2006

Summary of breeding bird surveys within Meadowood SRMA, Fairfax County, Virginia

F. M. Smith
The Center for Conservation Biology, fmsmit@wm.edu

Joshua Elliott LeClerc
College of William & Mary - Arts & Sciences

B. J. Paxton
The Center for Conservation Biology, bjpaxt@wm.edu

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Cover photos of typical Meadowood SRMA habitat by Fletcher Smith

Fletcher M. Smith
Joshua E. LeClerc
Barton J. Paxton
Center for Conservation Biology
College of William and Mary
Williamsburg, VA 23187-8795

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EXECUTIVE SUMMARY

Birds are essential components of natural ecosystems, effective indicators of environmental health, and the focus of an emerging ecotourism industry that represents a growing portion of the world's economy. An increased concern for the status of many North American bird populations has resulted in an escalation of monitoring and management efforts. Much of this concern has been focused upon the many species of forest-dwelling neotropical migrants (species that migrate between forested breeding grounds in the temperate latitudes of North America and wintering grounds in Central and South America and the Caribbean) and open habitat-dependent birds that have exhibited substantial population declines in recent decades. The Mid-Atlantic Coastal Plain plays a significant role in the life cycle of many of the most vulnerable bird species in North America. The diversity of habitats available to birds during the breeding and winter periods, along with the strategic geographic position of the region for migrants, combine to make this one of the most diverse regions in eastern North America.

Northern Virginia has experienced dramatic urbanization in the past 30 years, and remaining conservation lands will play an increasingly vital role in stabilizing regional bird populations. On October 18, 2001, the Department of the Interior, Bureau of Land Management-Eastern States acquired the 324 acre Meadowood Farm on Mason Neck in Fairfax County, Virginia. The property, now called the Meadowood Special Recreation Management Area (SRMA), provides important resources for birds in this rapidly changing environment.

A total of 37 points were surveyed in 2004 and 2005 to measure bird diversity and density in Meadowood SRMA. Surveys consisted of a combination of fixed-radius and unlimited-radius point count techniques. Surveys were used to measure bird density and frequency of occurrence within Meadowood SRMA. The focal areas of this study were a forest block surrounding a cleared field that has been selected as a site for flying model airplanes and an area that is currently used for horseback riding and walking trails. Habitats sampled during the two years of surveys include mesic and wet forest, grassland (some with a shrub-scrub component), and edge habitat. A total of 1,947 detections of 70 bird species were made during the 2004 and 2005 breeding bird surveys. These consisted of 31 Neotropical migrant species, 18 temperate migrant species, and 21 resident (non-migratory) species. The species observed during both years of point counts are typical of those normally found within mesic and wet forest and early successional habitats of the Mid-Atlantic region.

BACKGROUND

Context

Birds are essential components of natural ecosystems, effective indicators of environmental health, and the focus of an emerging ecotourism industry that represents a growing portion of the world's economy. During the course of the twentieth century, the living space and infrastructure required by an expanding human population has had a pervasive impact on the natural landscape, resulting in a direct change in the availability and distribution of the habitats required by many bird species. Restoring and maintaining healthy bird populations within these altered landscapes represents one of the most complex conservation challenges for the twenty-first century.

An increased concern for the status of many North American bird populations has resulted in an escalation of monitoring and management efforts. Much of this concern has been focused upon the many species of forest-dwelling neotropical migrants (species that migrate between forested breeding grounds in the temperate latitudes of North America and wintering grounds in Central and South America and the Caribbean) and open habitat-dependent birds that have exhibited substantial population declines in recent decades. There is increasing evidence that habitat loss and fragmentation are two of the leading causes for the observed population declines (Faaborg et al. 1995, Robinson et al. 1995, Hunter et al. 2001).

The Mid-Atlantic Coastal Plain plays a significant role in the life cycle of many of the most vulnerable bird species in North America. The diversity of habitats available to birds during the breeding and winter periods, along with the strategic geographic position of the region for migrants, make this one of the most diverse regions in eastern North America. The region was also the site of the first successful European settlement in North America and has been altered by European culture for nearly four centuries. Currently, the urban crescent extending from Baltimore, south to Richmond, and east to Norfolk is one of the fastest growing regions in North America. Growth is projected to continue for the foreseeable future, placing increasing demands on the region's natural resources.

Northern Virginia has experienced dramatic urbanization in the past 30 years, and remaining conservation lands will play an increasingly vital role in stabilizing regional bird populations. On October 18, 2001, the Department of the Interior, Bureau of Land Management-Eastern States acquired the 324-acre Meadowood Farm on Mason Neck in Fairfax County, Virginia. The property, now called the Meadowood Special Recreation Management Area (SRMA), will be managed to provide open space for recreation, environmental education, and wild horse and burro interpretation. In addition, its variety of forested, edge, and open field habitats may provide important resources for birds in this rapidly changing environment.

Objectives

The overall objective of this project was to evaluate the breeding bird community within forested and early successional portions of the Meadowood SRMA. The focal areas were a forest block surrounding a cleared field that has been selected as a site for flying model airplanes and an area designated for horseback riding and walking trails. Information provided through this project will allow natural resources staff to evaluate the potential impact of proposed activities on the surrounding bird community.

METHODS

Study Area

This study was conducted within the western parcel of the Meadowood SRMA on the Mason Neck peninsula in Fairfax County, Virginia (Figure 1). Located on the Coastal Plain of Virginia, the 324-ha Meadowood SRMA contains approximately 243 ha of mixed forest (oak-beech-hickory-pine) with a diverse shrub-forb understory. The SRMA also contains 65 ha of open fields, historically used for hay production and as horse pasture. The open field within one of the focal areas of the present study has been used in recent years for flying model airplanes.

Bird Surveys

A combination of fixed-radius and unlimited-radius point count techniques were used to measure bird density and frequency of occurrence. A network of 15 survey plots (point counts), each consisting of a 50-meter radius circle with a wire flag located at its center, was established throughout the western portion of the study area (Figure 2). A network of 22 survey plots was established in the eastern section of Meadowood SRMA (Figure 3). Survey plots contained varying proportions of field, forest, and edge habitat (see Appendix 1 for a list of all points surveyed, their coordinates, and the predominant habitat type at each point).

Point counts were conducted by a single observer standing at the plot center and recording all birds seen or heard within a 5-minute period. Birds detected were stratified according to location in field, forest, or edge habitat. Birds detected within the 50m radius were used for density estimation, and those detected beyond 50m were used to determine presence/absence patterns.

Surveys were conducted in 11-day time blocks where all points were surveyed within each block. Three survey rounds were completed in 2004 between 13 June and 7

July 2004. Four survey rounds were completed in 2005 between 1 June and 13 July. The order of surveys was alternated between time blocks to reduce the impact of time-of-day effects. Surveys were conducted between 0.5 and 4.5 hours after sunrise on days with no precipitation and wind speeds of less than 15 mph.

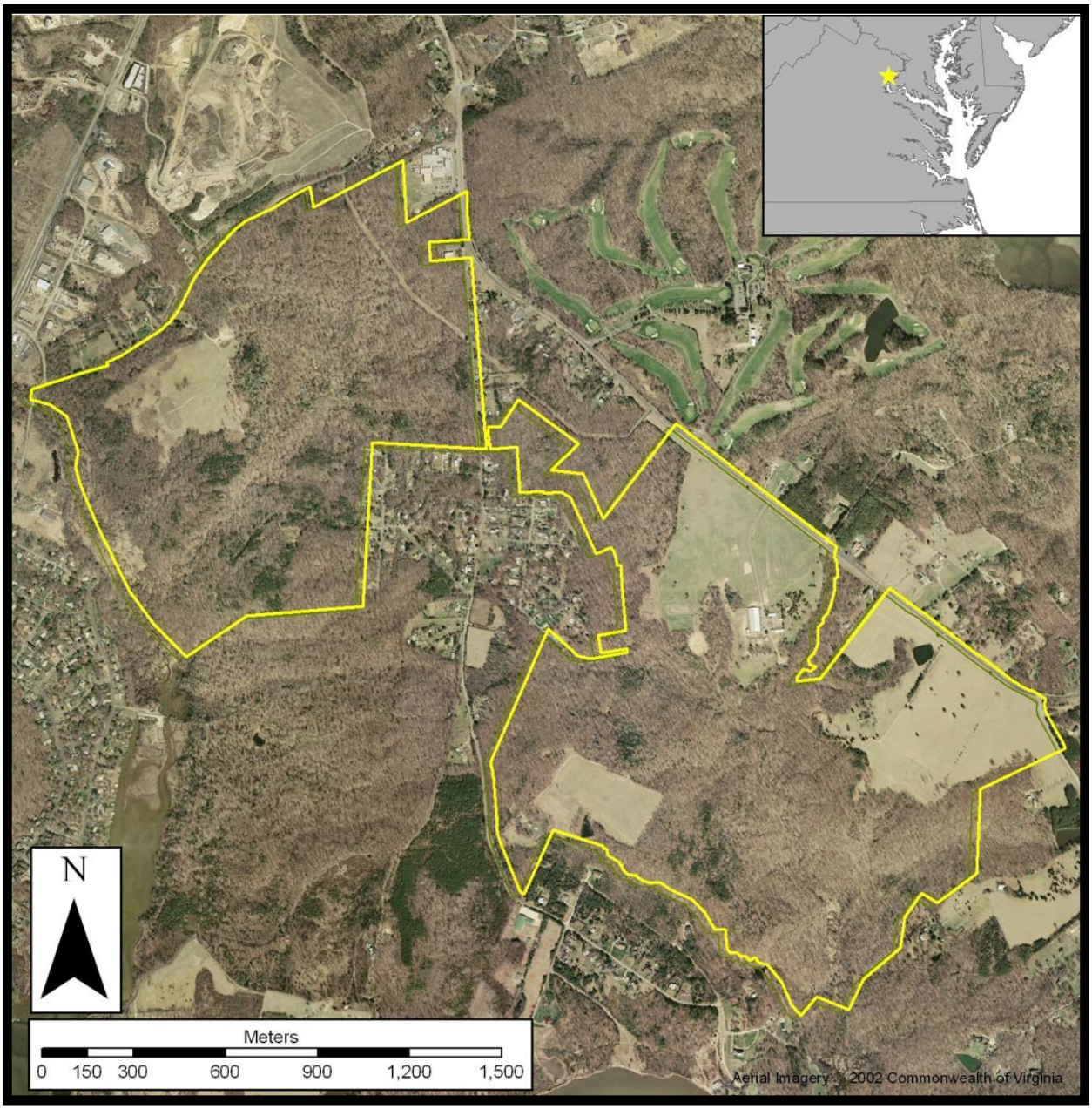

Figure 1. Map of Meadowood SRMA. The two focal study areas are centered around the clearing on the western portion of Meadowood SRMA and around the visitor center and horse stables in the eastern portion of Meadowood SRMA.

