	65	61	33	313	261	208	96	7	22	50	159	149	125	214	93	157	2103
Magnolia Warbler	1	2	1	4	4	1	5	4		1	22	36	26	19	32	38	38	27	261
Cape May Warbler							2	3	1					2		3	2		13
Yellow-rumped Myrtle Warbler	73	9	143	268	91	364	113	434	505	35	80	86	138	185	105	262	117	90	3098
Yellow-rumped Warbler						3											1		4
Townsend's Warbler				1				4		1		3		3	1	1		2	16
Bay-breasted Warbler				1								1		1					3
Blackpoll Warbler	3	8	22	22	17	62	57	88	65	8	8	13	44	30	32	41	19	36	575
Black-and-white Warbler			1			1	1		1					1					5
American Redstart		9	7	18	9	15	10	6	2	1	19	27	35	54	48	50	90	38	438
Ovenbird			1												1				2
Northern Waterthrush	11	51	47	69	50	91	145	31	113	3	22	33	95	157	97	248	195	202	1660
McGillivray's Warbler				1															1
Common Yellowthroat	3	38	35	17	19	62	85	46	35	6	40	72	107	199	228	217	191	233	1633
Wilson's Warbler	16	189	384	502	552	398	369	182	274	10	28	83	203	106	218	167	146	158	3985
Western Tanager		1		2	1	1	1		3			1	2	3	1	2	2		20
American Tree Sparrow	6	9	24	172	175	196	345	74	28	1	19	26	66	150	223	116	61	117	1808
Chipping Sparrow		7	10	4	12	8	8	6	2		1	1	9	2	1	3	1	4	79
Savannah Sparrow	4	7	27	38	31	42	70	53	37		3	6	19	7	13	18	7	28	410
Fox Sparrow	4	1	11	28	143	28	60	51	11		4	14	15	25	53	9	22	54	533
Song Sparrow														1					1
Lincoln's Sparrow	16	30	39	42	51	23	120	27	32	14	29	42	91	108	124	74	57	99	1018
Swamp Sparrow			4	2	1	4	5	5		4	6	9	7	33	40	21	29	17	187

Species	Spring									Fall									Total
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2001	2002	2003	2004	2005	2006	2007	2008	2009	
White-throated Sparrow	2	19	20	9	14	18	14	14	7	4	6	33	30	27	22	9	10	22	280
White-crowned Sparrow	6	7	6	184	269	14	217	138	64	1	3	9	11	13	22	10	5	26	1005
Golden-crowned Sparrow			2	6	4	2	14	3	3				1			1			36
Dark-eyed "Slate-colored" Junco	3	15	20	194	42	70	334	48	15	4	65	39	44	585	179	81	39	96	1873
Dark-eyed "Oregon" Junco							1												1
Dark-eyed Junco							4		1										5
Lapland Longspur				2		35	1	2	6										46
Red-winged Blackbird					7	8	4	2	2										23
Rusty Blackbird	2		5	5	37	81	14	47	1	2	1	10	12	15	35	31	9	10	317
Brown-headed Cowbird							4	1				1							6
Pine Grosbeak															2				2
Purple Finch	5	9	11	10	8	8	5	9	4				3	11		1			84
White-winged Crossbill						16								7		12		1	36
Common Redpoll				68	2	46	12	54							1		14		197
Pine Siskin		6	2	2				2			4	31	5						52
TOTAL SPECIES BANDED	26	35	44	46	48	50	53	50	39	27	35	40	49	48	46	52	42	40	83
TOTAL BIRDS BANDED	251	625	1152	2265	1869	2704	2799	2086	1576	147	540	1021	1842	2681	2591	2502	1676	2013	30340

APPENDIX 2 – SPECIES LIST

Description of Bird Species Lists

Common – Recorded annually, in at least modest numbers and/or on the major of days

Uncommon – Recorded annually, not in modest numbers and/or not on the majority of days

Rare – Recorded annually, but in low numbers

Casual – Not recorded annually, but recorded during at least two years

Accidental – One record only

Note species highlighted in yellow have been banded during the respective season.

Species	Spring	Fall
Red-throated Loon	Rare	Casual
Common Loon	Uncommon	Uncommon
Horned Grebe	Rare	Accidental
Red-necked Grebe	Accidental	Accidental
Greater White-fronted Goose	Uncommon	Common
Snow Goose	Casual	Accidental
Canada Goose	Common	Common
Trumpeter Swan	Uncommon	Uncommon
Tundra Swan	Uncommon	Uncommon
Gadwall	Casual	
American Wigeon	Uncommon	Uncommon
Mallard	Common	Common
Blue-winged Teal	Rare	Rare
Northern Shoveler	Uncommon	Casual
American Green-winged Teal	Common	Common
Northern Pintail	Common	Casual
Canvasback	Accidental	
Ring-necked Duck	Uncommon	Rare
Greater Scaup	Accidental	
Lesser Scaup	Uncommon	
Long-tailed Duck	Casual	
Bufflehead	Uncommon	Casual
Common Goldeneye	Uncommon	Casual
Barrow's Goldeneye	Uncommon	Casual
Common Merganser	Uncommon	Accidental
Red-breasted Merganser	Casual	
Osprey	Rare	Rare
Bald Eagle	Uncommon	Uncommon
Northern Harrier	Common	Uncommon
Sharp-shinned Hawk	Uncommon	Uncommon
Northern Goshawk	Rare	Rare

Species	Spring	Fall
Swainson's Hawk		Accidental
Red-tailed Hawk	Uncommon	Uncommon
Rough-legged Hawk	Casual	Casual
American Kestrel	Uncommon	Uncommon
Merlin	Casual	Uncommon
Ruffed Grouse	Common	Common
Spruce Grouse	Common	Common
American Coot	Casual	
Sora	Rare	Rare
Sandhill Crane	Uncommon	Uncommon
American Golden-Plover	Accidental	Accidental
Semipalmated Plover	Rare	
Killdeer	Uncommon	Accidental
Greater Yellowlegs	Uncommon	Casual
Lesser Yellowlegs	Common	Uncommon
Solitary Sandpiper	Common	Uncommon
Wandering Tattler	Accidental	
Spotted Sandpiper	Rare	Rare
Whimbrel	Casual	
Semi-palmated Sandpiper	Accidental	Accidental
Least Sandpiper	Rare	Rare
Pectoral Sandpiper	Rare	Casual
Short-billed Dowitcher	Casual	
Long-billed Dowitcher	Rare	Accidental
Wilson's Phalarope	Accidental	
Wilson's Snipe	Uncommon	Uncommon
Bonaparte's Gull	Uncommon	
Mew Gull	Rare	Casual
Herring Gull	Uncommon	Uncommon
Great Horned Owl	Casual	
Northern Hawk Owl	Accidental	Casual
Short-eared Owl	Accidental	
Boreal Owl	Rare	Rare
Northern Saw-whet Owl		Accidental
Common Nighthawk	Casual	Casual
Rufous Hummingbird	Accidental	
Belted Kingfisher	Common	Common
Yellow-bellied Sapsucker	Common	Uncommon
Downy Woodpecker	Accidental	Accidental
Hairy Woodpecker	Uncommon	Uncommon
American Three-toed Woodpecker	Uncommon	Uncommon
Black-backed Woodpecker	Casual	Rare

Species	Spring	Fall
Northern Flicker	Common	Common
Pileated Woodpecker	Uncommon	Uncommon
Olive-sided Flycatcher	Uncommon	Rare
Western Wood-Pewee	Rare	Accidental
Yellow-bellied Flycatcher	Rare	Rare
Alder Flycatcher	Uncommon	Common
Least Flycatcher	Uncommon	Uncommon
Hammond's Flycatcher	Uncommon	Uncommon
Dusky Flycatcher	Casual	Casual
Say's Phoebe	Rare	
Northern Shrike	Casual	Rare
Blue-headed Vireo	Casual	Casual
Warbling Vireo	Uncommon	Common
Philadelphia Vireo		Casual
Red-eyed Vireo	Casual	
Gray Jay	Common	Common
American Crow	Uncommon	Rare
Common Raven	Common	Common
Horned Lark	Casual	Accidental
Tree Swallow	Common	Common
Violet-green Swallow	Uncommon	Casual
Northern Rough-winged Swallow	Accidental	
Bank Swallow	Rare	Rare
Cliff Swallow	Uncommon	Uncommon
Barn Swallow	Rare	Rare
Black-capped Chickadee	Common	Common
Boreal Chickadee	Common	Common
Red-breasted Nuthatch	Uncommon	Uncommon
Winter Wren	Accidental	
Golden-crowned Kinglet		Rare
Ruby-crowned Kinglet	Common	Common
Townsend's Solitaire	Accidental	
Gray-cheeked Thrush	Uncommon	Uncommon
Swainson's Thrush	Common	Common
Hermit Thrush	Uncommon	Uncommon
American Robin	Common	Uncommon
Varied Thrush	Uncommon	Uncommon
American Pipit	Uncommon	Uncommon
Bohemian Waxwing	Common	Uncommon
Cedar Waxwing	Accidental	Casual
Tennessee Warbler	Uncommon	Uncommon
Orange-crowned Warbler	Common	Common

Species	Spring	Fall
Yellow Warbler	Common	Common
Magnolia Warbler	Rare	Uncommon
Cape May Warbler	Rare	Rare
Yellow-rumped (Myrtle) Warbler	Common	Common
Yellow-rumped (Integrade) Warbler	Accidental	
Townsend's Warbler	Uncommon	Uncommon
Bay-breasted Warbler	Rare	Casual
Blackpoll Warbler	Common	Common
Black-and-white Warbler	Casual	Accidental
American Redstart	Rare	Common
Ovenbird	Accidental	Accidental
Northern Waterthrush	Common	Common
MacGillivray's Warbler	Accidental	
Common Yellowthroat	Common	Common
Wilson's Warbler	Common	Common
Western Tanager	Rare	Rare
American Tree Sparrow	Common	Common
Chipping Sparrow	Uncommon	Rare
Vesper Sparrow	Accidental	
Savannah Sparrow	Uncommon	Uncommon
Fox Sparrow	Uncommon	Uncommon
Song Sparrow		Accidental
Lincoln's Sparrow	Common	Common
Swamp Sparrow	Uncommon	Uncommon
White-throated Sparrow	Uncommon	Uncommon
White-crowned Sparrow	Common	Uncommon
Golden-crowned Sparrow	Uncommon	Accidental
Dark-eyed (Slate-colored) Junco	Common	Common
Dark-eyed (Oregon) Junco	Accidental	
Dark-eyed (Integrade) Junco	Uncommon	Uncommon
Lapland Longspur	Common	Uncommon
Snow Bunting	Accidental	
Rose-breasted Grosbeak	Casual	Accidental
Red-winged Blackbird	Uncommon	Uncommon
Rusty Blackbird	Common	Common
Brown-headed Cowbird	Uncommon	Casual
Pine Grosbeak	Accidental	Casual
Purple Finch	Uncommon	Uncommon
Red Crossbill	Casual	Casual
White-winged Crossbill	Uncommon	Uncommon
Common Redpoll	Common	Casual
Pine Siskin	Uncommon	Uncommon

APPENDIX 3 – ESTIMATED TOTAL DATA SUMMARY

Species	Spring						Fall					
	Sum of ETs	# of Days	High Count		First Date	Last Date	Sum of ETs	# of Days	High Count		First Date	Last Date
Common Loon	15	15	1	all days	13-May	06-Jun	18	18	1	ALL DAYS	11-Aug	18-Sep
Greater White-fronted Goose	7	1	7	NA	13-May	NA	144	4	110	24-Aug	24-Aug	15 srp
Canada Goose	67	24	9	13-May	12-May	06-Jun	26	5	10	29-Aug	19-Aug	10-Sep
Trumpeter Swan	11	5	3	23-May	23-May	31-May	8	6	2	30 Aug, 12 Sep	20-Aug	14-Sep
Tundra Swan	2	2	1	NA	11-May	23-May						
Gadwall	1	1	1	NA	01-Jun	NA						
American Wigeon	42	12	12	14-May	12-May	25-May	8	1	8	NA	08-Sep	NA
Mallard	74	23	11	13-May	11-May	06-Jun	85	25	16	12-Aug	11-Aug	21-Sep
Blue-winged Teal	4	3	2	01-Jun	02-Jun	06-Jun	1	1	1	NA	24-Aug	NA
Northern Shoveler	16	5	9	25-May	18-May	04-Jun	10	1	10	NA	15-Aug	NA
Northern Pintail	18	3	10	15-May	13-May	15-May						
American Green-winged Teal	25	14	2	many	15-May	06-Jun	2	2	1	NA	23-Aug	03-Sep
Canvasback	31	2	23	15-May	14-May	15-May						
Ring-necked Duck	103	19	51	15-May	13-May	06-Jun	2	1	2	NA	20-Aug	NA
Lesser Scaup	116	2	115	15-May	15-May	29-May						
Bufflehead	32	10	8	16-May	13-May	04-Jun	11	5	4	11-Aug	11-Aug	18-Aug
Common Goldeneye	31	16	5	29-May	12-May	06-Jun	2	1	2	NA	13-Aug	NA
Barrow's Goldeneye	19	10	3	26-May	13-May	29-May						
Common Merganser	5	3	3	04-Jun	28-May	04-Jun						
Osprey	4	4	1	NA	14-May	24-May	1	1	1	NA	21-Sep	NA
Bald Eagle	3	3	1	NA	14-May	28-May	4	4	1	NA	11-Aug	16-Sep
Northern Harrier	10	4	7	15-May	15-May	29-May	9	8	2	05-Sep	24-Aug	20-Sep
Sharp-shinned Hawk	7	7	1	NA	14-May	06-Jun	17	9	5	13-Aug	13-Aug	21-Sep
Northern Goshawk							2	2	1	NA	23-Aug	26-Aug
Red-tailed Hawk	17	14	2	NA	14-May	06-Jun	2	2	1	NA	05-Sep	08-Sep
American Kestrel	12	12	1	NA	14-May	04-Jun	3	3	1	NA	15-Aug	15-Sep
Merlin							6	6	1	NA	18-Aug	27-Aug
Ruffed Grouse	17	17	1	NA	11-May	06-Jun	24	8	8	12-Aug	12-Aug	21-Sep

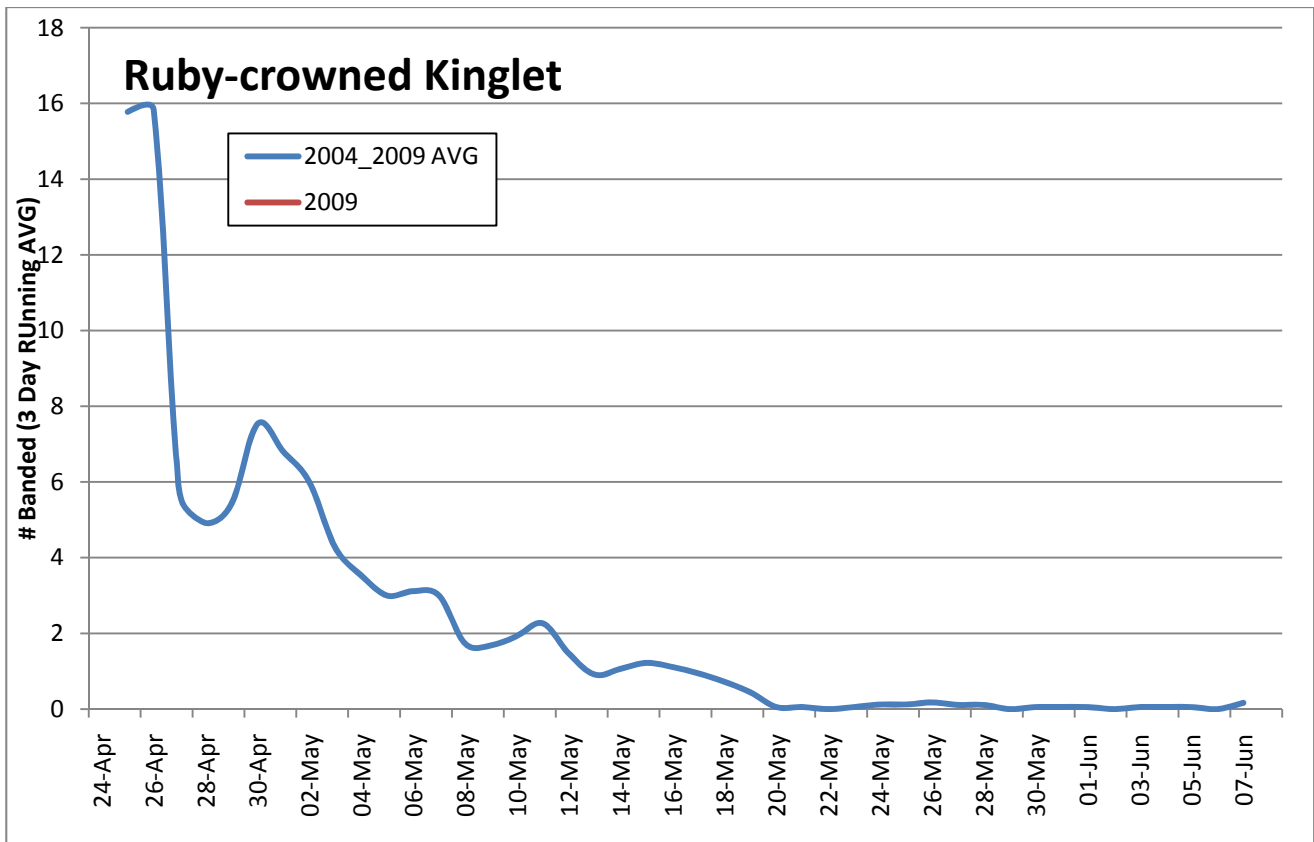
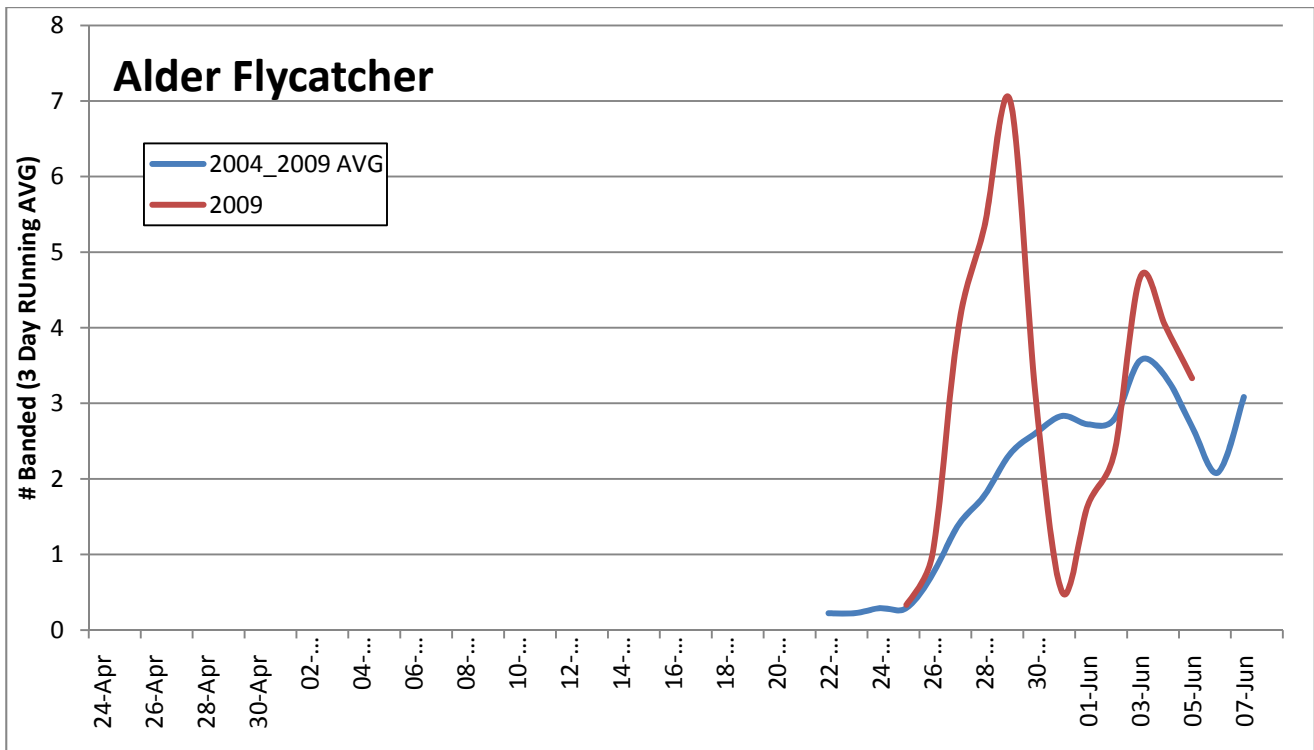
Species	Spring						Fall					
	Sum of ETs	# of Days	High Count		First Date	Last Date	Sum of ETs	# of Days	High Count		First Date	Last Date
Spruce Grouse	1	1	1	NA	14-May	NA	11	2	8	29-Aug	28-Aug	29-Aug
Sandhill Crane	3	2	2	21-May	21-May	24-May						
Sora							1	1	1	NA	19-Aug	NA
Semi-palmated Plover	3	3	1	NA	19-May	27-May						
Killdeer		4	2	21-May	21-May	03-Jun						
Greater Yellowlegs	17	13	2	many	18-May	06-Jun						
Lesser Yellowlegs	33	18	7	15-May	11-May	04-Jun	1	1	1	NA	13-Aug	NA
Solitary Sandpiper	55	21	19	15-May	11-May	06-Jun	5	3	2	14-Aug	11-Aug	14-Aug
Spotted Sandpiper	10	9	2	25-May	21-May	03-Jun	5	3	3	24-Aug	15-Aug	24-Aug
Least Sandpiper	1	1	1	NA	25-May	NA						
Pectoral Sandpiper	14	3	8	21-May	21-May	23-May						
Long-billed Dowitcher	216	7	80	19-May	14-May	22-May						
Wilson's Snipe	35	18	14	15-May	13-May	06-Jun	12	11	2	08-Sep	24-Aug	15-Sep
Upland Sandpiper	3	3	1	NA	15-May	28-May						
Mew Gull	12	7	2	NA	14-May	06-Jun						
Herring Gull	10	6	2	NA	13-May	28-May	2	2	1	NA	03-Sep	03-Sep
Common Nighthawk	5	1	5	NA	31-May	31-May	1	1	1	NA	31-Aug	NA
Belted Kingfisher	36	22	3	23-May	14-May	06-Jun	24	23	2	12-Aug	12-Aug	20-Sep
Yellow-bellied Sapsucker	66	23	5	19-May	13-May	06-Jun	11	10	2	12-Aug	11-Aug	08-Sep
Hairy Woodpecker	16	14	2	NA	15-May	04-Jun	2	2	1	NA	15-Aug	29-Aug
American Three-toed Woodpecker	2	2	1	NA	18-May	20-May	5	4	2	15-Aug	11-Aug	20-Sep
Northern Flicker	33	20	4	14-May	11-May	06-Jun	6	6	1	NA	14-Aug	02-Sep
Pileated Woodpecker	7	7	1	NA	16-May	26-May						
Olive-sided Flycatcher	3	3	1	NA	29-May	04-Jun	2	2	1	NA	23-Aug	25-Aug
Western Wood-Pewee	11	10	2	26-May	23-May	06-Jun						
Yellow-bellied Flycatcher							6	4	2	14, 24 auG	14-Aug	01-Sep
Alder Flycatcher	64	12	11	28-May	21-May	06-Jun	109	25	22	24-Aug	11-Aug	22-Sep
Least Flycatcher	1	1	1	NA	04-Jun	04-Jun	7	6	2	16-Aug	14-Aug	26-Aug

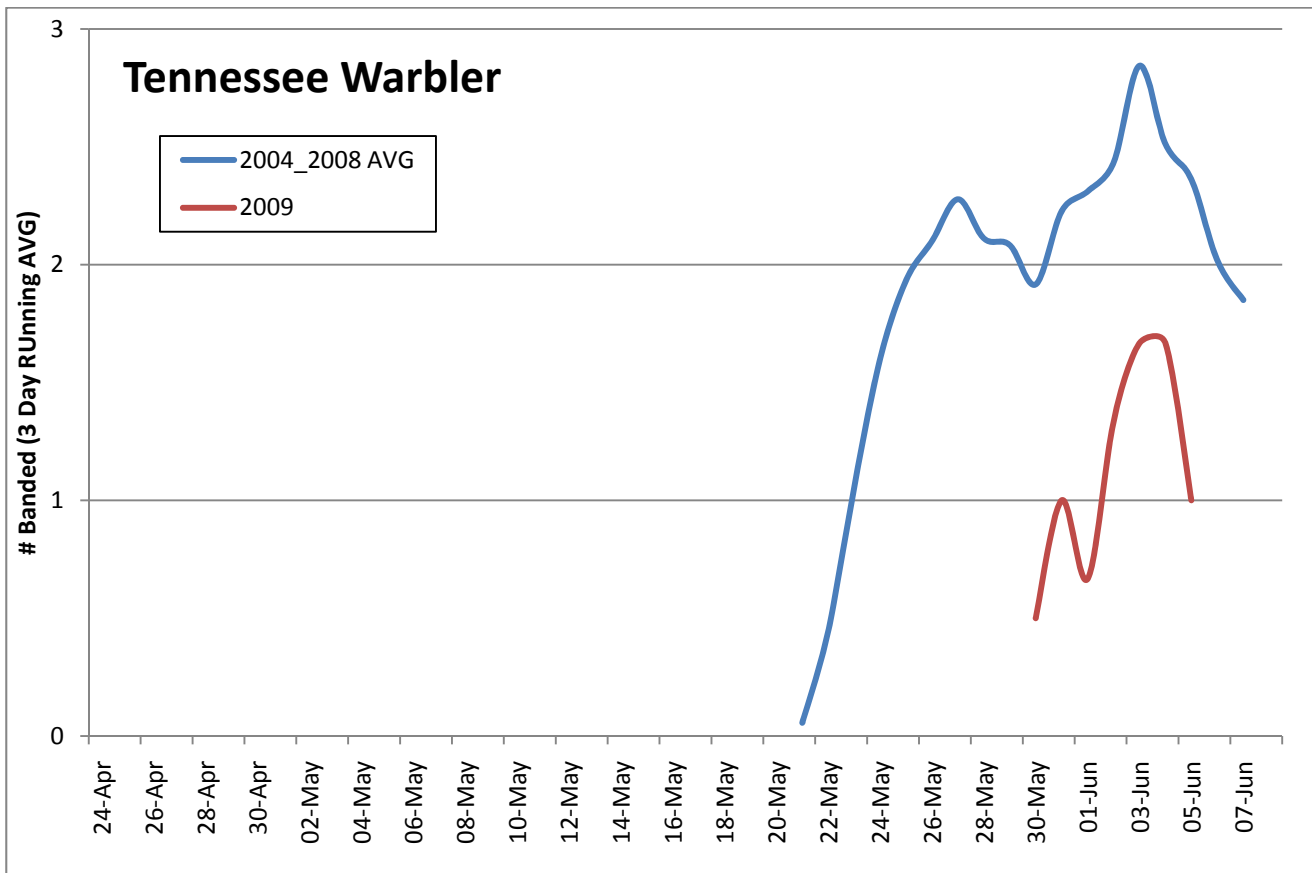
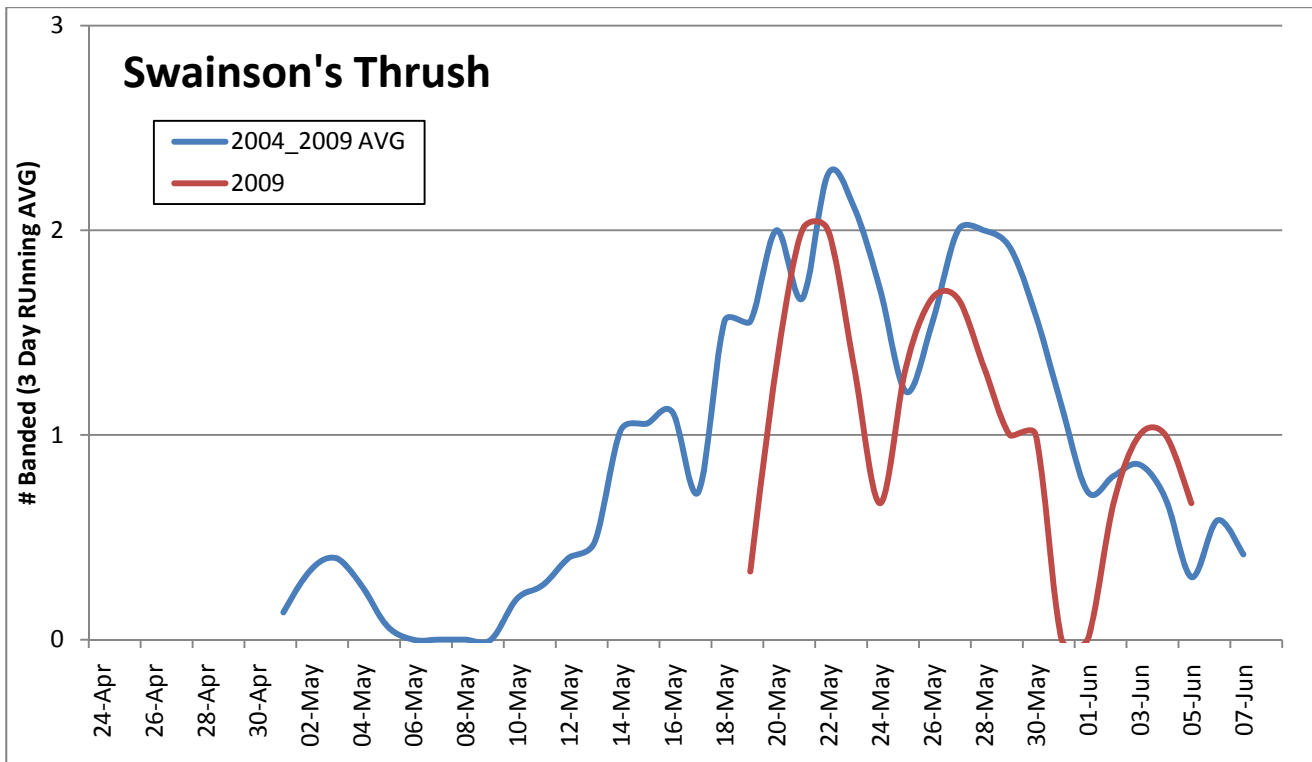
Species	Spring						Fall					
	Sum of ETs	# of Days	High Count		First Date	Last Date	Sum of ETs	# of Days	High Count		First Date	Last Date
Hammond's Flycatcher	20	13	4	15-May	13-May	27-May	9	7	2	18, 20 Aug	12-Aug	01-Sep
Dusky Flycatcher							2	2	1	NA	12-Aug	14-Aug
Say's Phoebe	1	1	1	NA	18-May	NA						
Northern Shrike							6	6	1	NA	08-Sep	22-Sep
Warbling Vireo	38	14	6	28-May	21-May	06-Jun	38	12	10	14-Aug	11-Aug	02-Sep
Gray Jay	18	12	3	21-May	11-May	29-May	45	28	8	11-Aug	11-Aug	22-Sep
American Crow	6	6	1	NA	11-May	26-May	11	3	9	08-Sep	29-Aug	09-Sep
Common Raven	63	24	5	27-May	11-May	06-Jun	55	35	3	many	12-Aug	22-Sep
Tree Swallow	179	24	20	28-May	11-May	06-Jun	7	2	6	13-Aug	11-Aug	13-Aug
Violet-green Swallow	6	4	2	NA	11-May	29-May						
Bank Swallow	261	12	100	28-May	25-May	06-Jun						
Cliff Swallow	59	10	20	24-May	25-May	04-Jun						
Barn Swallow	7	4	3	24-May	25-May	29-May	2	1	2	NA	30-Aug	NA
Black-capped Chickadee	5	5	1	NA	13-May	04-Jun	98	34	10	11-Aug	11-Aug	22-Sep
Boreal Chickadee	4	4	1	NA	19-May	29-May	84	27	9	24-Aug	11-Aug	20-Sep
Red-breasted Nuthatch							4	4	1	NA	14-Aug	12-Sep
Ruby-crowned Kinglet	28	19	3	15-May	11-May	06-Jun	224	37	36	16-Sep	12-Aug	22-Sep
Gray-cheeked Thrush	4	3	2	23-May	23-May	06-Jun	13	8	4	08-Sep	04-Sep	17-Sep
Swainson's Thrush	45	17	6	6 jub	19-May	06-Jun	51	21	8	19-Aug	11-Aug	20-Sep
Hermit Thrush	13	12	2	20-May	15-May	06-Jun	15	9	3	03-Sep	28-Aug	15-Sep
American Robin	103	24	8	15-May	11-May	06-Jun	27	21	3	2, 9 Sep	12-Aug	22-Sep
Varied Thrush	14	9	3	15-May	13-May	06-Jun	25	21	2	many	14-Aug	22-Sep
European Starling	1	1	1	NA	16-May	NA						
American Pipit	18	9	3	14-May	13-May	24-May	41	16	8	20-Sep	24-Aug	20-Sep
Bohemian Waxwing	45	16	8	16-May	13-May	04-Jun	25	8	10	20-Aug	20-Aug	18-Sep
Cedar Waxwing							39	8	12	13-Aug	11-Aug	02-Sep
Tennessee Warbler	30	9	7	03-Jun	26-May	06-Jun	180	15	60	11-Aug	11-Aug	29-Aug
Orange-crowned Warbler	277	21	120	21-May	11-May	04-Jun	126	31	15	28-Aug	11-Aug	22-Sep