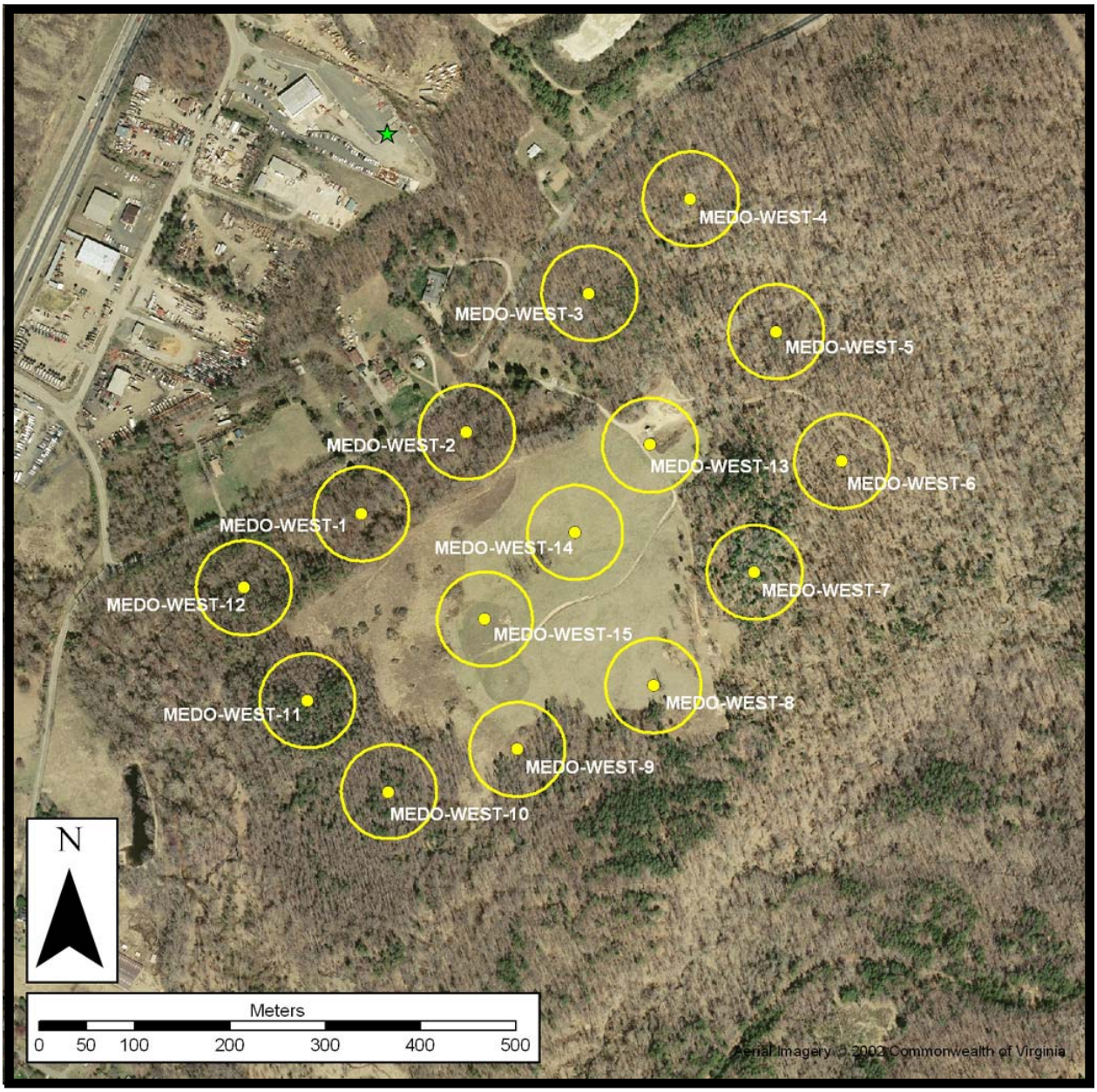

Figure 2. Map of points in the western portion of Meadowood SRMA. These points were surveyed between 1 June and 13 July in both 2004 and 2005. The point center is located within each 50-m buffer circle.

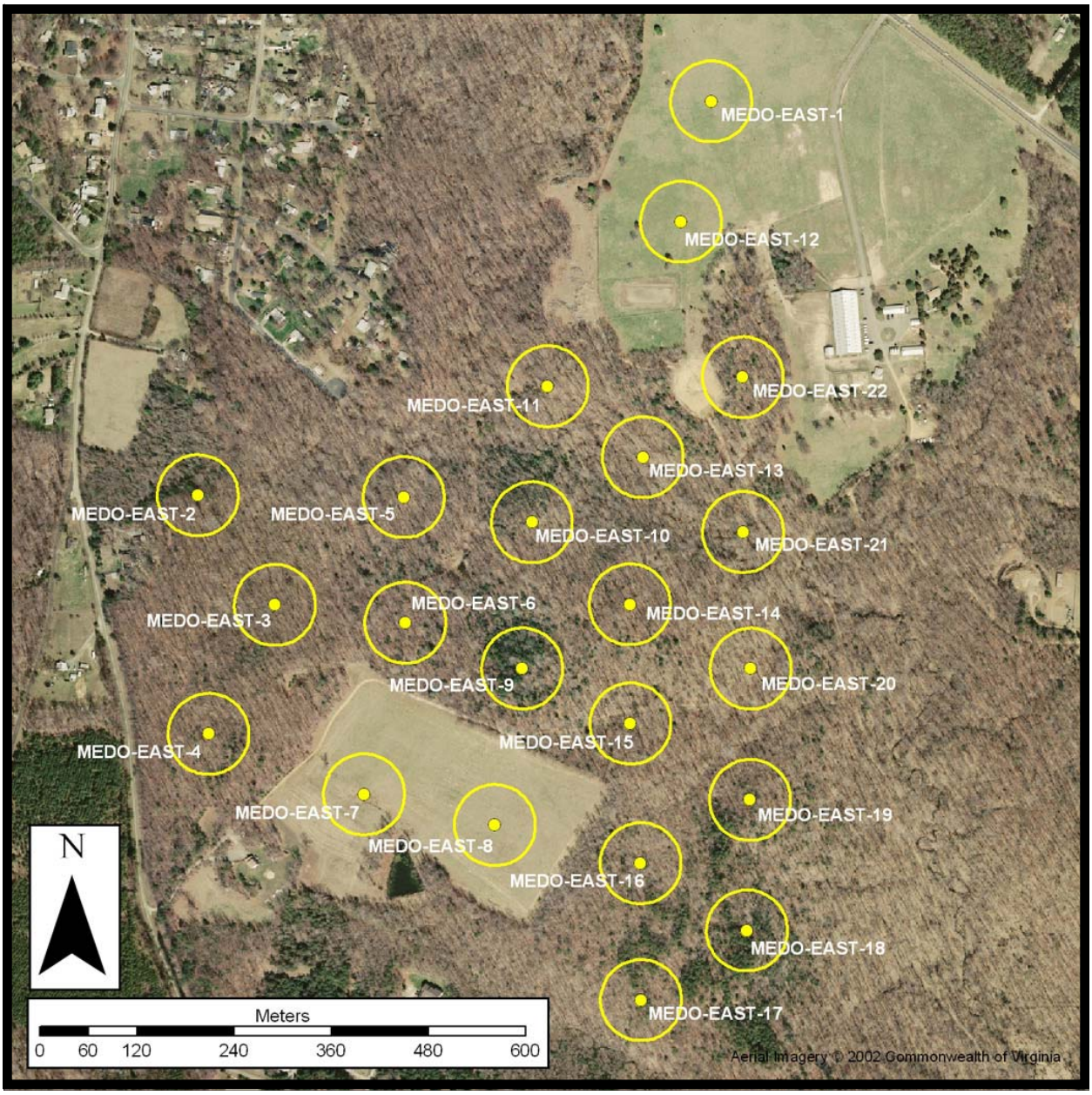

Figure 3. Map of points in the eastern portion of Meadowood SRMA. These points were surveyed between 1 June and 13 July in 2005 only. The point center is located within each 50 meter buffer circle.

Data Summary and Analysis

Bird survey data were summarized to determine overall bird abundance and species richness values for individual habitat types as well as the entire study area. Bird densities were calculated from the number of birds detected within the 50-m radius point counts. For each species, the survey visit with the greatest number of individuals detected was used for analysis. Species richness values were calculated using the accumulated number of species detected within or beyond the 50-m radius point counts over all survey visits. Birds density values were compared between survey periods before the use of Meadowood SRMA as a model airplane flying area as well as after these flights started.

RESULTS

A total of 624 detections of 47 bird species were made during the 2004 surveys. These consisted of 22 Neotropical migrant species, 9 temperate migrant species, and 16 resident (non-migratory) species. A total of 1286 detections of 66 species were made during the 2005 surveys. These consisted of 29 Neotropical migrant species, 18 temperate species, and 19 resident species (see Appendix II for a list of birds detected with migration status and Appendix III for a summary of detections by point and survey round).

Mature forest habitat supported the highest number of species, followed by edge and grassland/shrub-scrub habitat, with species richness values of 41, 29, and 21, respectively (Figure 4). The most common species detected in forest habitat were Wood Thrush, Red-eyed Vireo, Acadian Flycatcher, Ovenbird, Blue-gray Gnatcatcher, and Northern Cardinal, accounting for 48% of the 526 detections made within 50 meters in that habitat. Indigo Bunting, Northern Cardinal, Carolina Wren, Carolina Chickadee, Tufted Titmouse, Summer Tanager, Eastern Towhee, and Blue Grosbeak were the most common species in edge habitat, accounting for over 58% of the 101 detections within 50 meters of point count center. The most common species in grassland/shrub-scrub habitat were Red-winged Blackbird, Indigo Bunting, Blue Grosbeak, Summer Tanager, Prairie Warbler, and Tree Swallow, accounting for 66% of the 90 grassland/shrub-scrub detections. Pasture habitat was not analyzed for breeding birds (none were found), although aerial insectivores observed using the habitat were noted.