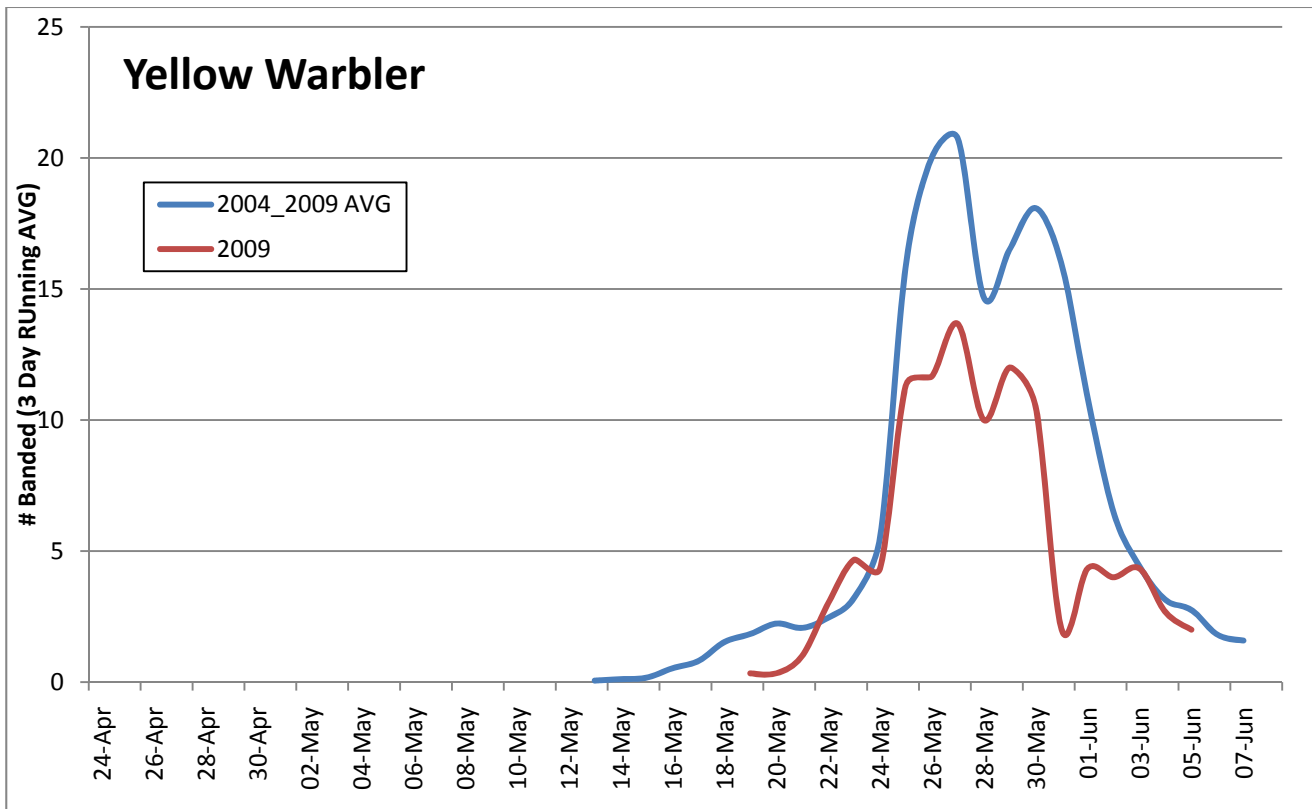
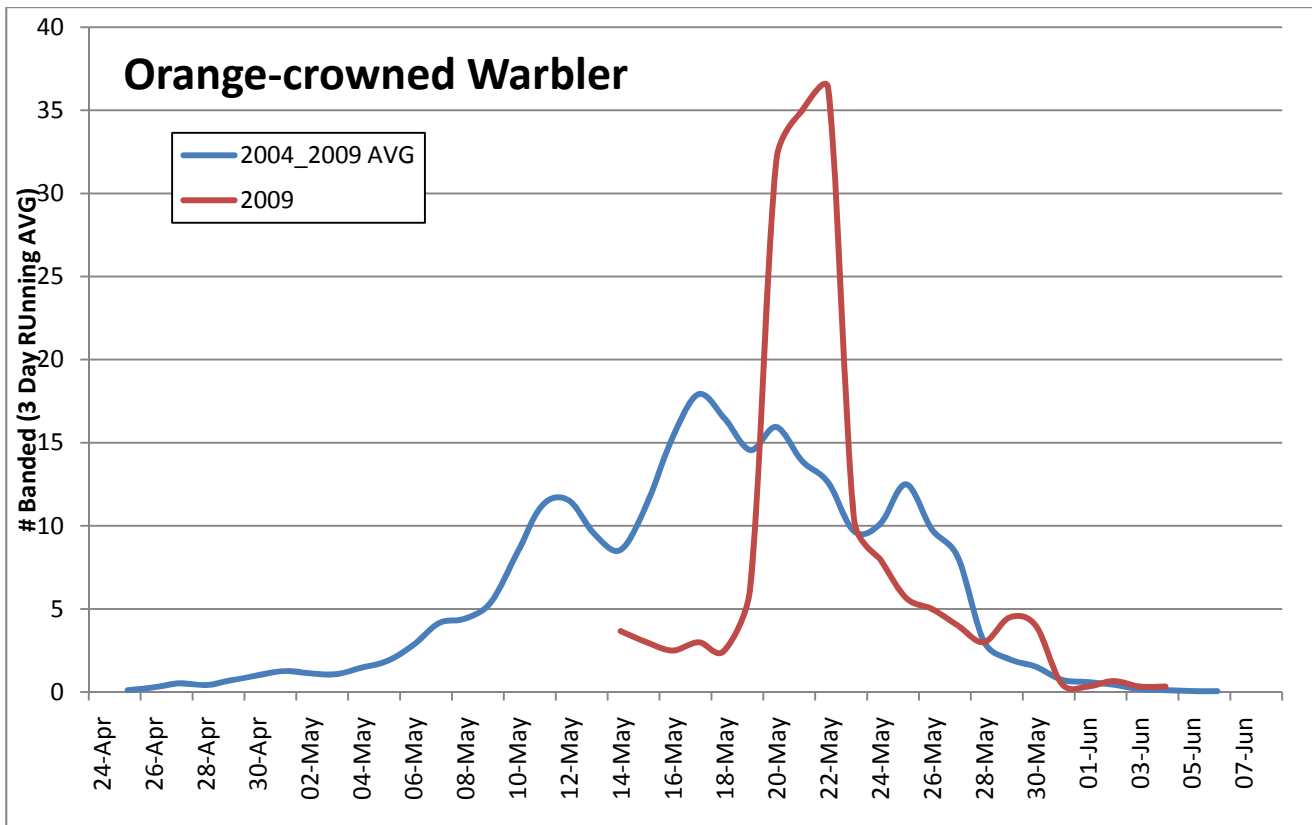
Species	Spring						Fall					
	Sum of ETs	# of Days	High Count		First Date	Last Date	Sum of ETs	# of Days	High Count		First Date	Last Date
Yellow Warbler	165	16	32	26-May	20-May	06-Jun	196	23	70	20-Aug	12-Aug	11-Sep
Magnolia Warbler	1	1	1	NA	29-May	NA	34	13	8	14-Aug	11-Aug	04-Sep
Cape May Warbler	6	6	1	NA	26-May	06-Jun						
Yellow-rumped Warbler	823	24	210	21-May	11-May	06-Jun	136	26	20	28-Aug	11-Aug	21-Sep
Townsend's Warbler	1	1	1	NA	21-May	NA	3	3	1	NA	11-Aug	28-Aug
Blackpoll Warbler	93	15	17	23-May	23-May	06-Jun	58	16	16	11-Aug	11-Aug	15-Sep
American Redstart	11	5	4	06-Jun	29-May	06-Jun	57	15	14	11-Aug	11-Aug	10-Sep
Northern Waterthrush	246	23	45	23-May	13-May	06-Jun	407	34	53	24-Aug	11-Aug	17-Sep
Common Yellowthroat	103	17	11	28-May	20-May	06-Jun	640	40	50	20-Aug	11-Aug	22-Sep
Wilson's Warbler	409	22	160	23-May	14-May	06-Jun	204	29	52	24-Aug	11-Aug	21-Sep
Ovenbird	1	1	1	NA	05-Jun	NA						
Black-and-white Warbler	1	1	1	NA	31-May	NA						
Western Tanager	21	15	2	many	22-May	06-Jun						
American Tree Sparrow	93	12	23	15-May	11-May	24-May	276	23	32	17-Sep	29-Aug	22-Sep
Chipping Sparrow	10	7	2	06-Jun	26-May	06-Jun	9	3	7	12-Aug	12-Aug	02-Sep
Savannah Sparrow	77	16	18	21-May	14-May	31-May	44	16	8	08-Sep	26-Aug	22-Sep
Fox Sparrow	73	24	20	14-May	01-May	06-Jun	79	29	8	18-Sep	12-Aug	22-Sep
Lincoln's Sparrow	93	23	8	28-May	13-May	06-Jun	164	37	12	19-Aug	11-Aug	22-Sep
Swamp Sparrow	12	12	1	NA	22-May	06-Jun	39	23	5	17-Sep	11-Aug	20-Sep
White-throated Sparrow	40	18	4	23-May	18-May	06-Jun	58	24	6	20-Aug	12-Aug	16-Sep
White-crowned Sparrow	165	13	50	15-May	11-May	25-May	49	20	8	20-Sep	15-Aug	22-Sep
Golden-crowned Sparrow	5	2	3	13-May	13-May	23-May						
Dark-eyed Junco	72	21	12	13-May	13-May	04-Jun	331	30	45	18-Sep	11-Aug	22-Sep
Lapland Longspur	115	9	70	15-May	11-May	23-May	15	6	4	15-Sep	09-Sep	22-Sep
Red-winged Blackbird	58	23	5	22-May	13-May	06-Jun	1	1	1	NA	14-Aug	NA
Rusty Blackbird	39	14	7	15-May	11-May	06-Jun	174	33	26	10-Sep	14-Aug	22-Sep
Brown-headed Cowbird	18	11	4	05-Jun	22-May	06-Jun						
Purple Finch	28	20	3	21-May	13-May	06-Jun						

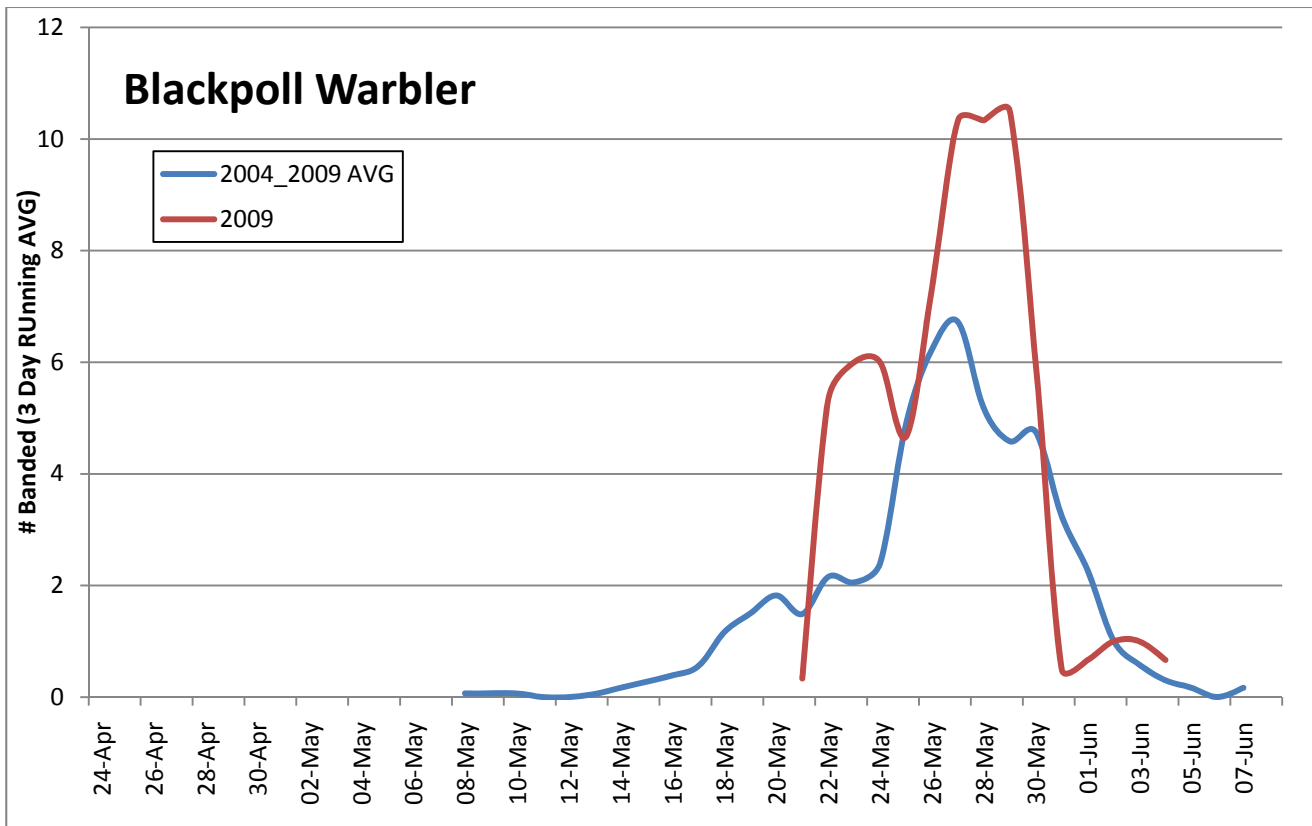
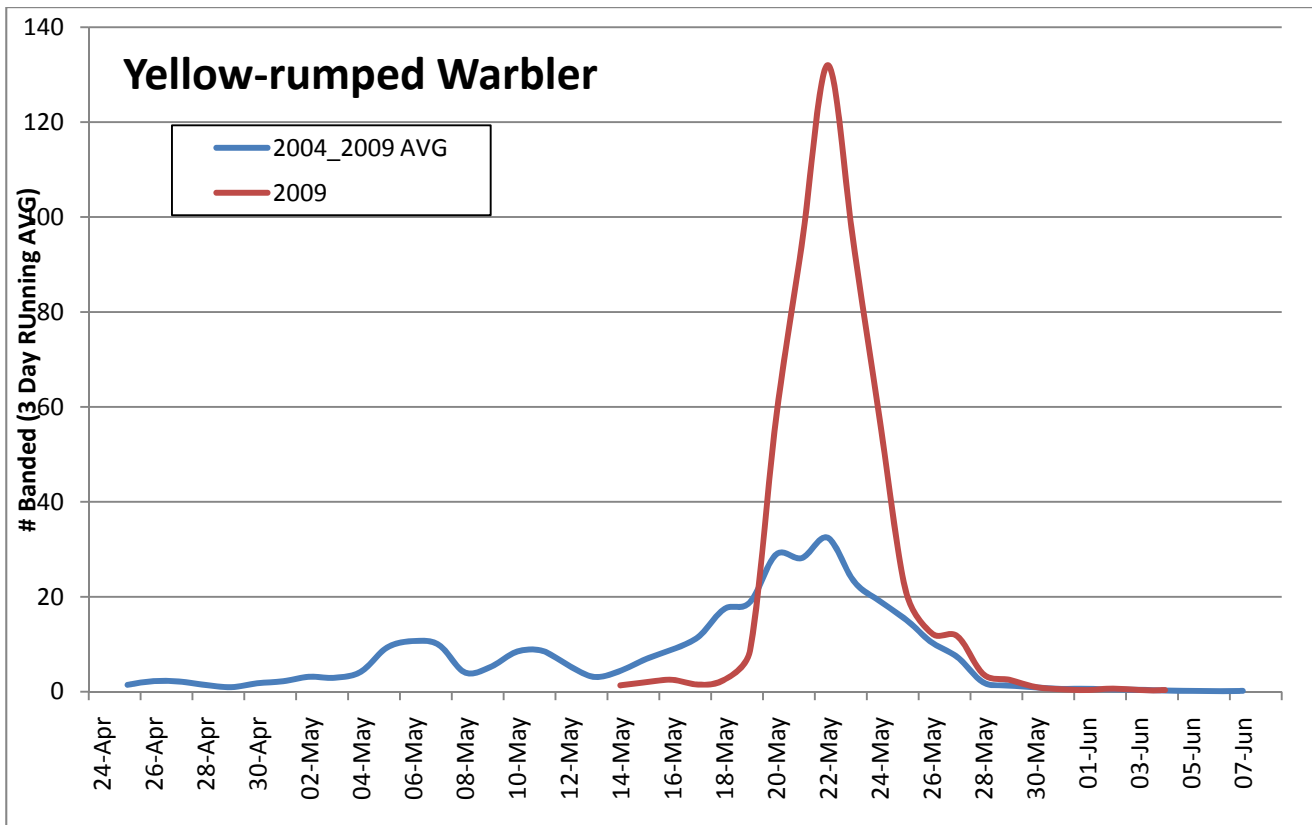
Species	Spring					Fall						
	Sum of ETs	# of Days	High Count		First Date	Last Date	Sum of ETs	# of Days	High Count		First Date	Last Date
Pine Grosbeak							2	2	1	NA	16-Aug	22-Sep
Red Crossbill	8	3	5	01-Jun	01-Jun	06-Jun						
White-winged Crossbill	55	5	35	05-Jun	25-May	06-Jun	111	14	25	11-Sep	11-Aug	22-Sep
Common Redpoll	4	4	1	NA	15-May	23-May	3	3	1	NA	30-Aug	22-Sep
Pine Siskin	5	4	2	05-Jun	18-May	06-Jun	10	3	8	18-Sep	15-Aug	18-Sep

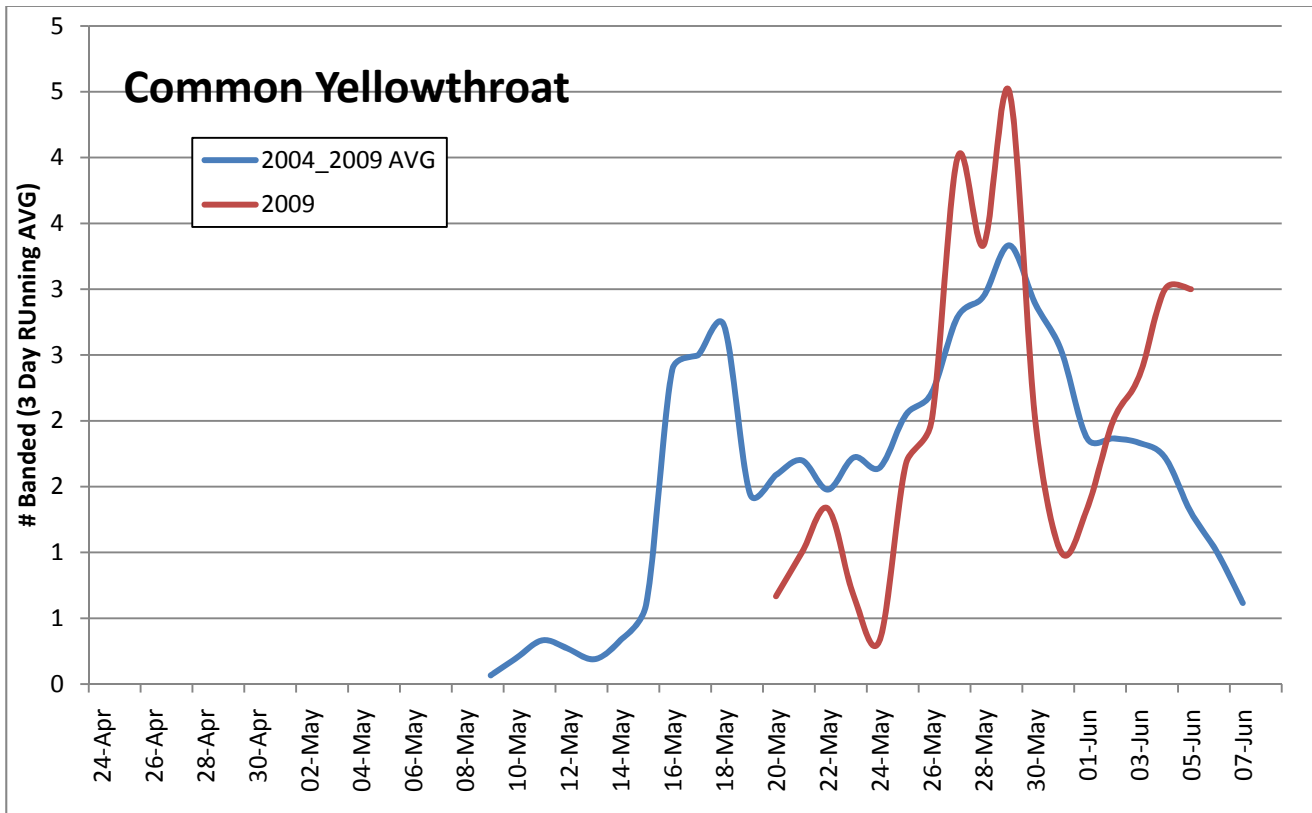
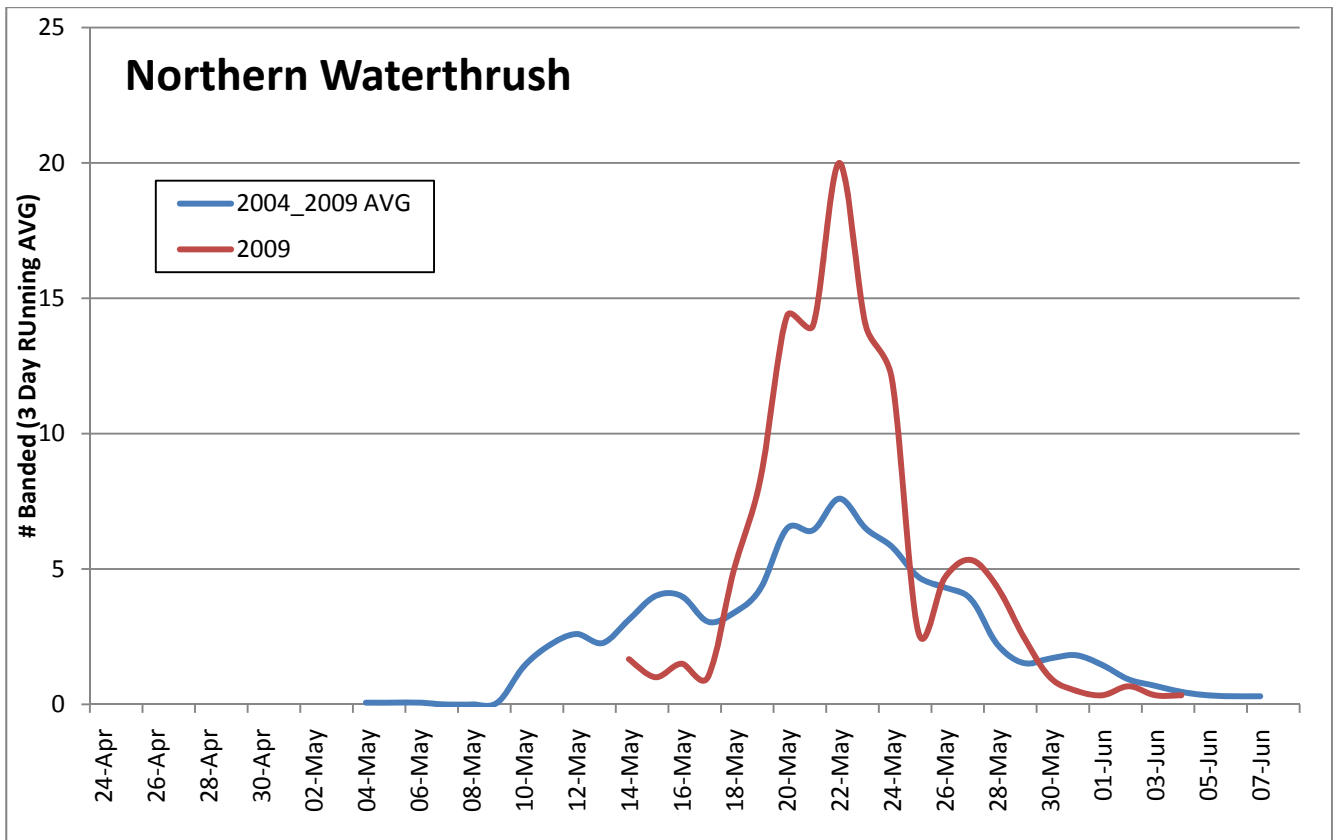
APPENDIX 4 – SPRING MIGRATION TIMING FIGURES

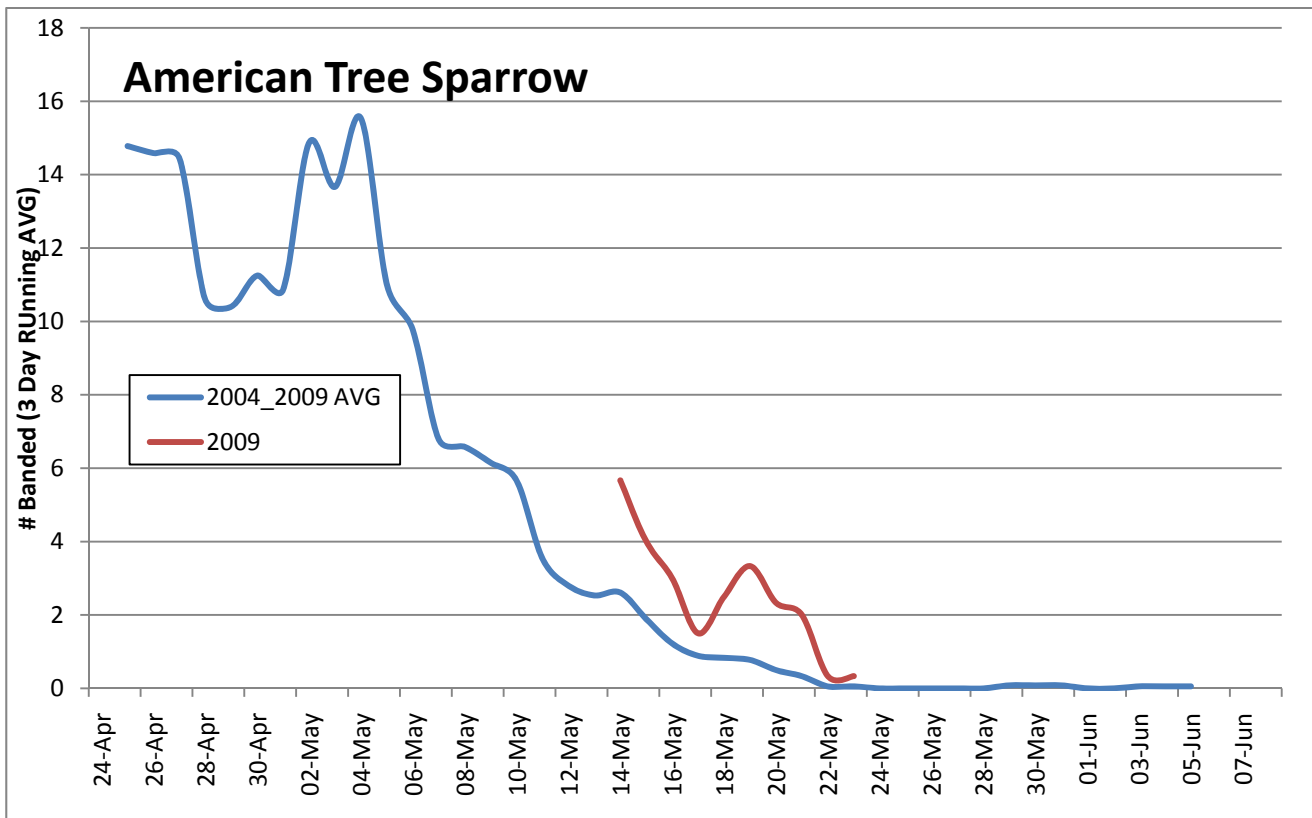
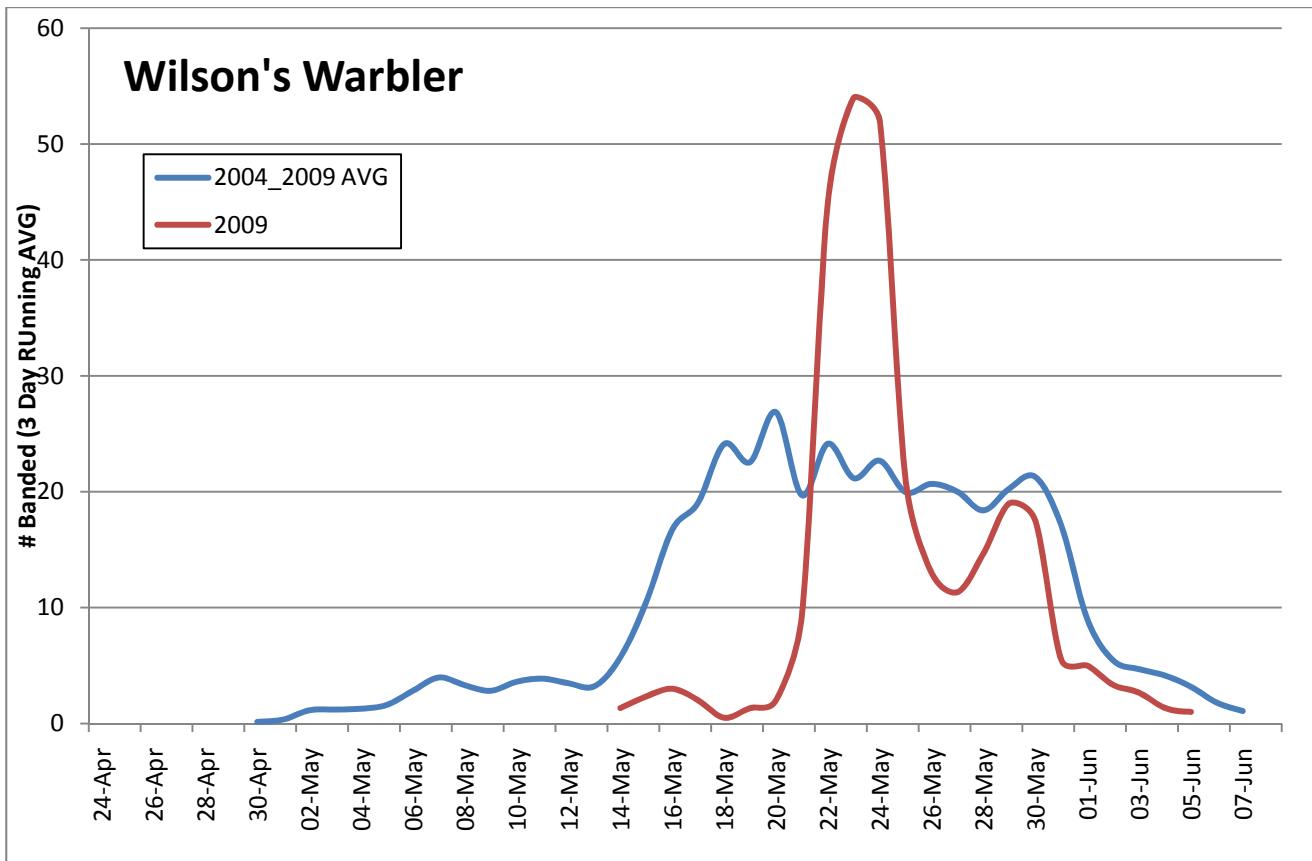


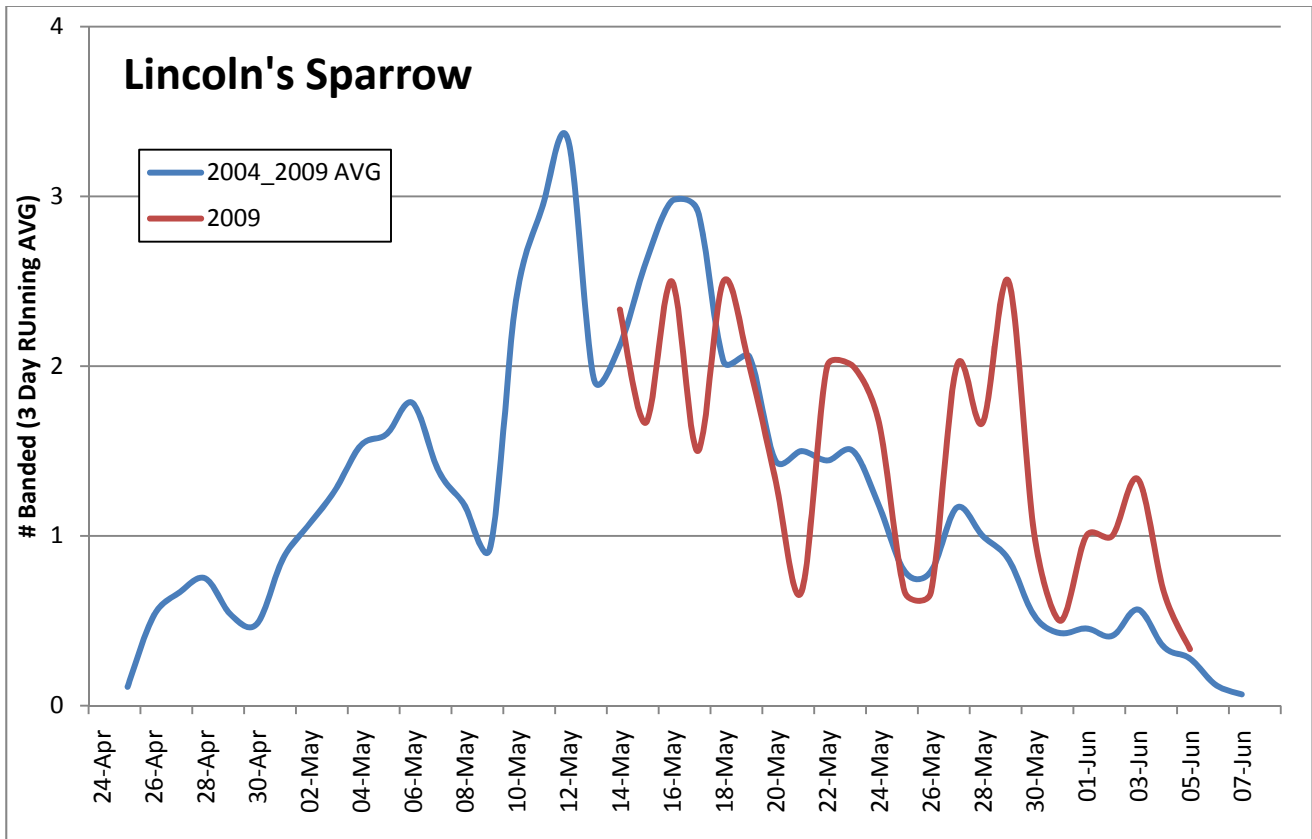
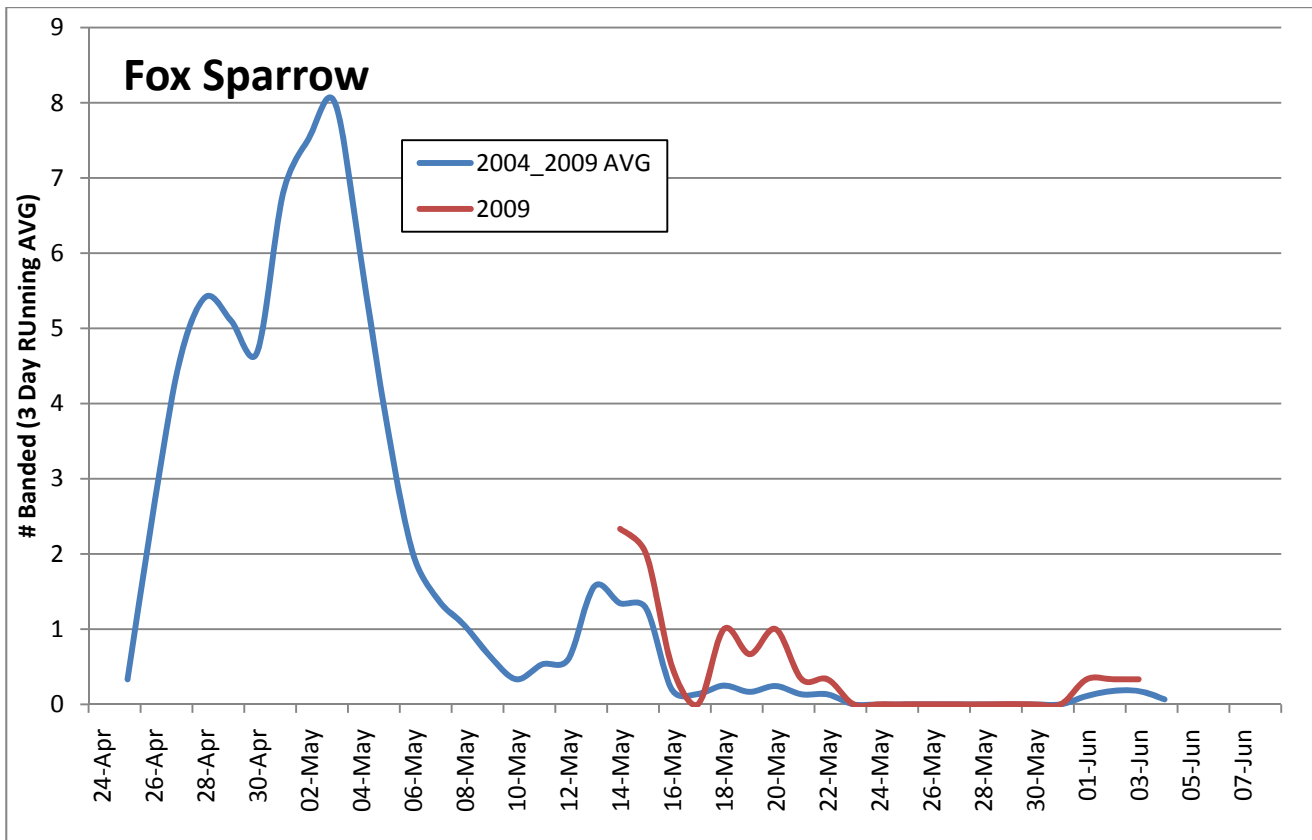


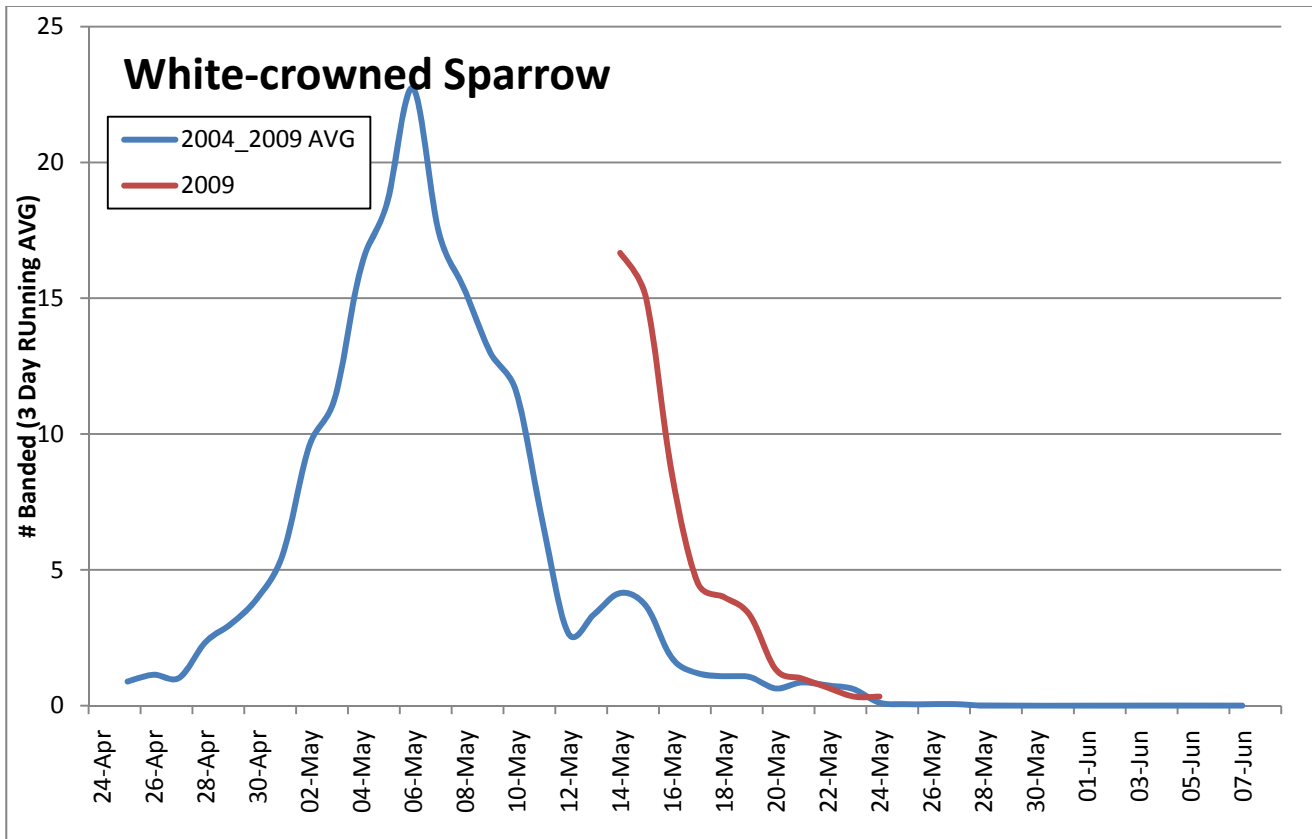
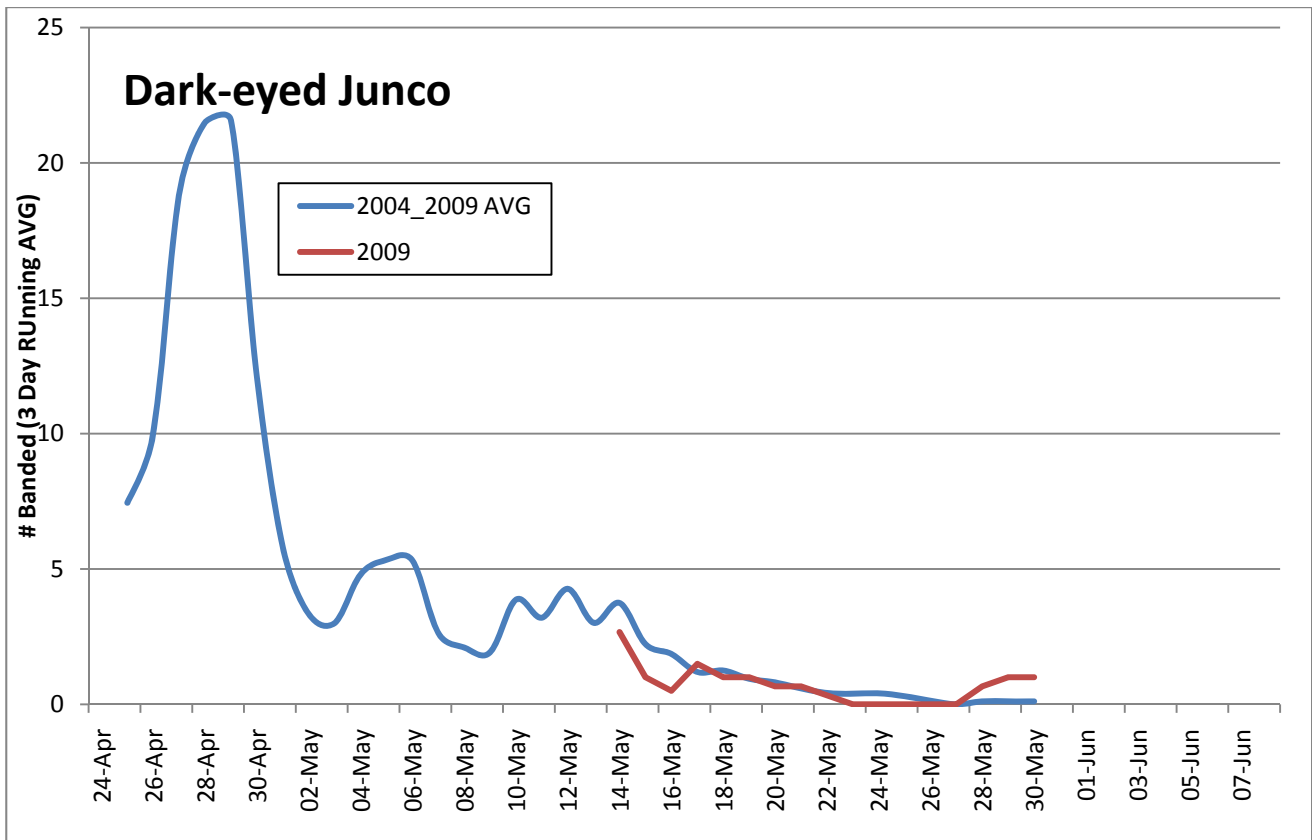