Densities of birds found within the various Meadowood SRMA habitats were compiled to look at variation among migrant types, variation within habitat types, and variation by survey date. No significant differences were noted in the densities of birds before and after model airplane flights took place (see Figure 5 and Tables 1, 2, and 3). ANOVA showed densities of birds remained relatively constant in all habitats throughout all survey rounds.

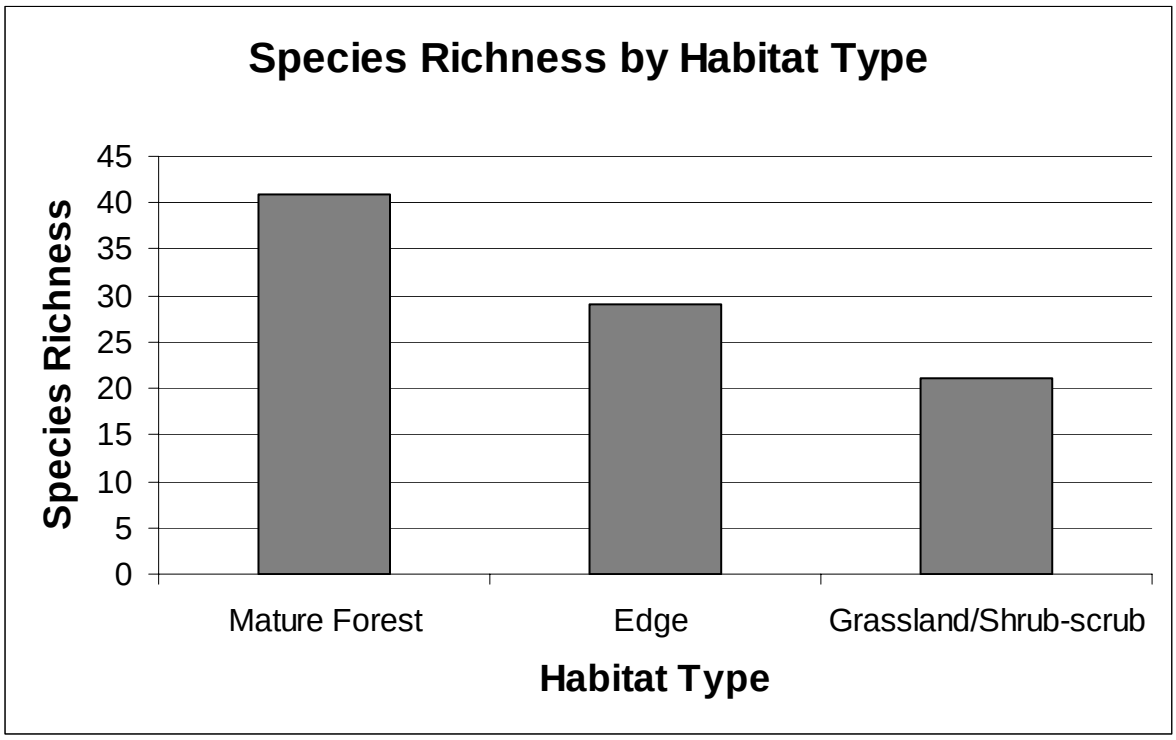

Figure 4. Species richness values for habitat types within surveyed area of Meadowood SMRA's eastern and western parcels. Values are based on the accumulated number of species detected within 50 meters of point center within each habitat type over all survey visits.

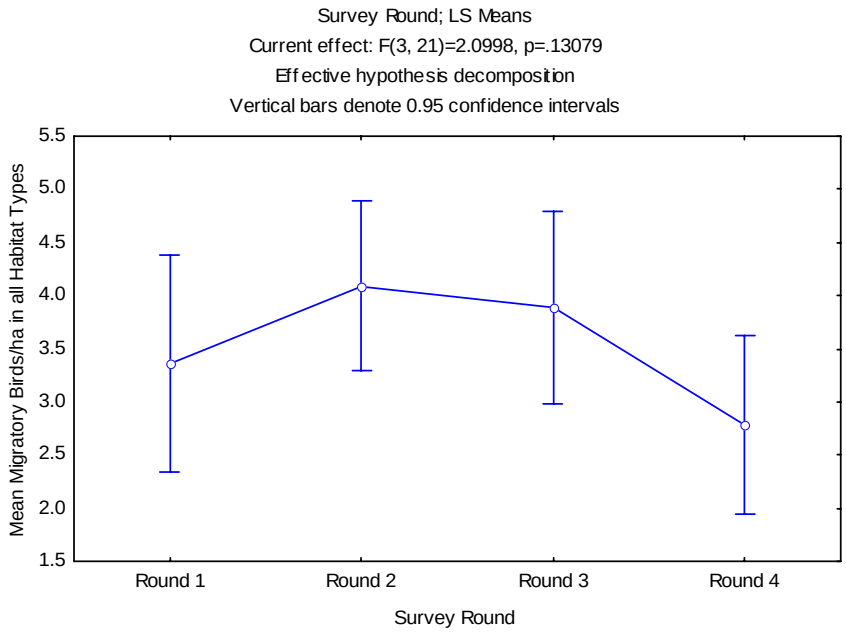

Figure 5. Graphic depiction of ANOVA of mean migratory birds per hectare in all habitat types and during all survey rounds. Values are based on birds detected within 50 meters of point center within each habitat type over all survey visits. The number of birds per hectare tailed off by the last survey round, but the difference was not statistically significant.

Table 1. Summary of ANOVA test on total migratory bird densities per hectare in all habitat types within Meadowood SRMA. Only birds detected within 50 meters of point center were used for analysis. No significant results ($p<.05$) were found.

Source of Variation	Sum of Squares	Deg. of Freedom	S^2	F	p
Intercept	391.89	1	2.78	264.61	.00
Date	8.35	3	4.76	1.88	.16
Habitat Type	9.52	2	2.37	3.21	.06
Date*Habitat Type	14.22	6	1.48	1.60	.20
Error	30.6813	21	1.4610		

Table 2. Summary of ANOVA test on Neotropical migratory bird densities per hectare in all habitat types within Meadowood SRMA. Only birds detected within 50 meters of point center were used for analysis. A total of 407 Neotropical migrants were detected within 50 meters. No significant results ($p<.05$) were found.

Source of Variation	Sum of Squares	Deg. of Freedom	S^2	F	P
Intercept	227.70	1	227.70	125.84	0.00
Date	7.95	3	2.65	1.47	0.25
Habitat Type	0.50	2	0.25	0.14	0.87
Date*Habitat Type	7.81	6	1.30	0.72	0.64
Error	38.00	21	1.81		

Table 3. Summary of ANOVA test on temperate migrant bird densities per hectare in all habitat types within Meadowood SRMA. Only birds detected within 50 meters of point center were used for analysis . No significant results ($p<.05$) were found.

Source of Variation	Sum of Squares	Deg. of Freedom	S^2	F	P
Intercept	22.15	1	22.15	13.32	0.00
Date	0.55	3	0.18	0.11	0.95
Habitat Type	7.42	2	3.71	2.23	0.13
Date*Habitat Type	2.47	6	0.41	0.25	0.95
Error	34.91	21	1.66		

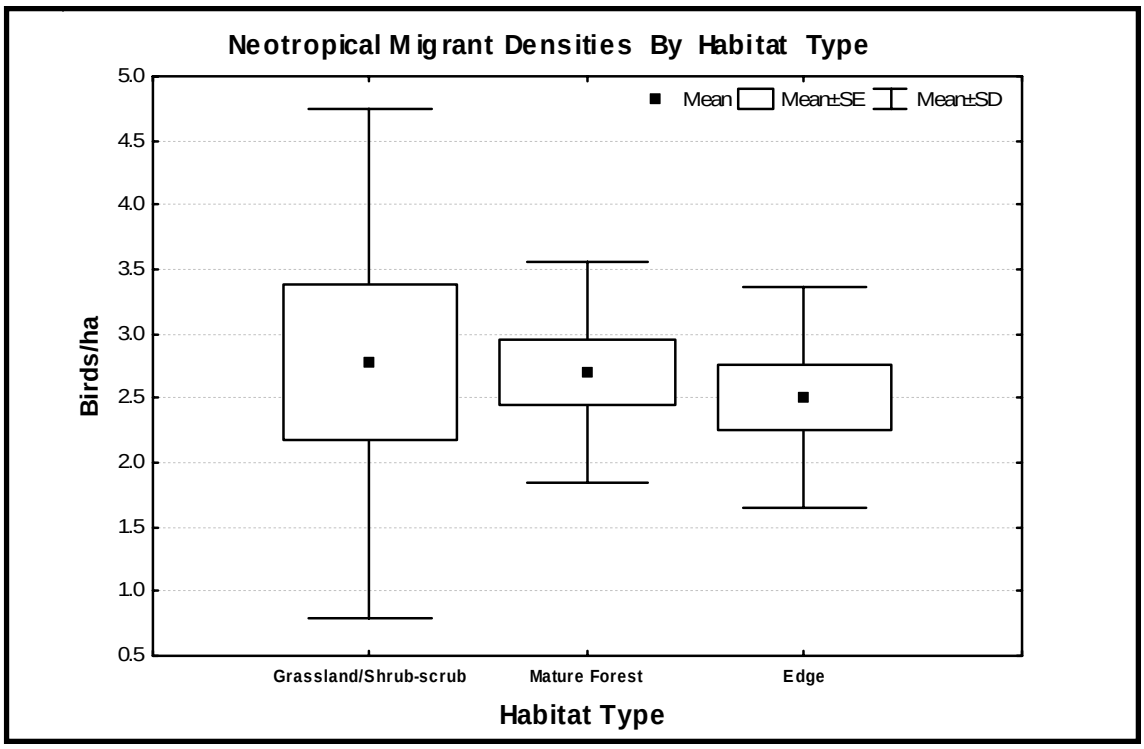

Figure 6. Neotropical migrant density values for habitat types within Meadowood SRMA. Values are based on the mean densities for all birds detected within the 50-m radius plots of points associated with a single habitat type.