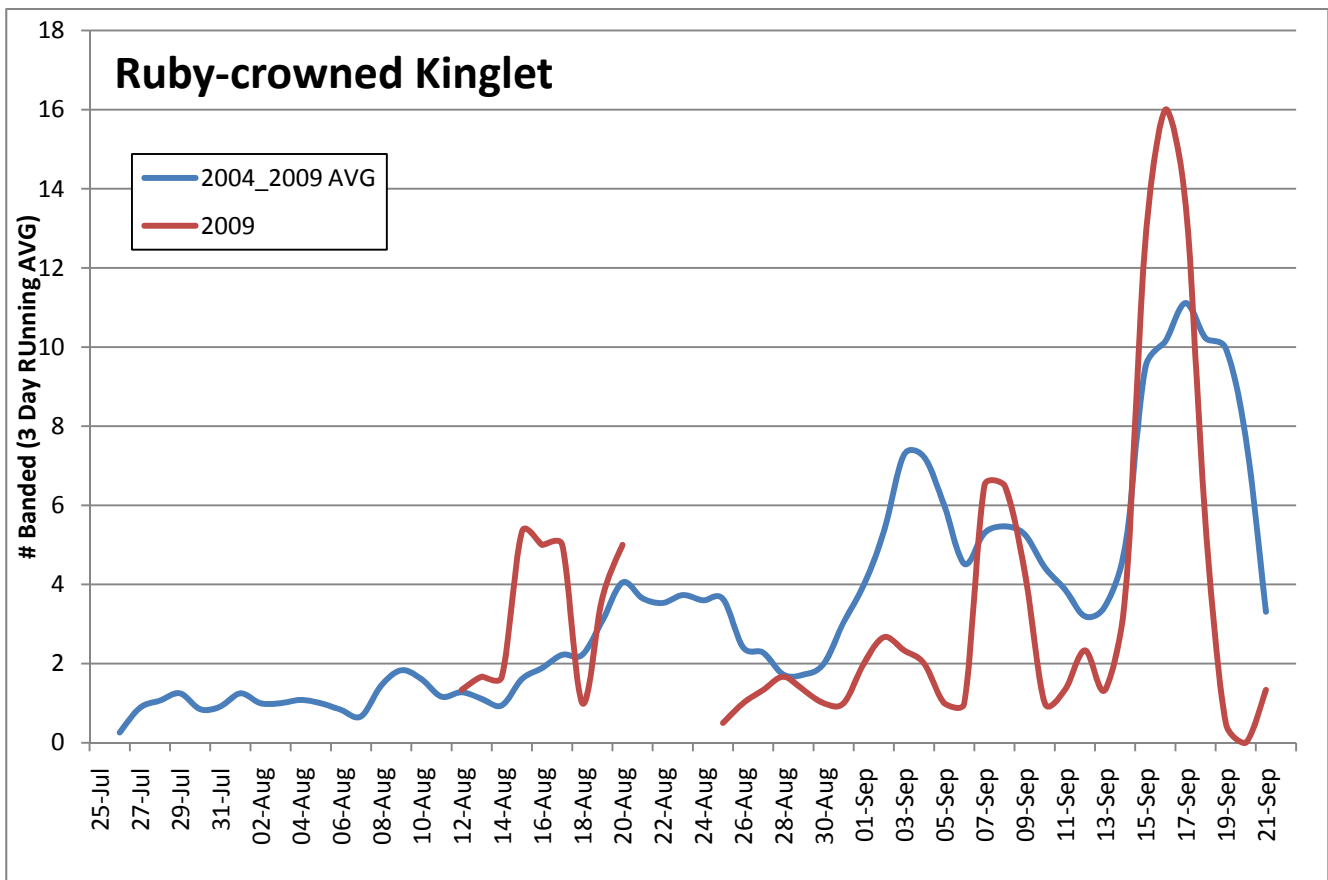
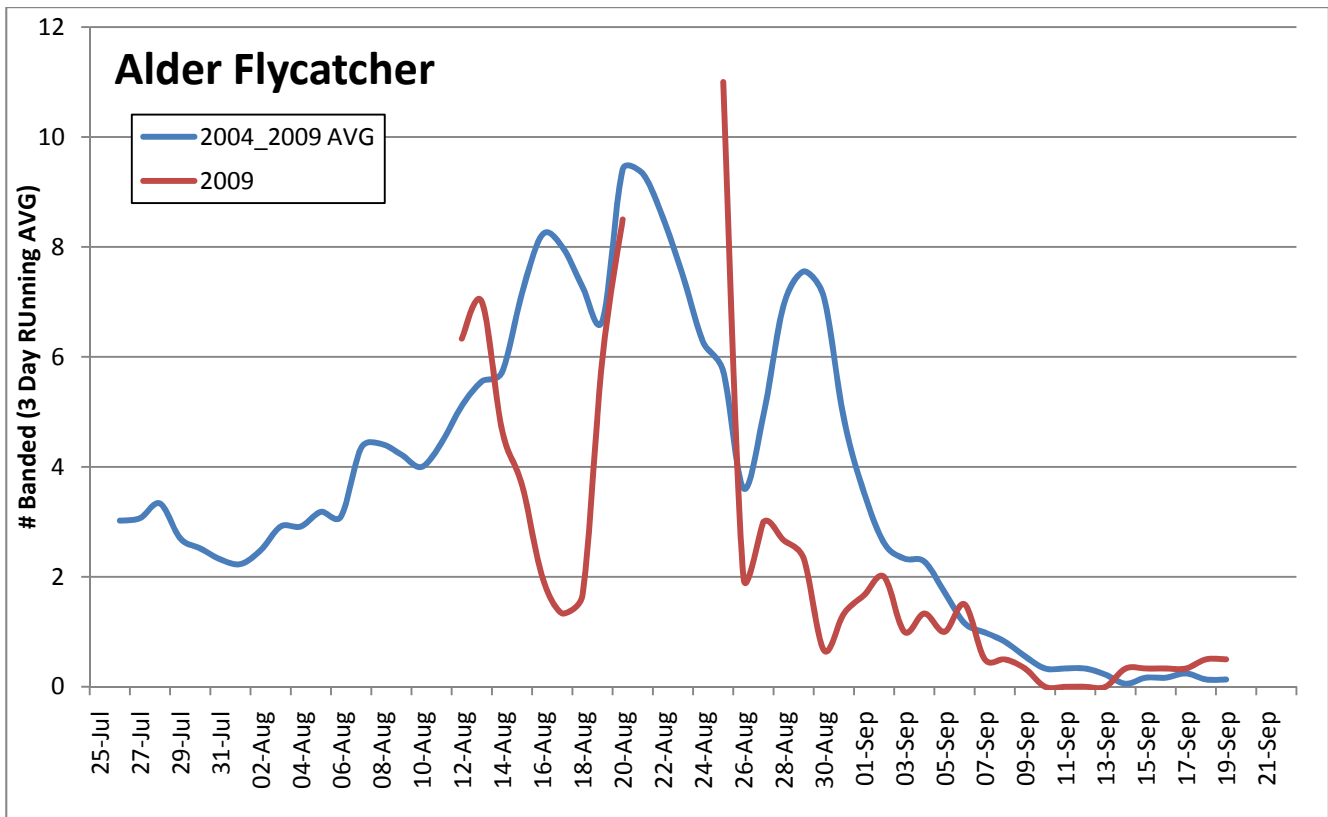


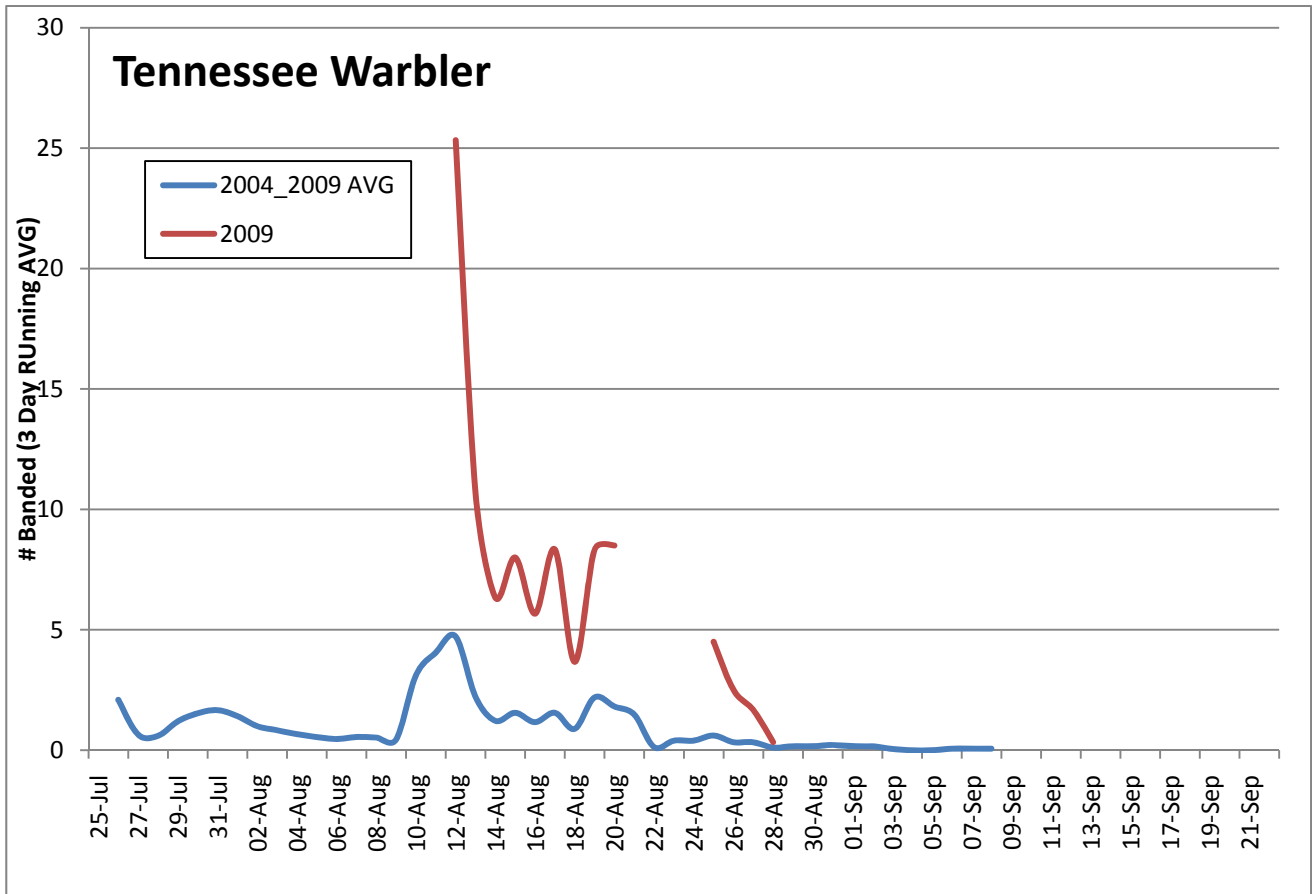
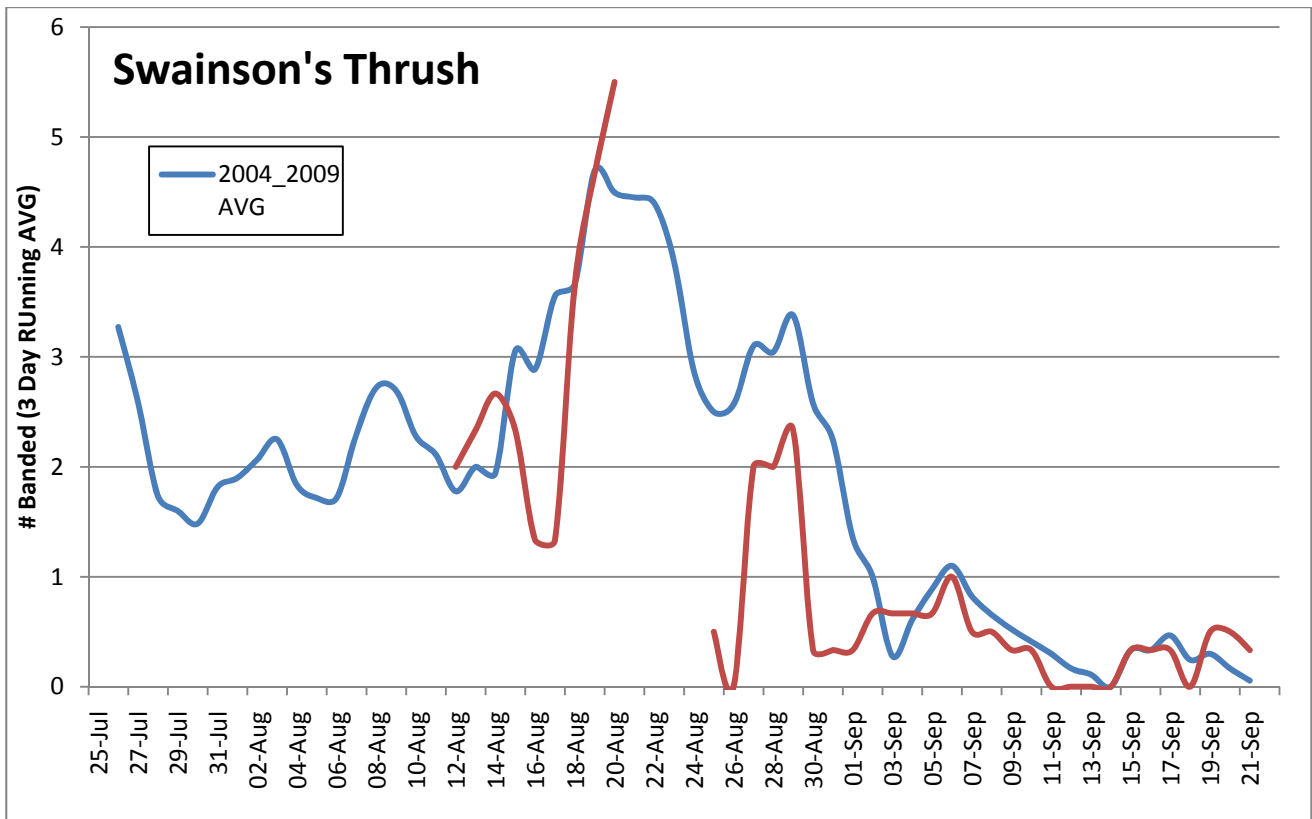