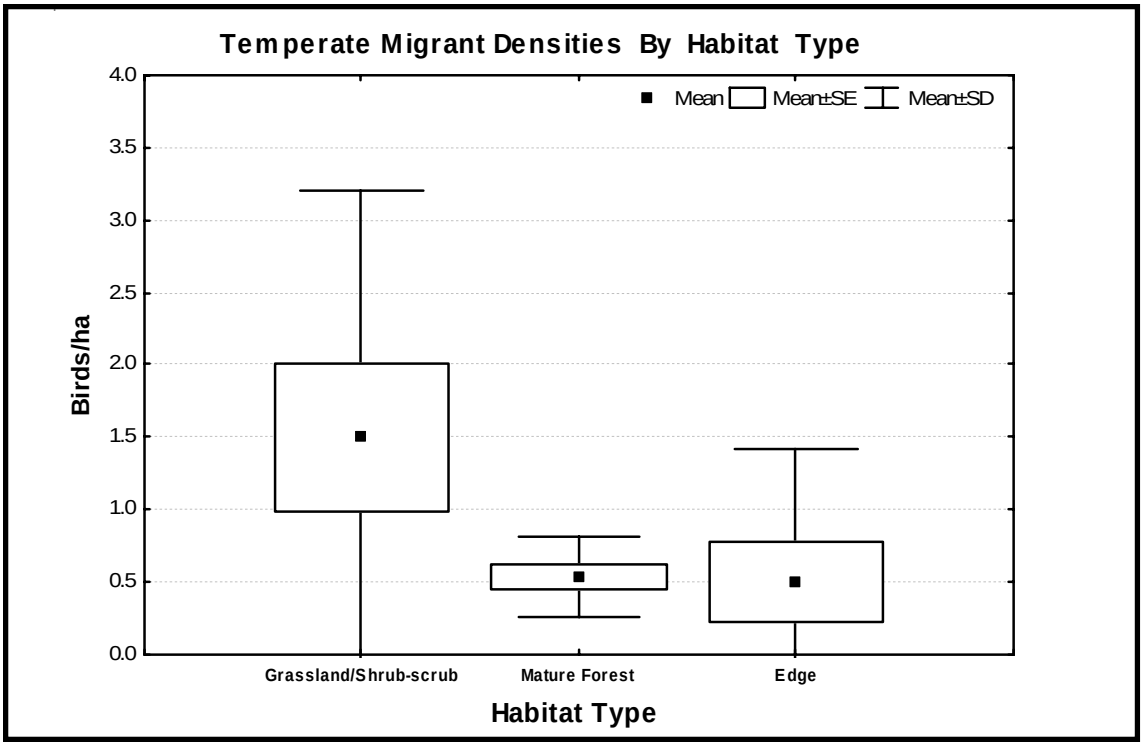

Figure 7. Temperate migrant density values for habitat types within Meadowood SRMA. Values are based on the mean densities for all birds detected within the 50-m radius plots of points associated with a single habitat type.

DISCUSSION

This study provides an account of the species composition and relative abundance of birds occupying the various habitat types within focal areas of both the eastern and western portions of Meadowood SRMA. The species observed in this study are consistent with those normally found within grassland/shrub-scrub, mature forest, and edge habitats within the Mid-Atlantic Coastal Plain.

The observed decrease in species richness from mature forest, to edge habitat, to grassland/shrub-scrub habitat can be explained by the corresponding decrease in structural complexity within the habitats. More species can be supported by habitats with greater structural diversity (Wiens and Rotenberry, 1981). While forest habitat had greater species diversity, the densities of migratory birds were statistically the same across all three major habitat types in Meadowood SRMA.

Thirteen species of conservation concern were found in Meadowood SRMA habitat (Watts, 1999). These include eight species of conservation concern that breed in mature forest were detected within Meadowood SRMA, including Wood Thrush, Acadian Flycatcher, Yellow-throated Vireo, Worm-eating Warbler, Eastern Wood-Pewee, Prothonotary Warbler, Louisiana Waterthrush, and Scarlet Tanager.

Four species of conservation concern were found in shrub-scrub habitat within Meadowood SRMA, including Prairie Warbler, White-eyed Vireo, Gray Catbird, and Yellow-breasted Chat. These species are usually found in early successional habitat with a substantial shrub component for nesting substrate. The cleared section of the western portion of Meadowood is best suited to these shrub-scrub species, and future management plans should keep this group of species in mind.

While no birds were using the pastureland for breeding, good numbers of aerial insectivores were using it to forage. This habitat appears to be heavily managed and will not be of use for grassland breeding birds because of the mowing scheme. This area will continue to be an important foraging ground for aerial insectivores.

Many studies have looked at the impact of noise on the breeding success of birds. Studies conducted in the Piedmont region of Virginia have found that some species, including Wood Thrush, Indigo Bunting, and Field Sparrow (all detected within Meadowood SRMA) show a reduced density nearer roads (Adams and Geis, 1981). The suspected cause of the effect on these birds is the noise generated by automobiles. This noise is thought to interfere with predator-prey behaviors and communication behaviors between adults and young (Forman et al., 2002). Aircraft tend to be much louder than automobiles, and studies have been conducted looking at noise levels and flying distance and its

effect on birds. Osprey located within a low flying aircraft training area showed no behavioral differences before and after overflight periods (some overflights within 30 meters) with noise levels approaching 100 decibels (db) (Trimper et al. 1998). Nesting Neotropical migrant birds near a training facility in Alaska displayed no ill effects from overflights of military jets. Corticosterone levels were higher for low decibel level noise (<50 db) versus high level noise (>80db) (Rozell, 2003). Of the 151 observations of birds incubating during overflight events, the incubating bird generally displayed no reaction to the loud noise events (Rozell, 2003).

Most model airplanes typically run at approximately 90 decibels (db) at a distance of 10 feet when operating at full throttle (Brooks, 2006). The model airplane use in the western portion of Meadowood appears to have no effect on the breeding bird population found there, other than alteration of habitat. The area selected for airplane use has no shrub component and therefore lacks the suite of species of concern found within other areas of the western portion of Meadowood SRMA. All future model airplane use should occur in an area with little or no shrub density to minimize disturbance to breeding birds and to minimize the impact of clearing land for airplane use. A maintenance schedule for the model airplane flying area could limit the impact of mowing on the breeding birds near the flying area. Mowing should occur before migrants arrive to breed (before May 1st) and after migrants have attempted to breed (after July 14th).

ACKNOWLEDGMENTS

This project would not have been possible without the efforts of many people. Geoffrey Walsh at the Bureau of Land Management-Eastern States provided the opportunity to conduct the study and administrative support. Kurt Gaskill conducted bird surveys in 2004. Lydia Whitaker, Carlton Adams, Renee Peace, Anne Womack, Gloria Sciole, Mark Roberts, and Cheryl Pope provided important administrative support from the College of William and Mary. This study was funded by the Bureau of Land Management-Eastern States.

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Appendix I. List of points with coordinates and habitat type.

Point	Latitude	Longitude	Habitat Type
MEDO-EAST-01	38.67398615	-77.19984328	Pasture#
MEDO-EAST-02	38.66968481	-77.20720461	Forest
MEDO-EAST-03	38.66845652	-77.20614086	Forest
MEDO-EAST-04	38.66702808	-77.20709824	Forest
MEDO-EAST-05	38.66963326	-77.20428418	Forest
MEDO-EAST-06	38.66823549	-77.20428477	Forest
MEDO-EAST-07	38.66633389	-77.2049145	Grassland
MEDO-EAST-08	38.66597012	-77.20305766	Edge
MEDO-EAST-09	38.66770928	-77.20263747	Edge
MEDO-EAST-10	38.66933042	-77.20247864	Forest
MEDO-EAST-11	38.67084621	-77.20222014	Forest*
MEDO-EAST-12	38.6726577	-77.20029943	Pasture#
MEDO-EAST-13	38.67004054	-77.20088951	Forest*
MEDO-EAST-14	38.6684007	-77.2010978	Forest
MEDO-EAST-15	38.66708281	-77.20112161	Forest
MEDO-EAST-16	38.6655216	-77.20099563	Forest
MEDO-EAST-17	38.66400054	-77.20102312	Forest
MEDO-EAST-18	38.66475541	-77.19951035	Forest
MEDO-EAST-19	38.66621269	-77.19943148	Forest
MEDO-EAST-20	38.6676734	-77.19940508	Forest
MEDO-EAST-21	38.66919564	-77.19948261	Forest*
MEDO-EAST-22	38.67091712	-77.19945151	Edge
MEDO-WEST-01	38.678865	-77.22095135	Forest*
MEDO-WEST-02	38.67971686	-77.21973807	Forest
MEDO-WEST-03	38.68102401	-77.21823636	Forest
MEDO-WEST-04	38.68191401	-77.21700129	Forest
MEDO-WEST-05	38.68063426	-77.21599412	Forest
MEDO-WEST-06	38.67938728	-77.21522114	Forest
MEDO-WEST-07	38.67834172	-77.21629076	Forest
MEDO-WEST-08	38.67745031	-77.21764494	Forest
MEDO-WEST-09	38.67668177	-77.21918251	Forest
MEDO-WEST-10	38.67614751	-77.22079997	Forest
MEDO-WEST-11	38.67717613	-77.22170304	Forest*
MEDO-WEST-12	38.67826075	-77.22245095	Forest*
MEDO-WEST-13	38.67983429	-77.21767595	Edge
MEDO-WEST-14	38.67891328	-77.21857877	Grassland
MEDO-WEST-15	38.67812622	-77.21968224	Grassland#

* Denotes point with a partial “forested wetland” characteristic.

\# Denotes point that was mowed between survey periods.

Appendix II. List of all birds detected during the 2004 and 2005 breeding bird surveys with common name, AOU code, scientific name, and migratory status.