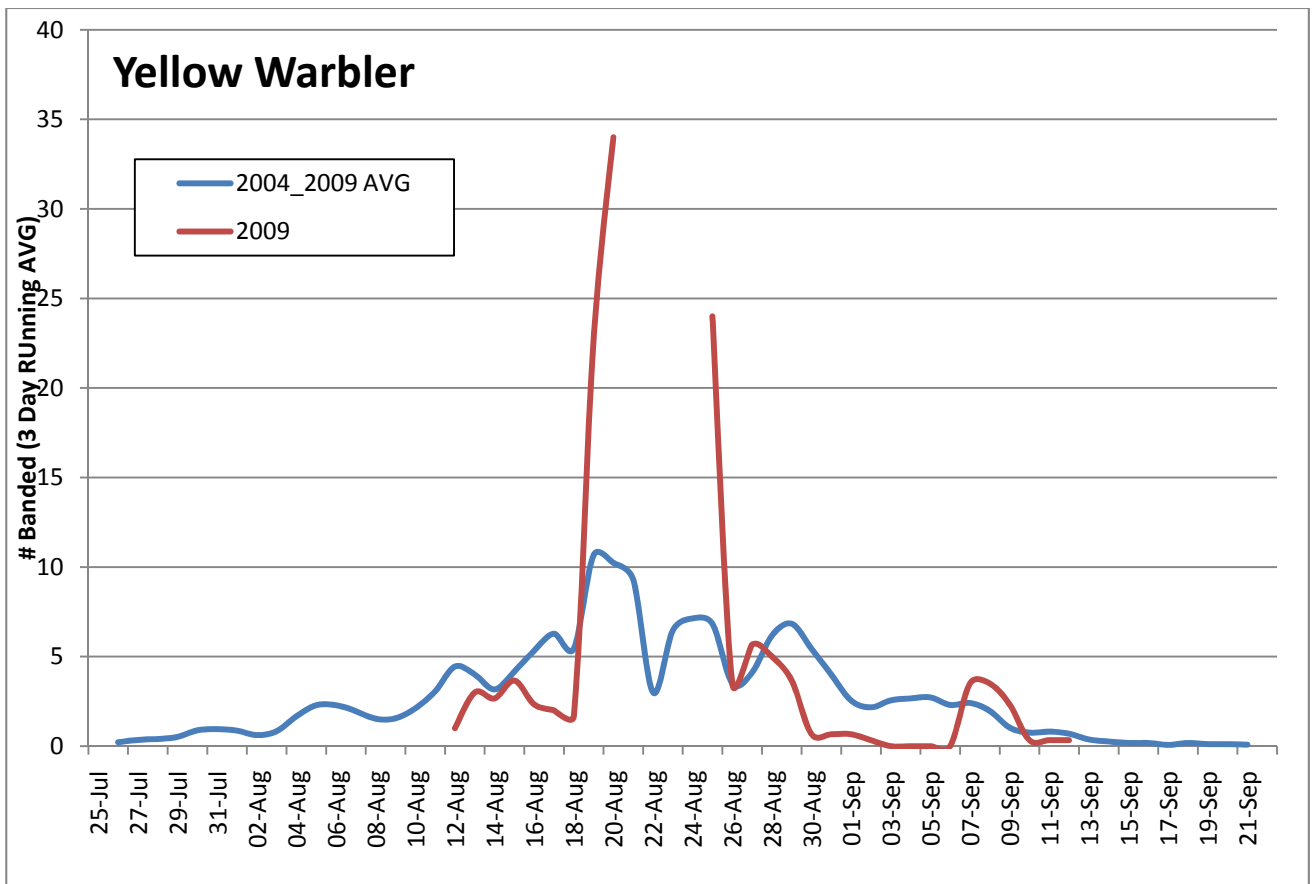
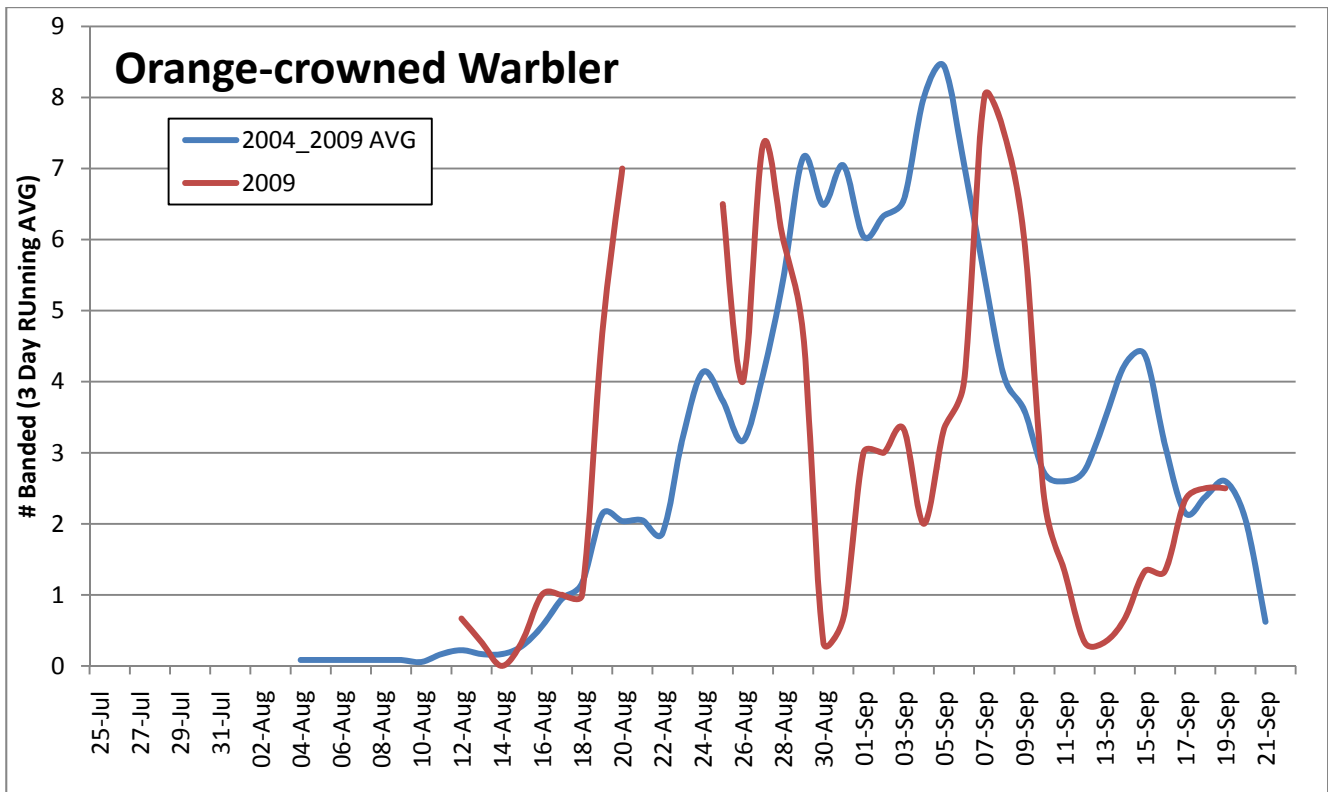


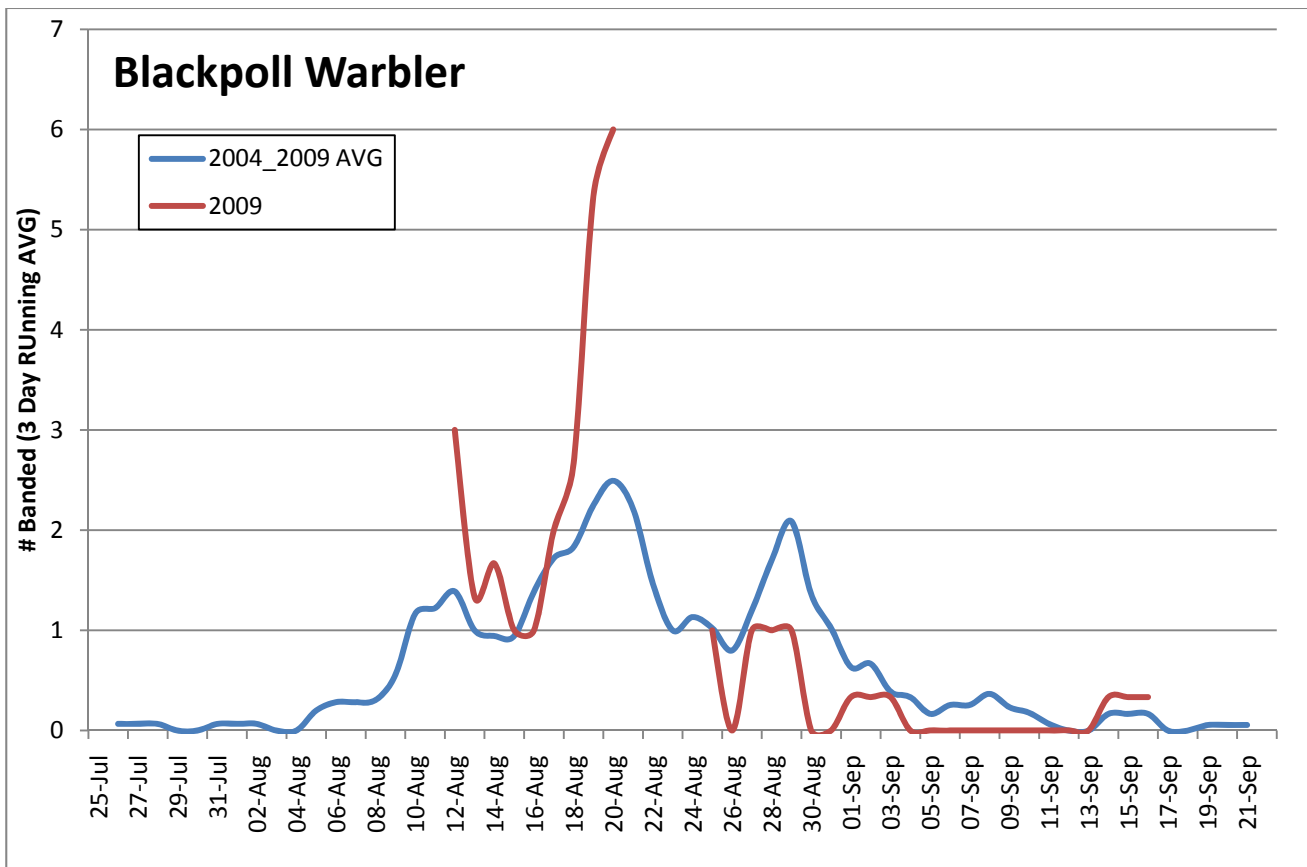
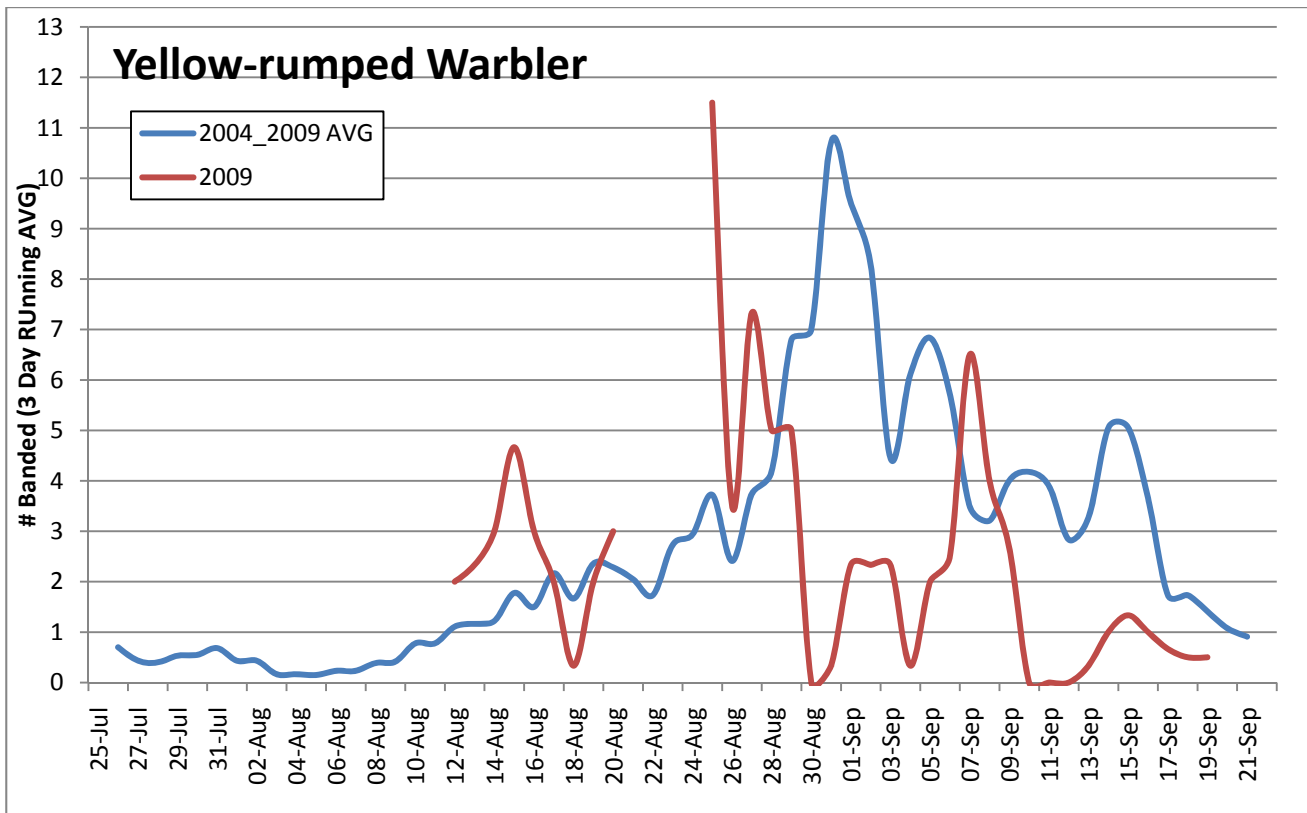


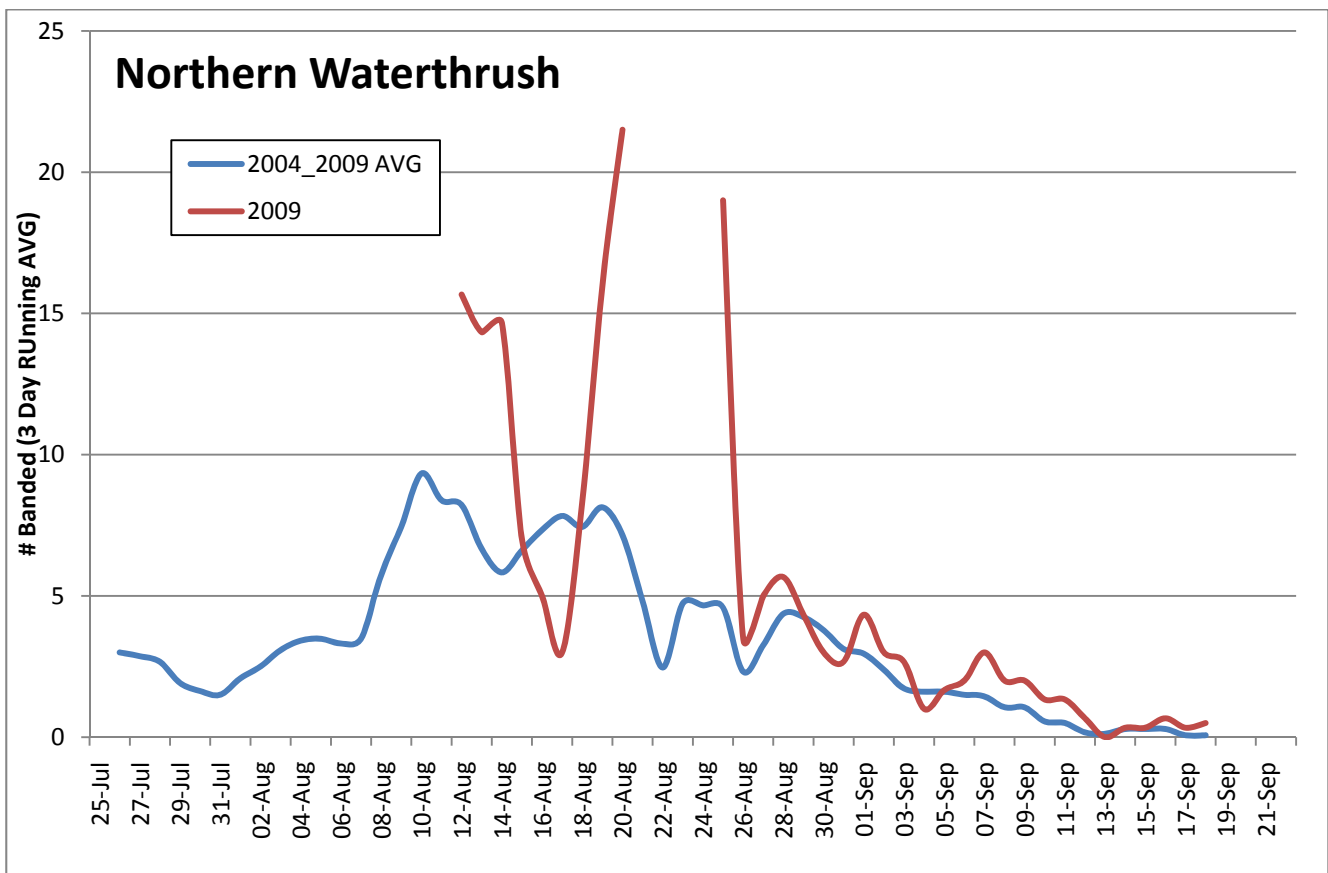
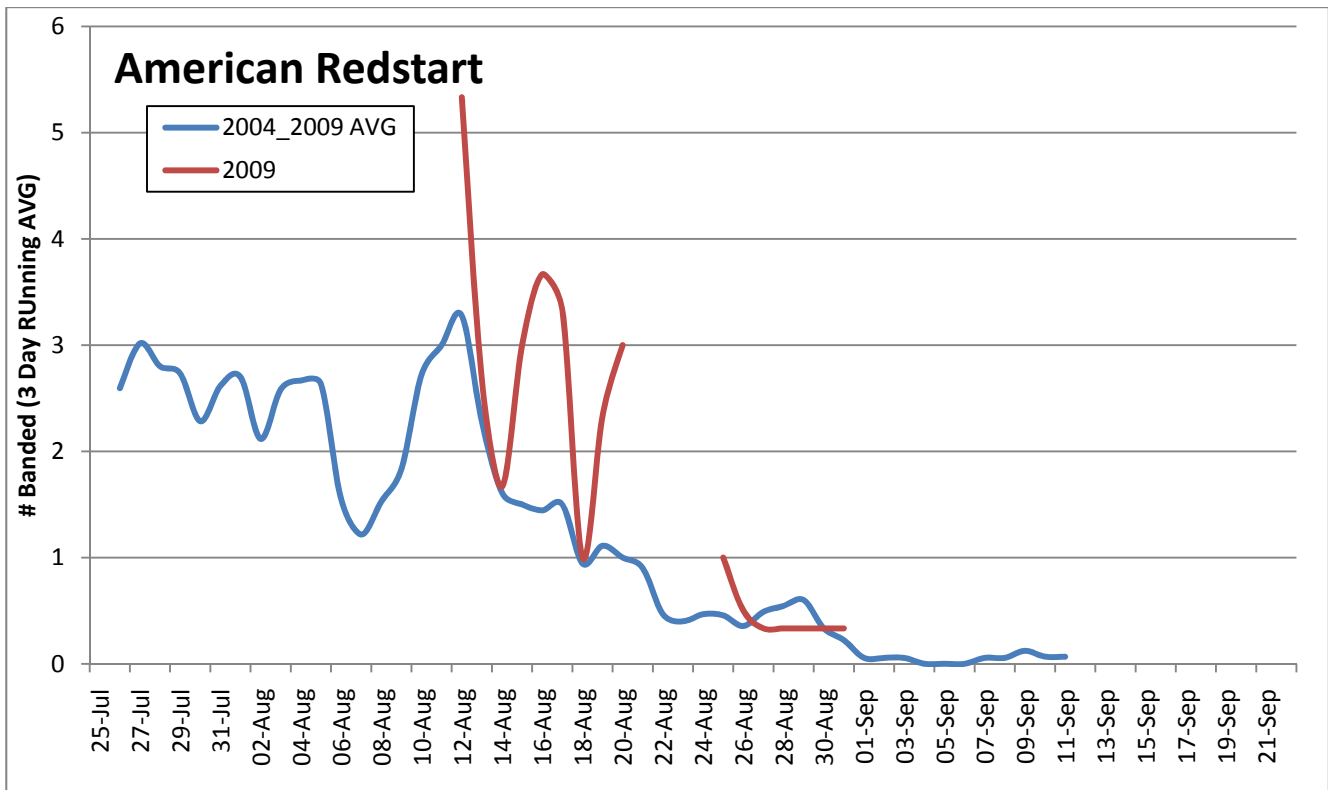
APPENDIX 5 – FALL MIGRATION TIMING FIGURES