Common name	AOU Code	Genus/Species	Migratory Status
Canada Goose	CAGO	*Branta canadensis*	Resident
Wild Turkey	WITU	*Meleagris gallopavo*	Resident
Great Blue Heron	GBHE	*Ardea herodias*	Resident
Black Vulture	BLVU	*Coragyps atratus*	Temperate Migrant
Turkey Vulture	TUVU	*Cathartes aura*	Temperate Migrant
Red-shouldered Hawk	RSHA	*Buteo lineatus*	Resident
Red-tailed Hawk	RTHA	*Buteo jamaicensis*	Resident
Mourning Dove	MODO	*Zenaida macroura*	Resident
Yellow-billed Cuckoo	YBCU	*Coccyzus americanus*	Neotropical Migrant
Chimney Swift	CHSW	*Chaetura pelagica*	Neotropical Migrant
Red-headed Woodpecker	RHWO	*Melanerpes erythrocephalus*	Temperate Migrant
Red-bellied Woodpecker	RBWO	*Melanerpes carolinus*	Resident
Downy Woodpecker	DOWO	*Picoides pubescens*	Resident
Hairy Woodpecker	HAWO	*Picoides villosus*	Resident
Yellow-shafted Flicker	YSFL	*Colaptes auratus*	Temperate Migrant
Northern Flicker	NOFL	*Colaptes auratus*	Temperate Migrant
Pileated Woodpecker	PIWO	*Dryocopus pileatus*	Resident
Eastern Wood-Pewee	EAWP	*Contopus virens*	Neotropical Migrant
Acadian Flycatcher	ACFL	*Empidonax virescens*	Neotropical Migrant
Eastern Phoebe	EAPH	*Sayornis phoebe*	Temperate Migrant
Great Crested Flycatcher	GCFL	*Myiarchus crinitus*	Neotropical Migrant
Eastern Kingbird	EAKI	*Tyrannus tyrannus*	Neotropical Migrant
White-eyed Vireo	WEVI	*Vireo griseus*	Neotropical Migrant
Red-eyed Vireo	REVI	*Vireo olivaceus*	Neotropical Migrant
Blue Jay	BLJA	*Cyanocitta cristata*	Temperate Migrant
American Crow	AMCR	*Corvus brachyrhynchos*	Resident
Fish Crow	FICR	*Corvus ossifragus*	Temperate Migrant
Tree Swallow	TRES	*Tachycineta bicolor*	Neotropical Migrant
Tree Swallow	TRES	*Tachycineta bicolor*	Neotropical Migrant
Northern Rough-winged Swallow	NRWS	*Stelgidopteryx serripennis*	Neotropical Migrant
Bank Swallow	BANS	*Riparia riparia*	Neotropical Migrant
Barn Swallow	BARS	*Hirundo rustica*	Neotropical Migrant
Carolina Chickadee	CACH	*Poecile carolinensis*	Resident
Eastern Tufted Titmouse	ETTI	*Baeolophus bicolor*	Resident
White-breasted Nuthatch	WBNU	*Sitta carolinensis*	Temperate Migrant
Carolina Wren	CARW	*Thryothorus ludovicianus*	Resident
House Wren	HOWR	*Troglodytes aedon*	Neotropical Migrant
Blue-gray Gnatcatcher	BGGN	*Polioptila caerulea*	Neotropical Migrant
Eastern Bluebird	EABL	*Sialia sialis*	Temperate Migrant
Wood Thrush	WOTH	*Hylocichla mustelina*	Neotropical Migrant
American Robin	AMRO	*Turdus migratorius*	Temperate Migrant
Gray Catbird	GRCA	*Dumetella carolinensis*	Neotropical Migrant
Northern Mockingbird	NOMO	*Mimus polyglottos*	Resident
Brown Thrasher	BRTH	*Toxostoma rufum*	Temperate Migrant

Appendix II cont... List of all birds detected during the 2004 and 2005 breeding bird surveys with common name, AOU code, scientific name, and migratory status.

Common name	AOU Code	Genus/Species	Migratory Status
European Starling	EUST	*Sturnus vulgaris*	Resident
Northern Parula	NOPA	*Parula americana*	Neotropical Migrant
Yellow-throated Warbler	YTWA	*Dendroica dominica*	Neotropical Migrant
Prairie Warbler	PRAW	*Dendroica discolor*	Neotropical Migrant
Worm-eating Warbler	WEWA	*Helmitheros vermivorum*	Neotropical Migrant
Ovenbird	OVEN	*Seiurus aurocapilla*	Neotropical Migrant
Louisiana Waterthrush	LOWA	*Seiurus motacilla*	Neotropical Migrant
Common Yellowthroat	COYE	*Geothlypis trichas*	Neotropical Migrant
Yellow-breasted Chat	YBCH	*Icteria virens*	Neotropical Migrant
Summer Tanager	SUTA	*Piranga rubra*	Neotropical Migrant
Scarlet Tanager	SCTA	*Piranga olivacea*	Neotropical Migrant
Eastern Towhee	EATO	*Pipilo erythrophthalmus*	Temperate Migrant
Chipping Sparrow	CHSP	*Spizella passerina*	Temperate Migrant
Field Sparrow	FISP	*Spizella pusilla*	Temperate Migrant
Northern Cardinal	NOCA	*Cardinalis cardinalis*	Resident
Blue Grosbeak	BLGR	*Passerina caerulea*	Neotropical Migrant
Indigo Bunting	INBU	*Passerina cyanea*	Neotropical Migrant
Red-winged Blackbird	RWBL	*Agelaius phoeniceus*	Temperate Migrant
Eastern Meadowlark	EAME	*Sturnella magna*	Temperate Migrant
Common Grackle	COGR	*Quiscalus quiscula*	Resident
Brown-headed Cowbird	BHCO	*Molothrus ater*	Resident
Orchard Oriole	OROR	*Icterus spurius*	Neotropical Migrant
Baltimore Oriole	BAOR	*Icterus galbula*	Neotropical Migrant
House Finch	HOFI	*Carpodacus mexicanus*	Resident
American Goldfinch	AMGO	*Carduelis tristis*	Temperate Migrant

Appendix III. Bird species detected within 50 meters of point center during the 2004 and 2005 breeding seasons by point and round (Round 1 was conducted on 1 June and 2 June 2005, Round 2 on 11 June 2004 and 12 June and 13 June 2005, Round 3 on 25 June 2004 and 30 June and 1 July 2005, and Round 4 was conducted on 7 July 2004 and 12 July and 13 July 2005). Round codes were standardized by dates for both years.

Common name	Point	Round 1	Round 2	Round 3	Round 4	Total
Wild Turkey	MEDO-WEST-4	0	0	0	2	2
WITU Totals		**0**	**0**	**0**	**2**	**2**
Red-shouldered Hawk	MEDO-EAST-13	1	0	0	0	1
Red-shouldered Hawk	MEDO-EAST-19	0	1	0	0	1
RSHA Totals		**1**	**1**	**0**	**0**	**2**
Mourning Dove	MEDO-WEST-13	0	1	0	0	1
Mourning Dove	MEDO-WEST-15	0	0	1	0	1
Mourning Dove	MEDO-WEST-6	0	0	1	0	1
MODO Totals		**0**	**1**	**2**	**0**	**3**
Yellow-billed Cuckoo	MEDO-EAST-17	0	1	0	0	1
Yellow-billed Cuckoo	MEDO-WEST-1	0	1	0	0	1
Yellow-billed Cuckoo	MEDO-WEST-5	0	0	1	1	2
YBCU Totals		**0**	**2**	**1**	**1**	**4**
Chimney Swift	MEDO-EAST-1	0	1	0	0	1
CHSW Totals		**0**	**1**	**0**	**0**	**1**
Red-bellied Woodpecker	MEDO-EAST-11	0	1	0	0	1
Red-bellied Woodpecker	MEDO-EAST-18	0	0	2	0	2
Red-bellied Woodpecker	MEDO-EAST-20	0	0	1	0	1
Red-bellied Woodpecker	MEDO-EAST-21	1	1	0	0	2
Red-bellied Woodpecker	MEDO-EAST-3	1	1	0	0	2
Red-bellied Woodpecker	MEDO-WEST-1	0	1	0	0	1
Red-bellied Woodpecker	MEDO-WEST-11	0	0	1	0	1
Red-bellied Woodpecker	MEDO-WEST-14	2	0	0	0	2
Red-bellied Woodpecker	MEDO-WEST-4	0	0	1	0	1
Red-bellied Woodpecker	MEDO-WEST-5	0	1	1	0	2
Red-bellied Woodpecker	MEDO-WEST-8	1	1	0	0	2
Red-bellied Woodpecker	MEDO-WEST-9	0	1	3	0	4
RBWO Totals		**5**	**7**	**9**	**0**	**21**
Downy Woodpecker	MEDO-EAST-18	0	0	0	1	1
Downy Woodpecker	MEDO-EAST-19	0	0	1	0	1
Downy Woodpecker	MEDO-EAST-2	0	1	0	0	1
Downy Woodpecker	MEDO-EAST-5	0	0	0	1	1
Downy Woodpecker	MEDO-WEST-1	0	0	1	1	2
Downy Woodpecker	MEDO-WEST-11	0	1	0	0	1
Downy Woodpecker	MEDO-WEST-12	0	1	0	2	3
Downy Woodpecker	MEDO-WEST-13	0	0	1	0	1
Downy Woodpecker	MEDO-WEST-9	0	0	1	0	1
DOWO Totals		**0**	**3**	**4**	**5**	**12**
Hairy Woodpecker	MEDO-EAST-16	0	1	0	0	1
Hairy Woodpecker	MEDO-EAST-19	0	0	1	0	1
Hairy Woodpecker	MEDO-EAST-5	0	1	0	0	1

Appendix III cont... Bird species detected within 50 meters of point center during the 2004 and 2005 breeding seasons by point and round (Round 1 was conducted on 1 June and 2 June 2005, Round 2 on 11 June 2004 and 12 June and 13 June 2005, Round 3 on 25 June 2004 and 30 June and 1 July 2005, and Round 4 was conducted on 7 July 2004 and 12 July and 13 July 2005). Round codes were standardized by dates for both years.