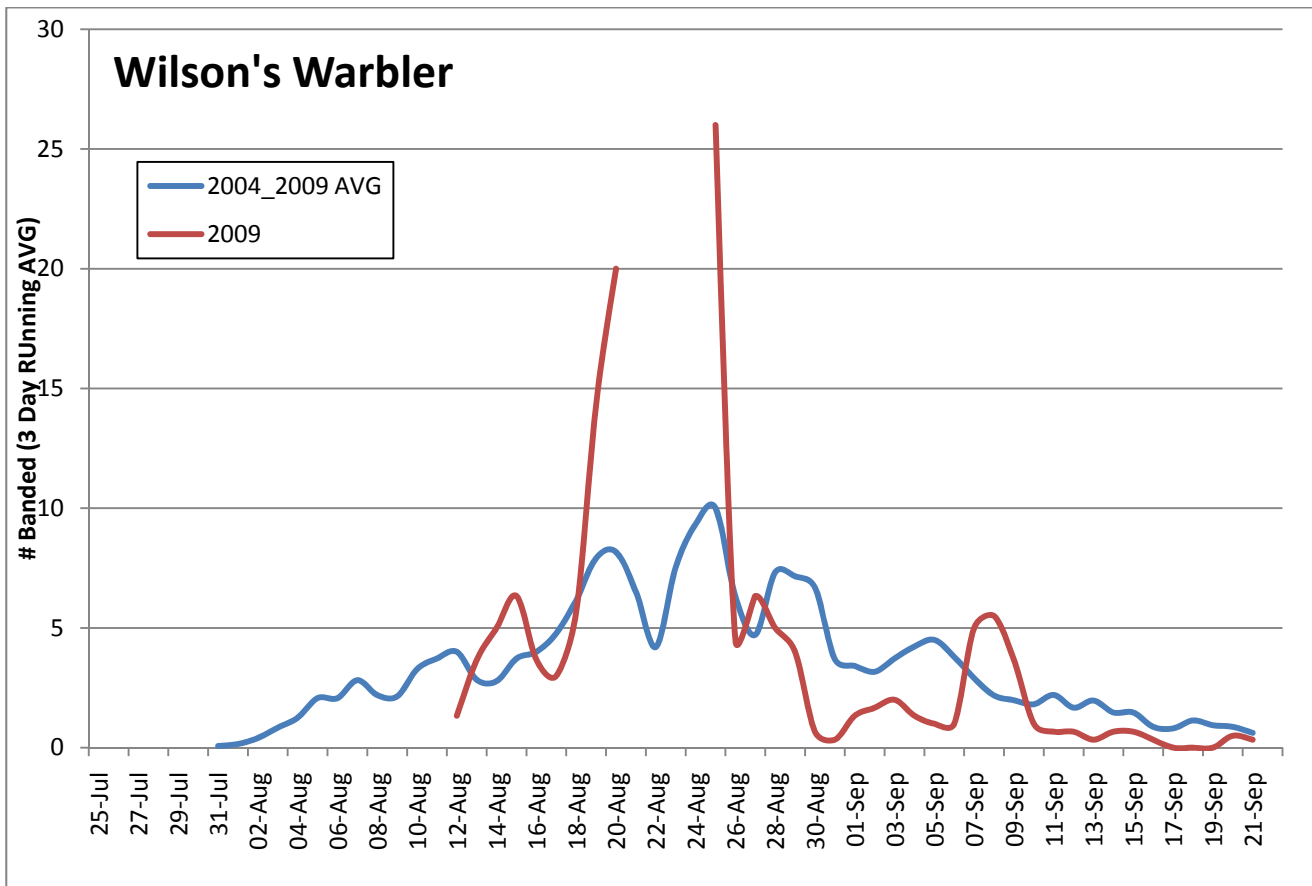
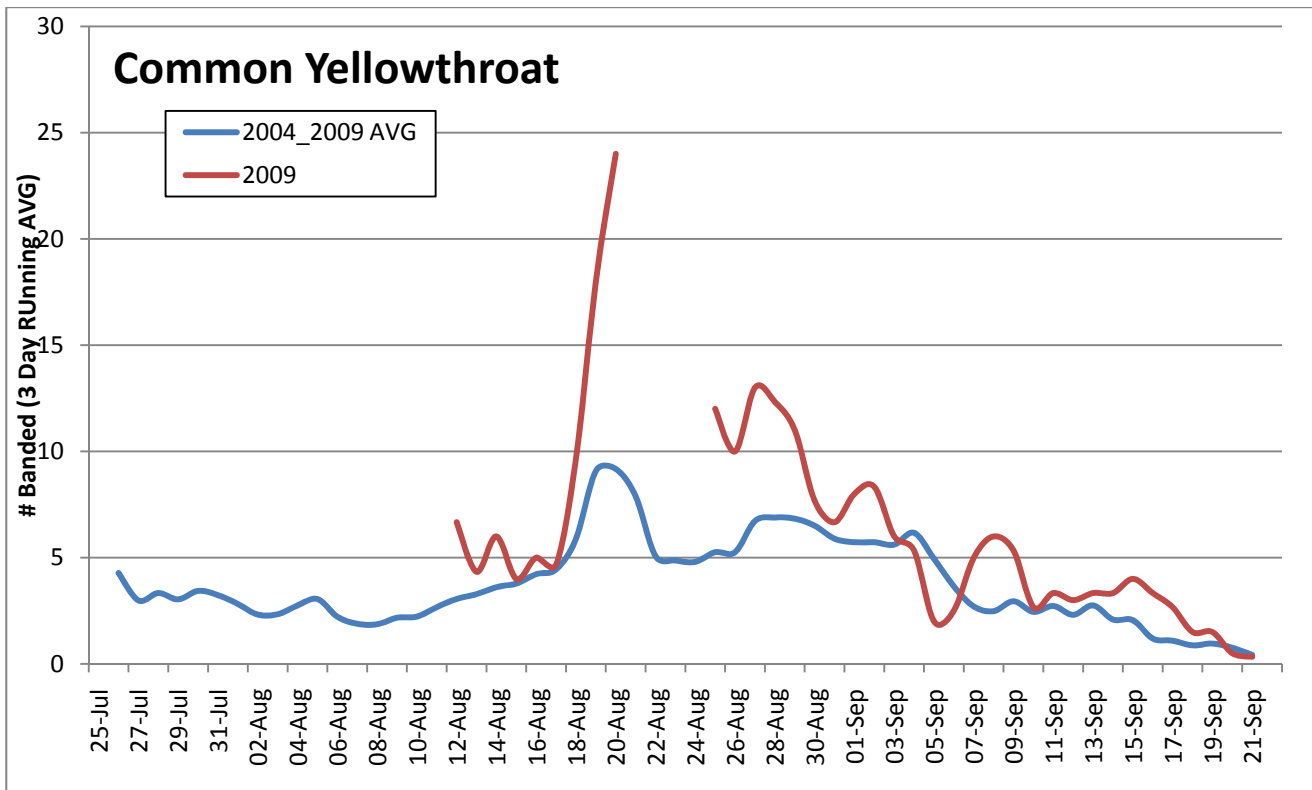


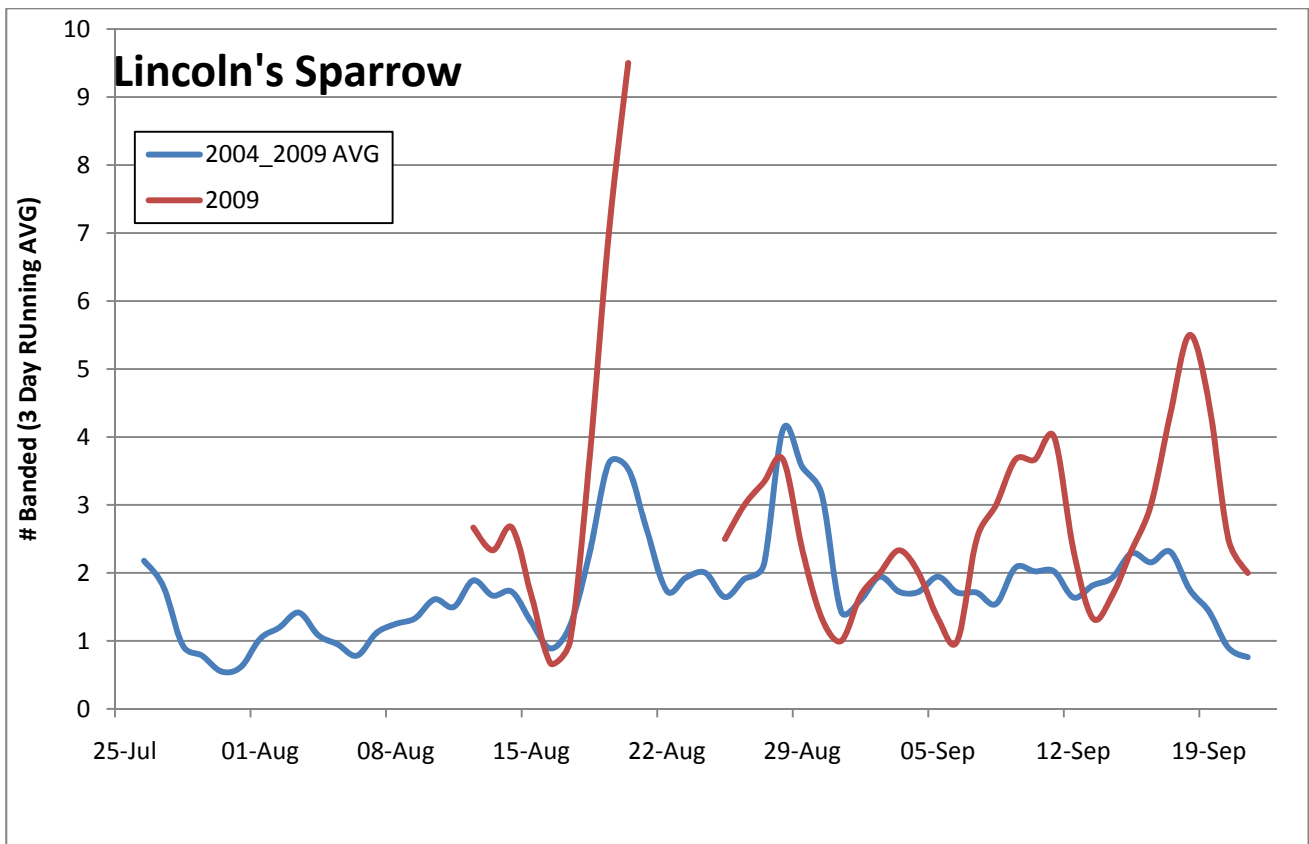
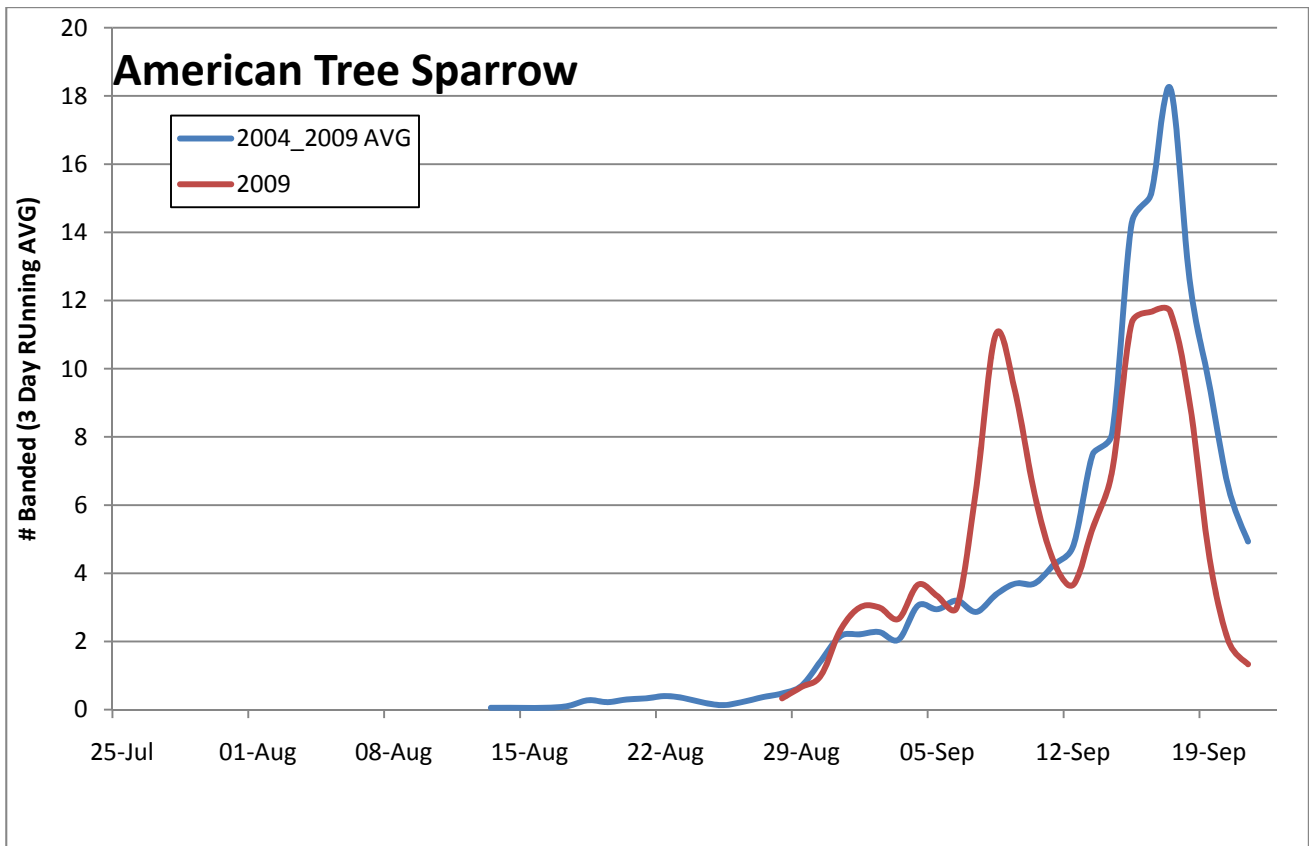


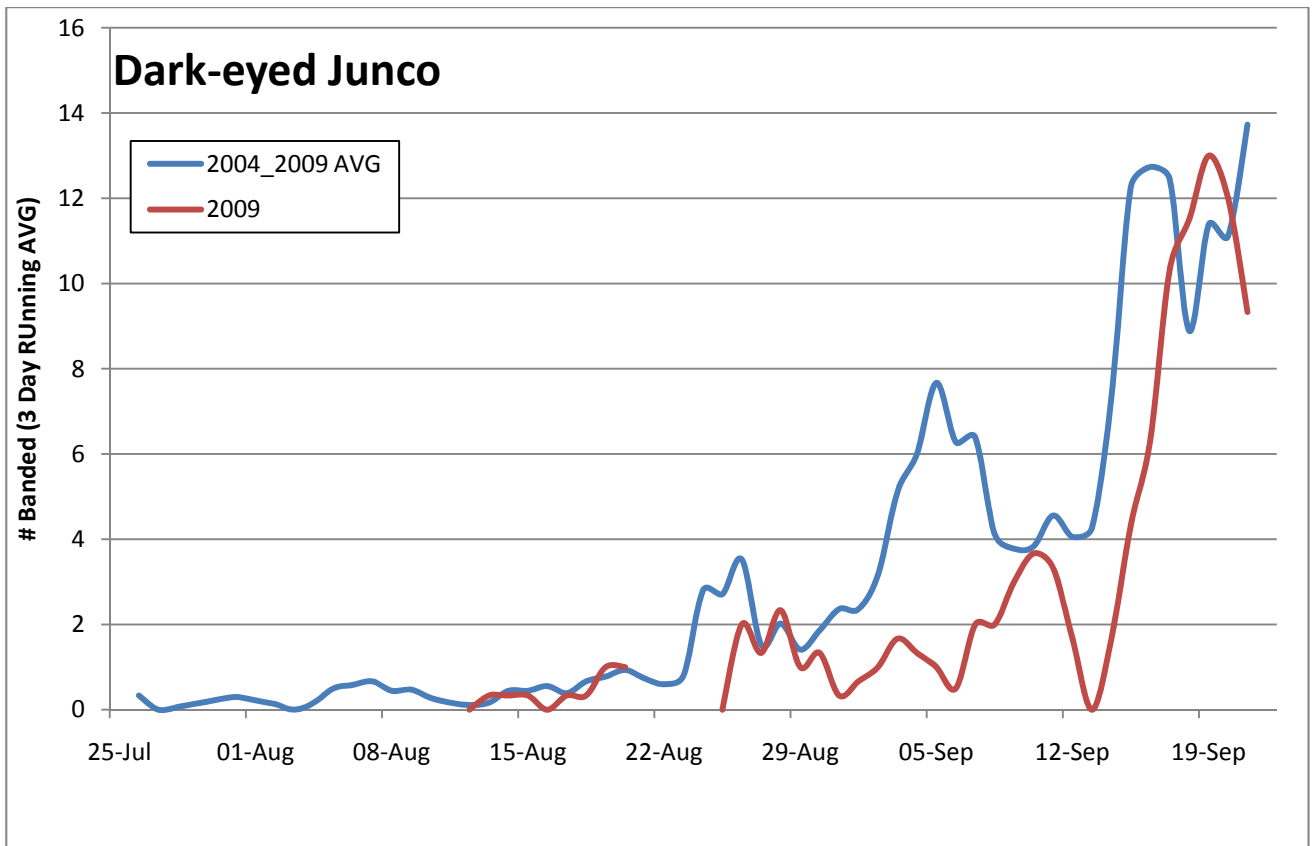












APPENDIX 6 – SPRING BAND REPEAT DATA

Band #	Species	Band Date	Recap Date	# of Days Between Banding & Recapture
123223901	AMRO	21-May-09	29-May-09	8
123223902	AMRO	21-May-09	24-May-09	3
123223911	AMRO	01-Jun-09	04-Jun-09	3
249053401	ATSP	13-May-09	18-May-09	5
249053405	ATSP	13-May-09	15-May-09	2
249053418	ATSP	14-May-09	18-May-09	4
249053419	ATSP	14-May-09	15-May-09	1
249053421	ATSP	14-May-09	16-May-09	2
249053422	ATSP	14-May-09	15-May-09	1
249053426	ATSP	15-May-09	18-May-09	3
249053450	ATSP	18-May-09	19-May-09	1
249053470	ATSP	19-May-09	20-May-09	1
249053510	ATSP	20-May-09	22-May-09	2
249053524	ATSP	20-May-09	21-May-09	1
249049038	COYE	23-May-09	24-May-09	1
249049368	COYE	28-May-09	03-Jun-09	6
249049369	COYE	29-May-09	06-Jun-09	8
249053913	COYE	22-May-09	01-Jun-09	10
223121520	FOSP	14-May-09	15-May-09	1
223121526	FOSP	19-May-09	20-May-09	1
223121527	FOSP	19-May-09	23-May-09	4
226182563	GWCS	13-May-09	15-May-09	2
226182564	GWCS	13-May-09	15-May-09	2
226182566	GWCS	13-May-09	15-May-09	2
226182570	GWCS	13-May-09	15-May-09	2
226182571	GWCS	14-May-09	15-May-09	1
226182572	GWCS	14-May-09	15-May-09	1
226182573	GWCS	14-May-09	15-May-09	1
226182574	GWCS	14-May-09	16-May-09	2
226182575	GWCS	14-May-09	15-May-09	1
226182576	GWCS	14-May-09	15-May-09	1
226182578	GWCS	14-May-09	15-May-09	1
226182581	GWCS	14-May-09	15-May-09	1
226182583	GWCS	14-May-09	15-May-09	1
226182584	GWCS	14-May-09	15-May-09	1
226182586	GWCS	14-May-09	15-May-09	1
226182588	GWCS	14-May-09	15-May-09	1
226182591	GWCS	14-May-09	15-May-09	1
226182592	GWCS	14-May-09	15-May-09	1