Common name	Point	Round 1	Round 2	Round 3	Round 4	Total
Hairy Woodpecker	MEDO-WEST-6	0	0	2	0	2
HAWO Totals		**0**	**2**	**3**	**0**	**5**
Northern Flicker	MEDO-EAST-10	0	0	1	0	1
Northern Flicker	MEDO-EAST-18	0	0	1	0	1
Northern Flicker	MEDO-EAST-6	0	1	0	0	1
Northern Flicker	MEDO-EAST-7	0	0	2	0	2
NOFL Totals		**0**	**2**	**4**	**0**	**6**
Pileated Woodpecker	MEDO-EAST-18	0	0	0	1	1
PIWO Totals		**0**	**0**	**0**	**1**	**1**
Eastern Wood-Pewee	MEDO-EAST-11	1	0	0	0	1
Eastern Wood-Pewee	MEDO-EAST-15	0	0	0	1	1
Eastern Wood-Pewee	MEDO-EAST-17	1	0	0	0	1
Eastern Wood-Pewee	MEDO-EAST-6	0	1	0	0	1
Eastern Wood-Pewee	MEDO-WEST-14	0	0	0	1	1
Eastern Wood-Pewee	MEDO-WEST-4	0	0	1	0	1
Eastern Wood-Pewee	MEDO-WEST-7	1	2	0	0	3
Eastern Wood-Pewee	MEDO-WEST-8	0	0	1	0	1
EAWP Totals		**3**	**3**	**2**	**2**	**10**
Acadian Flycatcher	MEDO-EAST-11	1	1	1	0	3
Acadian Flycatcher	MEDO-EAST-13	0	0	0	1	1
Acadian Flycatcher	MEDO-EAST-14	0	0	0	1	1
Acadian Flycatcher	MEDO-EAST-15	0	0	1	0	1
Acadian Flycatcher	MEDO-EAST-16	1	2	1	1	5
Acadian Flycatcher	MEDO-EAST-17	1	1	1	0	3
Acadian Flycatcher	MEDO-EAST-18	1	1	1	1	4
Acadian Flycatcher	MEDO-EAST-19	1	0	0	0	1
Acadian Flycatcher	MEDO-EAST-2	1	1	1	0	3
Acadian Flycatcher	MEDO-EAST-20	1	1	0	0	2
Acadian Flycatcher	MEDO-EAST-21	1	1	2	0	4
Acadian Flycatcher	MEDO-EAST-4	1	1	2	0	4
Acadian Flycatcher	MEDO-EAST-5	1	0	1	0	2
Acadian Flycatcher	MEDO-EAST-9	0	0	1	1	2
Acadian Flycatcher	MEDO-WEST-10	1	0	0	0	1
Acadian Flycatcher	MEDO-WEST-11	0	1	0	0	1
Acadian Flycatcher	MEDO-WEST-12	0	2	1	1	4
Acadian Flycatcher	MEDO-WEST-3	1	3	1	1	6
Acadian Flycatcher	MEDO-WEST-4	1	1	1	1	4
Acadian Flycatcher	MEDO-WEST-6	0	0	1	0	1
ACFL Totals		**13**	**16**	**16**	**8**	**53**
Eastern Phoebe	MEDO-WEST-9	0	0	1	0	1
EAPH Totals		**0**	**0**	**1**	**0**	**1**
Great Crested Flycatcher	MEDO-EAST-2	0	0	1	0	1

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Common name	Point	Round 1	Round 2	Round 3	Round 4	Total
Great Crested Flycatcher	MEDO-EAST-21	0	1	0	0	1
Great Crested Flycatcher	MEDO-EAST-5	1	0	0	0	1
Great Crested Flycatcher	MEDO-EAST-6	1	0	0	0	1
Great Crested Flycatcher	MEDO-EAST-7	1	0	0	0	1
Great Crested Flycatcher	MEDO-WEST-1	0	1	0	0	1
Great Crested Flycatcher	MEDO-WEST-15	1	1	1	0	3
Great Crested Flycatcher	MEDO-WEST-7	0	1	0	0	1
GCFL Totals		**4**	**4**	**2**	**0**	**10**
Eastern Kingbird	MEDO-EAST-12	2	0	0	0	2
Eastern Kingbird	MEDO-EAST-22	1	0	0	0	1
Eastern Kingbird	MEDO-WEST-15	0	0	1	0	1
EAKI Totals		**3**	**0**	**1**	**0**	**4**
White-eyed Vireo	MEDO-EAST-9	0	1	0	0	1
White-eyed Vireo	MEDO-WEST-10	1	0	1	0	2
White-eyed Vireo	MEDO-WEST-14	0	0	1	0	1
White-eyed Vireo	MEDO-WEST-6	0	0	0	1	1
White-eyed Vireo	MEDO-WEST-9	1	2	1	0	4
WEVI Totals		**2**	**3**	**3**	**1**	**9**
Red-eyed Vireo	MEDO-EAST-10	2	0	0	1	3
Red-eyed Vireo	MEDO-EAST-11	0	2	1	0	3
Red-eyed Vireo	MEDO-EAST-13	0	1	1	2	4
Red-eyed Vireo	MEDO-EAST-14	2	1	0	0	3
Red-eyed Vireo	MEDO-EAST-15	0	1	0	0	1
Red-eyed Vireo	MEDO-EAST-16	0	1	1	0	2
Red-eyed Vireo	MEDO-EAST-19	0	0	0	1	1
Red-eyed Vireo	MEDO-EAST-2	0	2	1	1	4
Red-eyed Vireo	MEDO-EAST-20	2	1	1	1	5
Red-eyed Vireo	MEDO-EAST-3	0	1	2	1	4
Red-eyed Vireo	MEDO-EAST-4	0	0	0	1	1
Red-eyed Vireo	MEDO-EAST-6	0	0	1	0	1
Red-eyed Vireo	MEDO-EAST-9	0	0	1	1	2
Red-eyed Vireo	MEDO-WEST-1	0	1	0	1	2
Red-eyed Vireo	MEDO-WEST-10	0	0	1	0	1
Red-eyed Vireo	MEDO-WEST-11	1	2	1	0	4
Red-eyed Vireo	MEDO-WEST-13	0	0	1	0	1
Red-eyed Vireo	MEDO-WEST-3	1	1	1	0	3
Red-eyed Vireo	MEDO-WEST-4	0	1	0	0	1
Red-eyed Vireo	MEDO-WEST-5	1	1	0	0	2
Red-eyed Vireo	MEDO-WEST-6	0	1	0	0	1
Red-eyed Vireo	MEDO-WEST-7	0	2	1	1	4
Red-eyed Vireo	MEDO-WEST-9	0	0	1	0	1
REVI Totals		**9**	**19**	**15**	**11**	**54**

Appendix III cont... Bird species detected within 50 meters of point center during the 2004 and 2005 breeding seasons by point and round (Round 1 was conducted on 1 June and 2 June 2005, Round 2 on 11 June 2004 and 12 June and 13 June 2005, Round 3 on 25 June 2004 and 30 June and 1 July 2005, and Round 4 was conducted on 7 July 2004 and 12 July and 13 July 2005). Round codes were standardized by dates for both years.

Common name	Point	Round 1	Round 2	Round 3	Round 4	Total
Blue Jay	MEDO-EAST-20	2	0	1	0	3
Blue Jay	MEDO-EAST-5	0	1	0	0	1
Blue Jay	MEDO-WEST-11	0	0	3	0	3
Blue Jay	MEDO-WEST-2	0	0	2	0	2
Blue Jay	MEDO-WEST-5	0	0	1	0	1
BLJA Totals		**2**	**1**	**7**	**0**	**10**
Tree Swallow	MEDO-EAST-7	0	0	2	0	2
Tree Swallow	MEDO-WEST-15	0	0	2	0	2
Tree Swallow	MEDO-WEST-7	0	0	0	1	1
Tree Swallow	MEDO-WEST-9	0	1	0	0	1
TRES Totals		**0**	**1**	**4**	**1**	**6**
Bank Swallow	MEDO-EAST-1	0	1	0	0	1
BANS Totals		**0**	**1**	**0**	**0**	**1**
Barn Swallow	MEDO-EAST-1	0	3	1	0	4
BARS Totals		**0**	**1**	**0**	**0**	**1**
Carolina Chickadee	MEDO-EAST-15	1	0	0	1	2
Carolina Chickadee	MEDO-EAST-18	0	0	1	0	1
Carolina Chickadee	MEDO-EAST-20	0	2	0	0	2
Carolina Chickadee	MEDO-EAST-21	1	0	0	0	1
Carolina Chickadee	MEDO-EAST-22	0	0	0	2	2
Carolina Chickadee	MEDO-EAST-4	1	2	0	0	3
Carolina Chickadee	MEDO-EAST-5	1	0	0	0	1
Carolina Chickadee	MEDO-EAST-9	0	0	2	0	2
Carolina Chickadee	MEDO-WEST-1	0	0	1	0	1
Carolina Chickadee	MEDO-WEST-10	0	0	1	0	1
Carolina Chickadee	MEDO-WEST-11	0	0	1	0	1
Carolina Chickadee	MEDO-WEST-12	1	0	0	0	1
Carolina Chickadee	MEDO-WEST-13	0	0	0	1	1
Carolina Chickadee	MEDO-WEST-5	0	2	0	0	2
Carolina Chickadee	MEDO-WEST-8	0	0	1	0	1
Carolina Chickadee	MEDO-WEST-9	0	0	1	2	3
CACH Totals		**5**	**6**	**8**	**6**	**25**
Eastern Tufted Titmouse	MEDO-EAST-19	0	2	0	1	3
Eastern Tufted Titmouse	MEDO-EAST-22	0	0	0	3	3
Eastern Tufted Titmouse	MEDO-EAST-6	0	0	1	0	1
Eastern Tufted Titmouse	MEDO-EAST-9	0	0	2	0	2
Eastern Tufted Titmouse	MEDO-WEST-1	0	1	2	0	3
Eastern Tufted Titmouse	MEDO-WEST-10	2	1	1	0	4
Eastern Tufted Titmouse	MEDO-WEST-12	0	0	2	0	2
Eastern Tufted Titmouse	MEDO-WEST-13	0	0	0	1	1
Eastern Tufted Titmouse	MEDO-WEST-4	0	1	0	0	1
Eastern Tufted Titmouse	MEDO-WEST-5	0	2	1	0	3

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Common name	Point	Round 1	Round 2	Round 3	Round 4	Total
Eastern Tufted Titmouse	MEDO-WEST-6	0	0	0	2	2
Eastern Tufted Titmouse	MEDO-WEST-9	0	0	1	0	1
ETTI Totals		**2**	**7**	**10**	**7**	**26**
White-breasted Nuthatch	MEDO-EAST-11	0	1	0	0	1
White-breasted Nuthatch	MEDO-EAST-15	0	2	0	0	2
White-breasted Nuthatch	MEDO-EAST-19	0	1	0	0	1
White-breasted Nuthatch	MEDO-EAST-2	0	0	0	1	1
White-breasted Nuthatch	MEDO-EAST-20	0	0	1	0	1
White-breasted Nuthatch	MEDO-EAST-4	1	0	0	0	1
White-breasted Nuthatch	MEDO-EAST-5	0	2	0	0	2
White-breasted Nuthatch	MEDO-WEST-12	1	0	0	1	2
White-breasted Nuthatch	MEDO-WEST-15	0	0	0	1	1
White-breasted Nuthatch	MEDO-WEST-8	0	0	1	0	1
White-breasted Nuthatch	MEDO-WEST-9	0	0	1	0	1
WBNU Totals		**2**	**6**	**3**	**3**	**14**
Carolina Wren	MEDO-EAST-1	1	0	0	0	1
Carolina Wren	MEDO-EAST-14	1	0	0	0	1
Carolina Wren	MEDO-EAST-15	0	2	0	0	2
Carolina Wren	MEDO-EAST-21	0	0	0	1	1
Carolina Wren	MEDO-EAST-22	1	1	0	1	3
Carolina Wren	MEDO-EAST-3	0	0	1	0	1
Carolina Wren	MEDO-EAST-9	2	0	0	0	2
Carolina Wren	MEDO-WEST-1	2	1	1	2	6
Carolina Wren	MEDO-WEST-12	0	0	3	1	4
Carolina Wren	MEDO-WEST-2	0	0	1	0	1
Carolina Wren	MEDO-WEST-4	0	0	1	0	1
Carolina Wren	MEDO-WEST-6	0	0	0	1	1
Carolina Wren	MEDO-WEST-7	0	0	2	0	2
Carolina Wren	MEDO-WEST-8	0	1	2	0	3
Carolina Wren	MEDO-WEST-9	0	2	1	0	3
CARW Totals		**7**	**7**	**12**	**6**	**32**
House Wren	MEDO-WEST-11	1	0	0	0	1
HOWR Totals		**1**	**0**	**0**	**0**	**1**
Blue-gray Gnatcatcher	MEDO-EAST-13	1	0	0	0	1
Blue-gray Gnatcatcher	MEDO-EAST-15	1	0	0	0	1
Blue-gray Gnatcatcher	MEDO-EAST-17	0	0	0	2	2
Blue-gray Gnatcatcher	MEDO-EAST-18	0	0	1	0	1
Blue-gray Gnatcatcher	MEDO-EAST-19	0	1	0	0	1
Blue-gray Gnatcatcher	MEDO-EAST-21	0	0	2	0	2
Blue-gray Gnatcatcher	MEDO-EAST-3	0	1	0	0	1
Blue-gray Gnatcatcher	MEDO-EAST-5	1	0	0	0	1
Blue-gray Gnatcatcher	MEDO-EAST-6	0	1	0	0	1

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Common name	Point	Round 1	Round 2	Round 3	Round 4	Total
Blue-gray Gnatcatcher	MEDO-WEST-1	1	0	1	0	2
Blue-gray Gnatcatcher	MEDO-WEST-10	1	1	0	3	5
Blue-gray Gnatcatcher	MEDO-WEST-11	1	2	0	0	3
Blue-gray Gnatcatcher	MEDO-WEST-12	0	0	0	2	2
Blue-gray Gnatcatcher	MEDO-WEST-14	0	1	0	0	1
Blue-gray Gnatcatcher	MEDO-WEST-15	0	1	0	0	1
Blue-gray Gnatcatcher	MEDO-WEST-2	0	0	0	1	1
Blue-gray Gnatcatcher	MEDO-WEST-4	0	0	1	1	2
Blue-gray Gnatcatcher	MEDO-WEST-5	0	1	0	0	1
Blue-gray Gnatcatcher	MEDO-WEST-7	0	1	1	0	2
Blue-gray Gnatcatcher	MEDO-WEST-8	0	1	0	1	2
Blue-gray Gnatcatcher	MEDO-WEST-9	0	1	0	1	2
BGGN Totals		**6**	**12**	**6**	**11**	**35**
Eastern Bluebird	MEDO-EAST-1	0	1	0	0	1
EABL Totals		**0**	**1**	**0**	**0**	**1**
Wood Thrush	MEDO-EAST-11	1	0	0	1	2
Wood Thrush	MEDO-EAST-13	1	0	0	1	2
Wood Thrush	MEDO-EAST-15	0	0	2	1	3
Wood Thrush	MEDO-EAST-16	0	1	0	0	1
Wood Thrush	MEDO-EAST-17	0	1	0	0	1
Wood Thrush	MEDO-EAST-18	1	0	1	1	3
Wood Thrush	MEDO-EAST-2	0	0	1	1	2
Wood Thrush	MEDO-EAST-20	0	0	0	2	2
Wood Thrush	MEDO-EAST-21	1	0	0	0	1
Wood Thrush	MEDO-EAST-3	1	2	0	1	4
Wood Thrush	MEDO-EAST-4	0	1	0	0	1
Wood Thrush	MEDO-EAST-9	0	0	0	1	1
Wood Thrush	MEDO-WEST-1	0	1	1	2	4
Wood Thrush	MEDO-WEST-10	0	1	0	0	1
Wood Thrush	MEDO-WEST-11	0	0	2	1	3
Wood Thrush	MEDO-WEST-12	2	0	0	0	2
Wood Thrush	MEDO-WEST-13	0	1	0	0	1
Wood Thrush	MEDO-WEST-2	0	1	1	0	2
Wood Thrush	MEDO-WEST-3	0	3	1	2	6
Wood Thrush	MEDO-WEST-4	1	0	1	1	3
Wood Thrush	MEDO-WEST-5	0	0	1	0	1
Wood Thrush	MEDO-WEST-6	0	0	1	0	1
Wood Thrush	MEDO-WEST-7	0	1	0	2	3
Wood Thrush	MEDO-WEST-8	0	2	1	0	3
Wood Thrush	MEDO-WEST-9	0	1	1	0	2
WOTH Totals		**8**	**16**	**14**	**17**	**55**
American Robin	MEDO-EAST-11	0	0	1	2	3

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Common name	Point	Round 1	Round 2	Round 3	Round 4	Total
American Robin	MEDO-EAST-12	0	0	1	0	1
American Robin	MEDO-EAST-13	0	2	1	1	4
American Robin	MEDO-EAST-20	1	0	0	1	2
American Robin	MEDO-EAST-21	2	0	2	1	5
American Robin	MEDO-WEST-1	0	0	1	0	1
American Robin	MEDO-WEST-15	0	0	0	3	3
American Robin	MEDO-WEST-2	0	0	0	3	3
American Robin	MEDO-WEST-3	0	0	0	1	1
AMRO Totals		**3**	**2**	**6**	**12**	**23**
Gray Catbird	MEDO-WEST-2	1	0	0	0	1
GRCA Totals		**1**	**0**	**0**	**0**	**1**
European Starling	MEDO-EAST-12	0	0	2	0	2
EUST Totals		**0**	**0**	**2**	**0**	**2**
Northern Parula	MEDO-EAST-13	2	0	1	0	3
Northern Parula	MEDO-WEST-1	0	1	0	0	1
Northern Parula	MEDO-WEST-10	0	0	0	1	1
Northern Parula	MEDO-WEST-11	0	2	1	0	3
Northern Parula	MEDO-WEST-12	2	2	0	0	4
NOPA Totals		**4**	**5**	**2**	**1**	**12**
Yellow-throated Warbler	MEDO-EAST-15	1	0	0	0	1
YTWA Totals		**1**	**0**	**0**	**0**	**1**
Prairie Warbler	MEDO-WEST-1	0	1	0	0	1
Prairie Warbler	MEDO-WEST-14	1	1	0	0	2
Prairie Warbler	MEDO-WEST-15	1	2	0	0	3
Prairie Warbler	MEDO-WEST-8	1	0	0	0	1
Prairie Warbler	MEDO-WEST-9	0	1	0	0	1
PRAW Totals		**3**	**5**	**0**	**0**	**8**
Worm-eating Warbler	MEDO-EAST-3	1	1	0	0	2
Worm-eating Warbler	MEDO-WEST-7	2	2	0	0	4
WEWA Totals		**3**	**3**	**0**	**0**	**6**
Ovenbird	MEDO-EAST-10	0	0	1	0	1
Ovenbird	MEDO-EAST-11	1	0	0	0	1
Ovenbird	MEDO-EAST-14	1	0	1	1	3
Ovenbird	MEDO-EAST-16	0	1	0	0	1
Ovenbird	MEDO-EAST-17	1	0	0	0	1
Ovenbird	MEDO-EAST-18	1	0	1	0	2
Ovenbird	MEDO-EAST-19	0	1	1	1	3
Ovenbird	MEDO-EAST-2	0	1	0	0	1
Ovenbird	MEDO-EAST-20	0	1	0	0	1
Ovenbird	MEDO-EAST-21	1	0	0	0	1
Ovenbird	MEDO-EAST-5	1	0	0	0	1
Ovenbird	MEDO-EAST-9	1	0	0	0	1