Band #	Species	Band Date	Recap Date	# of Days Between Banding & Recapture
226182593	GWCS	14-May-09	15-May-09	1
226182594	GWCS	14-May-09	15-May-09	1
226182595	GWCS	14-May-09	15-May-09	1
226182597	GWCS	14-May-09	15-May-09	1
226182607	GWCS	15-May-09	18-May-09	3
226182609	GWCS	15-May-09	16-May-09	1
226182613	GWCS	15-May-09	19-May-09	4
226182616	GWCS	16-May-09	18-May-09	2
226182608	HETH	15-May-09	06-Jun-09	22
226182621	LALO	18-May-09	19-May-09	1
192193514	LISP	15-May-09	20-May-09	5
192193521	LISP	18-May-09	19-May-09	1
192193527	LISP	19-May-09	20-May-09	1
192193545	LISP	23-May-09	03-Jun-09	11
192193560	LISP	02-Jun-09	06-Jun-09	4
249053657	MYWA	21-May-09	22-May-09	1
249053712	MYWA	21-May-09	22-May-09	1
249053772	MYWA	21-May-09	23-May-09	2
249053910	MYWA	22-May-09	25-May-09	3
249049209	NOWA	26-May-09	29-May-09	3
249049316	NOWA	27-May-09	28-May-09	1
249049320	NOWA	27-May-09	28-May-09	1
249049323	NOWA	27-May-09	01-Jun-09	5
249049370	NOWA	29-May-09	29-May-09	0
249053429	NOWA	15-May-09	18-May-09	3
249053447	NOWA	18-May-09	20-May-09	2
249053495	NOWA	20-May-09	21-May-09	1
249053574	NOWA	21-May-09	22-May-09	1
249053674	NOWA	21-May-09	25-May-09	4
249053701	NOWA	21-May-09	22-May-09	1
249053769	NOWA	21-May-09	26-May-09	5
249053996	NOWA	23-May-09	25-May-09	2
249053407	OCWA	13-May-09	14-May-09	1
249053444	OCWA	16-May-09	18-May-09	2
249053451	OCWA	18-May-09	19-May-09	1
249053556	OCWA	21-May-09	25-May-09	4
249053632	OCWA	21-May-09	22-May-09	1
249053683	OCWA	21-May-09	22-May-09	1
249053694	OCWA	21-May-09	22-May-09	1

Band #	Species	Band Date	Recap Date	# of Days Between Banding & Recapture
249053724	OCWA	21-May-09	23-May-09	2
249053727	OCWA	21-May-09	24-May-09	3
249053761	OCWA	21-May-09	23-May-09	2
249053783	OCWA	21-May-09	23-May-09	2
249053448	SAVS	18-May-09	20-May-09	2
249053463	SAVS	19-May-09	22-May-09	3
249053483	SAVS	20-May-09	21-May-09	1
249053530	SAVS	20-May-09	21-May-09	1
249053702	SAVS	21-May-09	23-May-09	2
249053742	SAVS	21-May-09	22-May-09	1
192193504	SCJU	13-May-09	19-May-09	6
192193505	SCJU	13-May-09	14-May-09	1
192193509	SCJU	13-May-09	16-May-09	3
192193510	SCJU	14-May-09	16-May-09	2
192193512	SCJU	14-May-09	15-May-09	1
192193522	SCJU	18-May-09	29-May-09	11
252034247	WIWA	14-May-09	15-May-09	1
252034251	WIWA	15-May-09	19-May-09	4
252034277	WIWA	22-May-09	26-May-09	4
252034283	WIWA	22-May-09	23-May-09	1
252034309	WIWA	23-May-09	24-May-09	1
252034415	WIWA	24-May-09	28-May-09	4
252034449	WIWA	26-May-09	29-May-09	3
252034450	WIWA	26-May-09	29-May-09	3
252034485	WIWA	29-May-09	01-Jun-09	3
252034500	WIWA	20-May-09	04-Jun-09	15
226182629	WTSP	19-May-09	24-May-09	5
223121525	YBSA	15-May-09	03-Jun-09	19
223121537	YBSA	29-May-09	02-Jun-09	4
249049225	YWAR	26-May-09	28-May-09	2
249049254	YWAR	26-May-09	27-May-09	1
249049294	YWAR	27-May-09	28-May-09	1
249049460	YWAR	04-Jun-09	06-Jun-09	2
249053867	YWAR	22-May-09	23-May-09	1
249053979	YWAR	23-May-09	24-May-09	1

APPENDIX 7 – FALL BAND REPEAT DATA

Band #	Species	Band Date	Recap Date	# of Days Between Banding & Recapture
249049637	ALFL	14-Aug	20-Aug-09	6
249049683	ALFL	16-Aug	18-Aug-09	2
249049864	ALFL	20-Aug	24-Aug-09	4
249049944	ALFL	23-Aug	24-Aug-09	1
260008259	ALFL	30-Aug	31-Aug-09	1
252034539	AMRE	11-Aug	10-Sep-09	30
252034600	AMRE	11-Aug	16-Aug-09	5
252034606	AMRE	12-Aug	13-Aug-09	1
252034625	AMRE	12-Aug	15-Aug-09	3
260008281	ATSP	01-Sep	13-Sep-09	12
260008282	ATSP	01-Sep	02-Sep-09	1
260008283	ATSP	01-Sep	04-Sep-09	3
260008289	ATSP	01-Sep	03-Sep-09	2
260008354	ATSP	04-Sep	13-Sep-09	9
260008355	ATSP	04-Sep	21-Sep-09	17
260008357	ATSP	04-Sep	05-Sep-09	1
260008358	ATSP	04-Sep	22-Sep-09	18
260008409	ATSP	08-Sep	12-Sep-09	4
260008471	ATSP	10-Sep	15-Sep-09	5
260008474	ATSP	10-Sep	21-Sep-09	11
260008484	ATSP	11-Sep	16-Sep-09	5
260008487	ATSP	12-Sep	15-Sep-09	3
260008493	ATSP	13-Sep	17-Sep-09	4
260008498	ATSP	13-Sep	17-Sep-09	4
260008512	ATSP	14-Sep	17-Sep-09	3
260008532	ATSP	15-Sep	17-Sep-09	2
260008542	ATSP	16-Sep	18-Sep-09	2
260008552	ATSP	16-Sep	18-Sep-09	2
260008554	ATSP	16-Sep	21-Sep-09	5
260008557	ATSP	16-Sep	17-Sep-09	1
260008563	ATSP	17-Sep	20-Sep-09	3
260008585	ATSP	20-Sep	21-Sep-09	1
249049579	BCCH	13-Aug	20-Aug-09	7
260008126	BCCH	26-Aug	29-Aug-09	3
260008252	BCCH	29-Aug	17-Sep-09	19
249049634	BLPW	14-Aug	15-Aug-09	1
249049688	BOCH	16-Aug	26-Aug-09	10
249049489	COYE	11-Aug	14-Aug-09	3
249049492	COYE	11-Aug	17-Aug-09	6
249049493	COYE	11-Aug	19-Aug-09	8
249049494	COYE	11-Aug	20-Aug-09	9
249049495	COYE	11-Aug	17-Aug-09	6
249049503	COYE	11-Aug	17-Aug-09	6
249049508	COYE	11-Aug	13-Aug-09	2

Band #	Species	Band Date	Recap Date	# of Days Between Banding & Recapture
249049508	COYE	11-Aug	15-Aug-09	4
249049541	COYE	12-Aug	16-Aug-09	4
249049556	COYE	13-Aug	18-Aug-09	5
249049571	COYE	13-Aug	14-Aug-09	1
249049584	COYE	13-Aug	27-Aug-09	14
249049597	COYE	13-Aug	17-Aug-09	4
249049605	COYE	14-Aug	17-Aug-09	3
249049609	COYE	14-Aug	28-Aug-09	14
249049618	COYE	14-Aug	20-Aug-09	6
249049640	COYE	15-Aug	18-Aug-09	3
249049656	COYE	15-Aug	01-Sep-09	17
249049675	COYE	16-Aug	17-Aug-09	1
249049704	COYE	17-Aug	20-Aug-09	3
249049720	COYE	18-Aug	19-Aug-09	1
249049724	COYE	18-Aug	26-Aug-09	8
249049725	COYE	18-Aug	28-Aug-09	10
249049729	COYE	18-Aug	20-Aug-09	2
249049733	COYE	19-Aug	20-Aug-09	1
249049747	COYE	19-Aug	03-Sep-09	15
249049749	COYE	19-Aug	11-Sep-09	23
249049771	COYE	19-Aug	20-Aug-09	1
249049819	COYE	20-Aug	26-Aug-09	6
249049832	COYE	20-Aug	26-Aug-09	6
249049855	COYE	20-Aug	26-Aug-09	6
249049887	COYE	20-Aug	31-Aug-09	11
249049891	COYE	20-Aug	24-Aug-09	4
260008041	COYE	24-Aug	26-Aug-09	2
260008057	COYE	24-Aug	30-Aug-09	6
260008076	COYE	24-Aug	26-Aug-09	2
260008100	COYE	26-Aug	31-Aug-09	5
260008111	COYE	26-Aug	28-Aug-09	2
260008151	COYE	27-Aug	29-Aug-09	2
260008182	COYE	28-Aug	29-Aug-09	1
260008211	COYE	28-Aug	30-Aug-09	2
260008234	COYE	28-Aug	03-Sep-09	6
260008250	COYE	29-Aug	12-Sep-09	14
260008251	COYE	29-Aug	01-Sep-09	3
260008260	COYE	30-Aug	08-Sep-09	9
260008269	COYE	31-Aug	13-Sep-09	13
260008305	COYE	02-Sep	03-Sep-09	1
260008320	COYE	02-Sep	08-Sep-09	6
260008372	COYE	05-Sep	10-Sep-09	5
260008423	COYE	08-Sep	10-Sep-09	2
260008436	COYE	08-Sep	12-Sep-09	4

Band #	Species	Band Date	Recap Date	# of Days Between Banding & Recapture
260008463	COYE	10-Sep	13-Sep-09	3
260008500	COYE	14-Sep	17-Sep-09	3
260008510	COYE	14-Sep	22-Sep-09	8
260008523	COYE	15-Sep	17-Sep-09	2
260008536	COYE	16-Sep	16-Sep-09	0
223121560	FOSP	02-Sep	05-Sep-09	3
223121564	FOSP	04-Sep	05-Sep-09	1
226182740	GCTH	04-Sep	05-Sep-09	1
226182766	GCTH	16-Sep	17-Sep-09	1
226182719	GWCS	27-Aug	28-Aug-09	1
226182731	HETH	30-Aug	03-Sep-09	4
192193563	LISP	11-Aug	12-Aug-09	1
192193564	LISP	11-Aug	19-Aug-09	8
192193566	LISP	11-Aug	15-Aug-09	4
192193567	LISP	11-Aug	15-Aug-09	4
192193570	LISP	13-Aug	24-Aug-09	11
192193571	LISP	13-Aug	01-Sep-09	19
192193572	LISP	13-Aug	18-Aug-09	5
192193582	LISP	18-Aug	19-Aug-09	1
192193584	LISP	19-Aug	24-Aug-09	5
192193588	LISP	19-Aug	31-Aug-09	12
192193592	LISP	19-Aug	21-Sep-09	33
192193669	LISP	08-Sep	11-Sep-09	3
192193707	LISP	14-Sep	15-Sep-09	1
192193770	LISP	20-Sep	22-Sep-09	2
252034595	MAWA	11-Aug	17-Aug-09	6
252034598	MAWA	11-Aug	14-Aug-09	3
252034672	MAWA	15-Aug	16-Aug-09	1
249049515	MYWA	11-Aug	02-Sep-09	22
249049642	MYWA	15-Aug	15-Aug-09	0
249049488	NOWA	11-Aug	13-Aug-09	2
249049504	NOWA	11-Aug	12-Aug-09	1
249049511	NOWA	11-Aug	16-Aug-09	5
249049529	NOWA	12-Aug	18-Aug-09	6
249049539	NOWA	12-Aug	13-Aug-09	1
249049540	NOWA	12-Aug	14-Aug-09	2
249049543	NOWA	12-Aug	17-Aug-09	5
249049557	NOWA	13-Aug	15-Aug-09	2
249049565	NOWA	13-Aug	14-Aug-09	1
249049570	NOWA	13-Aug	14-Aug-09	1
249049575	NOWA	13-Aug	13-Aug-09	0
249049583	NOWA	13-Aug	15-Aug-09	2
249049596	NOWA	13-Aug	14-Aug-09	1
249049598	NOWA	13-Aug	18-Aug-09	5

Band #	Species	Band Date	Recap Date	# of Days Between Banding & Recapture
249049610	NOWA	14-Aug	18-Aug-09	4
249049612	NOWA	14-Aug	14-Aug-09	0
249049638	NOWA	14-Aug	27-Aug-09	13
249049659	NOWA	15-Aug	18-Aug-09	3
249049660	NOWA	15-Aug	20-Aug-09	5
249049674	NOWA	16-Aug	17-Aug-09	1
249049678	NOWA	16-Aug	18-Aug-09	2
249049713	NOWA	17-Aug	24-Aug-09	7
249049719	NOWA	18-Aug	19-Aug-09	1
249049762	NOWA	19-Aug	20-Aug-09	1
249049766	NOWA	19-Aug	24-Aug-09	5
249049777	NOWA	19-Aug	29-Aug-09	10
249049862	NOWA	20-Aug	24-Aug-09	4
249049950	NOWA	24-Aug	24-Aug-09	0
260008062	NOWA	24-Aug	27-Aug-09	3
260008102	NOWA	26-Aug	28-Aug-09	2
260008134	NOWA	27-Aug	29-Aug-09	2
260008147	NOWA	27-Aug	10-Sep-09	14
260008149	NOWA	27-Aug	28-Aug-09	1
260008152	NOWA	27-Aug	31-Aug-09	4
260008157	NOWA	27-Aug	05-Sep-09	9
260008162	NOWA	28-Aug	30-Aug-09	2
260008186	NOWA	28-Aug	29-Aug-09	1
260008190	NOWA	28-Aug	30-Aug-09	2
260008240	NOWA	29-Aug	30-Aug-09	1
260008254	NOWA	30-Aug	02-Sep-09	3
260008261	NOWA	31-Aug	05-Sep-09	5
260008275	NOWA	31-Aug	01-Sep-09	1
260008304	NOWA	02-Sep	02-Sep-09	0
260008314	NOWA	02-Sep	05-Sep-09	3
260008381	NOWA	06-Sep	08-Sep-09	2
260008408	NOWA	08-Sep	10-Sep-09	2
260008414	NOWA	08-Sep	17-Sep-09	9
260008440	NOWA	08-Sep	13-Sep-09	5
260008467	NOWA	10-Sep	11-Sep-09	1
260008527	NOWA	15-Sep	16-Sep-09	1
249049744	OCWA	19-Aug	20-Aug-09	1
252034655	OCWA	14-Aug	27-Aug-09	13
260008141	OCWA	27-Aug	29-Aug-09	2
260008276	OCWA	31-Aug	01-Sep-09	1
260008336	OCWA	02-Sep	04-Sep-09	2
123223920	RUBL	05-Sep	10-Sep-09	5
192193645	SAVS	03-Sep	05-Sep-09	2
192193658	SAVS	08-Sep	09-Sep-09	1

Band #	Species	Band Date	Recap Date	# of Days Between Banding & Recapture
192193698	SAVS	11-Sep	12-Sep-09	1
192193738	SAVS	17-Sep	21-Sep-09	4
192193775	SCJU	20-Sep	21-Sep-09	1
192193777	SCJU	20-Sep	21-Sep-09	1
192193574	SWSP	14-Aug	08-Sep-09	25
192193575	SWSP	14-Aug	31-Aug-09	17
192193602	SWSP	20-Aug	17-Sep-09	28
192193647	SWSP	04-Sep	17-Sep-09	13
192193701	SWSP	12-Sep	20-Sep-09	8
192193706	SWSP	13-Sep	17-Sep-09	4
192193709	SWSP	14-Sep	17-Sep-09	3
226182686	SWTH	15-Aug	17-Aug-09	2
226182690	SWTH	17-Aug	19-Aug-09	2
226182702	SWTH	19-Aug	20-Aug-09	1
249049697	TEWA	17-Aug	18-Aug-09	1
252034542	TEWA	11-Aug	12-Aug-09	1
252034547	TEWA	11-Aug	14-Aug-09	3
252034549	TEWA	11-Aug	16-Aug-09	5
252034550	TEWA	11-Aug	15-Aug-09	4
252034554	TEWA	11-Aug	16-Aug-09	5
252034560	TEWA	11-Aug	16-Aug-09	5
252034561	TEWA	11-Aug	13-Aug-09	2
252034566	TEWA	11-Aug	13-Aug-09	2
252034569	TEWA	11-Aug	14-Aug-09	3
252034587	TEWA	11-Aug	16-Aug-09	5
252034603	TEWA	11-Aug	16-Aug-09	5
252034609	TEWA	12-Aug	16-Aug-09	4
252034620	TEWA	12-Aug	18-Aug-09	6
252034629	TEWA	13-Aug	16-Aug-09	3
252034658	TEWA	14-Aug	16-Aug-09	2
252034661	TEWA	14-Aug	16-Aug-09	2
252034662	TEWA	14-Aug	16-Aug-09	2
252034691	TEWA	16-Aug	17-Aug-09	1
252034692	TEWA	16-Aug	17-Aug-09	1
252034720	TEWA	16-Aug	20-Aug-09	4
252034861	TEWA	24-Aug	27-Aug-09	3
252034748	WIWA	19-Aug	20-Aug-09	1
252034800	WIWA	20-Aug	24-Aug-09	4
226182678	WTSP	14-Aug	29-Aug-09	15
226182684	WTSP	14-Aug	26-Aug-09	12
226182689	WTSP	16-Aug	05-Sep-09	20
226182705	WTSP	20-Aug	27-Aug-09	7
252034919	WTSP	02-Sep	03-Sep-09	1
249049619	YWAR	14-Aug	17-Aug-09	3

Band #	Species	Band Date	Recap Date	# of Days Between Banding & Recapture
249049635	YWAR	14-Aug	18-Aug-09	4
249049673	YWAR	16-Aug	24-Aug-09	8
249049920	YWAR	20-Aug	24-Aug-09	4