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Common name	Point	Round 1	Round 2	Round 3	Round 4	Total
Ovenbird	MEDO-WEST-10	0	1	1	0	2
Ovenbird	MEDO-WEST-11	1	1	0	0	2
Ovenbird	MEDO-WEST-3	1	2	0	0	3
Ovenbird	MEDO-WEST-4	2	0	1	0	3
Ovenbird	MEDO-WEST-5	0	0	1	0	1
Ovenbird	MEDO-WEST-6	0	2	2	0	4
Ovenbird	MEDO-WEST-7	0	1	0	0	1
OVEN Totals		**11**	**11**	**9**	**2**	**33**
Louisiana Waterthrush	MEDO-EAST-11	0	0	0	1	1
Louisiana Waterthrush	MEDO-EAST-13	0	1	0	0	1
Louisiana Waterthrush	MEDO-EAST-21	0	1	0	0	1
Louisiana Waterthrush	MEDO-WEST-10	1	1	0	0	2
LOWA Totals		**1**	**3**	**0**	**1**	**5**
Common Yellowthroat	MEDO-EAST-9	0	1	0	0	1
Common Yellowthroat	MEDO-WEST-1	1	0	0	0	1
Common Yellowthroat	MEDO-WEST-13	0	0	1	0	1
Common Yellowthroat	MEDO-WEST-15	0	1	1	0	2
Common Yellowthroat	MEDO-WEST-8	0	0	0	1	1
Common Yellowthroat	MEDO-WEST-9	1	0	1	2	4
COYE Totals		**2**	**2**	**3**	**3**	**10**
Yellow-breasted Chat	MEDO-WEST-14	0	0	1	0	1
Yellow-breasted Chat	MEDO-WEST-15	0	0	0	1	1
YBCH Totals		**0**	**0**	**1**	**1**	**2**
Summer Tanager	MEDO-EAST-15	1	0	0	0	1
Summer Tanager	MEDO-EAST-18	0	0	1	0	1
Summer Tanager	MEDO-EAST-19	0	1	0	0	1
Summer Tanager	MEDO-EAST-20	1	0	0	0	1
Summer Tanager	MEDO-EAST-9	0	1	0	0	1
Summer Tanager	MEDO-WEST-1	2	0	0	0	2
Summer Tanager	MEDO-WEST-10	2	1	0	0	3
Summer Tanager	MEDO-WEST-13	1	2	1	1	5
Summer Tanager	MEDO-WEST-14	0	0	0	1	1
Summer Tanager	MEDO-WEST-15	0	0	0	1	1
Summer Tanager	MEDO-WEST-2	1	1	0	0	2
Summer Tanager	MEDO-WEST-6	0	0	0	1	1
Summer Tanager	MEDO-WEST-8	2	0	0	1	3
Summer Tanager	MEDO-WEST-9	0	0	1	0	1
SUTA Totals		**10**	**6**	**3**	**5**	**24**
Scarlet Tanager	MEDO-EAST-16	0	1	0	1	2
Scarlet Tanager	MEDO-WEST-10	0	1	0	0	1
Scarlet Tanager	MEDO-WEST-12	1	0	0	0	1
Scarlet Tanager	MEDO-WEST-4	0	1	0	0	1

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Common name	Point	Round 1	Round 2	Round 3	Round 4	Total
Scarlet Tanager	MEDO-WEST-5	0	1	0	1	2
SCTA Totals		**1**	**4**	**0**	**2**	**7**
Eastern Towhee	MEDO-WEST-1	0	1	1	1	3
Eastern Towhee	MEDO-WEST-10	1	0	2	0	3
Eastern Towhee	MEDO-WEST-11	0	0	1	1	2
Eastern Towhee	MEDO-WEST-12	0	0	1	0	1
Eastern Towhee	MEDO-WEST-13	0	0	0	1	1
Eastern Towhee	MEDO-WEST-14	0	0	0	1	1
Eastern Towhee	MEDO-WEST-2	0	0	0	1	1
Eastern Towhee	MEDO-WEST-6	0	2	0	0	2
Eastern Towhee	MEDO-WEST-7	0	0	1	0	1
Eastern Towhee	MEDO-WEST-8	0	0	0	1	1
Eastern Towhee	MEDO-WEST-9	0	0	0	1	1
EATO Totals		**1**	**3**	**6**	**7**	**17**
Chipping Sparrow	MEDO-WEST-1	0	0	0	1	1
CHSP Totals		**0**	**0**	**0**	**1**	**1**
Field Sparrow	MEDO-WEST-15	1	3	0	0	4
FISP Totals		**1**	**3**	**0**	**0**	**4**
Northern Cardinal	MEDO-EAST-15	0	1	0	0	1
Northern Cardinal	MEDO-EAST-4	0	0	0	1	1
Northern Cardinal	MEDO-EAST-6	1	0	0	0	1
Northern Cardinal	MEDO-WEST-1	0	2	2	2	6
Northern Cardinal	MEDO-WEST-10	0	3	0	0	3
Northern Cardinal	MEDO-WEST-11	0	2	0	0	2
Northern Cardinal	MEDO-WEST-12	1	1	0	1	3
Northern Cardinal	MEDO-WEST-13	0	0	0	1	1
Northern Cardinal	MEDO-WEST-15	0	0	1	0	1
Northern Cardinal	MEDO-WEST-2	0	0	3	3	6
Northern Cardinal	MEDO-WEST-3	0	2	0	1	3
Northern Cardinal	MEDO-WEST-4	0	0	2	1	3
Northern Cardinal	MEDO-WEST-5	0	0	1	0	1
Northern Cardinal	MEDO-WEST-6	0	1	0	0	1
Northern Cardinal	MEDO-WEST-7	0	0	1	1	2
Northern Cardinal	MEDO-WEST-8	0	1	1	0	2
Northern Cardinal	MEDO-WEST-9	1	1	2	0	4
NOCA Totals		**3**	**14**	**13**	**11**	**41**
Blue Grosbeak	MEDO-EAST-22	0	1	1	0	2
Blue Grosbeak	MEDO-EAST-7	0	1	0	0	1
Blue Grosbeak	MEDO-WEST-14	2	2	0	3	7
Blue Grosbeak	MEDO-WEST-15	0	1	0	1	2
Blue Grosbeak	MEDO-WEST-8	0	1	1	1	3
BLGR Totals		**2**	**6**	**2**	**5**	**15**

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Common name	Point	Round 1	Round 2	Round 3	Round 4	Total
Indigo Bunting	MEDO-EAST-12	0	0	1	0	1
Indigo Bunting	MEDO-EAST-22	0	0	1	1	2
Indigo Bunting	MEDO-EAST-7	0	0	1	0	1
Indigo Bunting	MEDO-EAST-8	1	0	0	0	1
Indigo Bunting	MEDO-WEST-1	0	0	0	1	1
Indigo Bunting	MEDO-WEST-13	0	1	0	2	3
Indigo Bunting	MEDO-WEST-14	0	0	2	0	2
Indigo Bunting	MEDO-WEST-15	0	2	1	0	3
Indigo Bunting	MEDO-WEST-2	0	0	1	0	1
Indigo Bunting	MEDO-WEST-6	0	0	1	1	2
Indigo Bunting	MEDO-WEST-8	1	1	2	1	5
Indigo Bunting	MEDO-WEST-9	0	4	3	2	9
INBU Totals		**2**	**8**	**13**	**8**	**31**
Red-winged Blackbird	MEDO-EAST-7	2	1	0	3	6
Red-winged Blackbird	MEDO-EAST-8	2	4	5	2	13
RWBB Total		**4**	**5**	**5**	**5**	**19**
Common Grackle	MEDO-EAST-14	0	1	0	0	1
Common Grackle	MEDO-EAST-3	1	0	0	0	1
Common Grackle	MEDO-EAST-5	0	1	0	0	1
Common Grackle	MEDO-WEST-1	0	7	0	0	7
Common Grackle	MEDO-WEST-10	0	1	0	0	1
Common Grackle	MEDO-WEST-11	0	1	0	0	1
Common Grackle	MEDO-WEST-13	0	1	2	0	3
Common Grackle	MEDO-WEST-2	4	0	0	0	4
Common Grackle	MEDO-WEST-4	0	1	0	0	1
Common Grackle	MEDO-WEST-6	0	1	0	0	1
COGR Totals		**5**	**14**	**2**	**0**	**21**
Brown-headed Cowbird	MEDO-EAST-1	1	0	0	0	1
Brown-headed Cowbird	MEDO-EAST-11	0	0	2	0	2
Brown-headed Cowbird	MEDO-EAST-15	0	2	0	0	2
Brown-headed Cowbird	MEDO-EAST-16	0	1	1	0	2
Brown-headed Cowbird	MEDO-EAST-19	0	1	1	1	3
Brown-headed Cowbird	MEDO-EAST-2	0	0	0	1	1
Brown-headed Cowbird	MEDO-EAST-20	0	2	0	0	2
Brown-headed Cowbird	MEDO-EAST-21	0	0	4	0	4
Brown-headed Cowbird	MEDO-EAST-22	2	0	0	0	2
Brown-headed Cowbird	MEDO-EAST-3	2	0	0	0	2
Brown-headed Cowbird	MEDO-WEST-1	0	0	1	0	1
Brown-headed Cowbird	MEDO-WEST-13	0	0	0	2	2
Brown-headed Cowbird	MEDO-WEST-3	1	0	0	0	1
Brown-headed Cowbird	MEDO-WEST-4	0	2	0	0	2
Brown-headed Cowbird	MEDO-WEST-6	1	0	0	2	3

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Common name	Point	Round 1	Round 2	Round 3	Round 4	Total
Brown-headed Cowbird	MEDO-WEST-9	0	0	0	2	2
BHCO Totals		**7**	**8**	**9**	**8**	**32**
Orchard Oriole	MEDO-WEST-1	0	0	1	0	1
Orchard Oriole	MEDO-WEST-8	1	1	0	0	2
OROR Totals		**1**	**1**	**1**	**0**	**3**
Baltimore Oriole	MEDO-EAST-7	0	1	0	0	1
Baltimore Oriole	MEDO-EAST-9	0	1	0	0	1
BAOR Totals		**0**	**2**	**0**	**0**	**2**
American Goldfinch	MEDO-EAST-1	1	0	0	0	1
American Goldfinch	MEDO-EAST-12	3	0	0	0	3
American Goldfinch	MEDO-EAST-7	0	1	0	0	1
American Goldfinch	MEDO-WEST-1	0	0	1	0	1
AMGO Totals		**4**	**1**	**1**	**0**	**6**
All Species Totals		**143**	**231**	**208**	**154**	**736**