

SUMMARY REPORT PREPARED FOR MINAE
RESOLUTION No 032-2011-SINAC
SCIENTIFIC PASSPORT No. 04932

MIGRATION MONITORING 2011
LA SELVA BIOLOGICAL STATION, COSTA RICA

Introduction

A migration monitoring (MM) site on the La Selva Biological Station (LSBS) in Costa Rica was identified in 2010 by the Calgary Bird Banding Society (CBBS) and pilot MM was initiated in 2011. The long-term objective of this project is to monitor Neotropical migrant landbirds on their northward migration through Central America.

Study Site

The MM site is located in northeastern Costa Rica in the succession plots within LSBS. The succession plots offer early successional vegetation that is attractive as stopover habitat for migrants. There are five plots which are clear-cut on a five year rotation in February each year resulting in habitat from 0-1 to 4-5 years of age depending on the timing of investigations. Habitat stability is important in MM studies and change over time is not desirable. Although each plot varies in successional stage over the five year rotation, each year the overall successional plot area consistently offers a montage of habitat from 0 to 5 years of age. CBBS embraced this “dynamic stability” as satisfying our requirement for habitat stability.

Methods

Constant-effort mist-netting and collection of associated morphometric and other data (e.g. age, sex, wing chord, weight, fat reserves, capture net, time of capture) from each bird captured was carried out on each day, weather permitting. Twenty 12-m long x 30-mm mesh mist-nets were operated for approximately 6 hours each day beginning at sunrise (~ 530 to 1130). USFWS aluminum bands were applied to migrants while CBBS-purchased bands were applied to species resident in the area excluding hummingbirds. Hummingbirds were released at the mist-nets to minimize stress with only species and, when possible, age and/or sex recorded.

Schedule and Coverage

Mist-netting was conducted from 26 March – 24 April 2011. Mist-netting occurred on all days for a total of 3165 net-hours. Six days had reduced net-hours (<120), one due to rain and five (26-30 March) prior to getting the full complement of 20 mist-nets set up.

Captures

A total of 815 birds of 91 species were captured of which 410 (50%) were new bandings, 148 (18%) were recaptures and 256 (31%) were released or otherwise un-banded. Of the 667 non-recaptures 293 (44%) were residents, 247 (37%) were hummingbirds and 127 (19%) were Neotropical migrants. The new capture Neotropical migrants and numbers captured were:

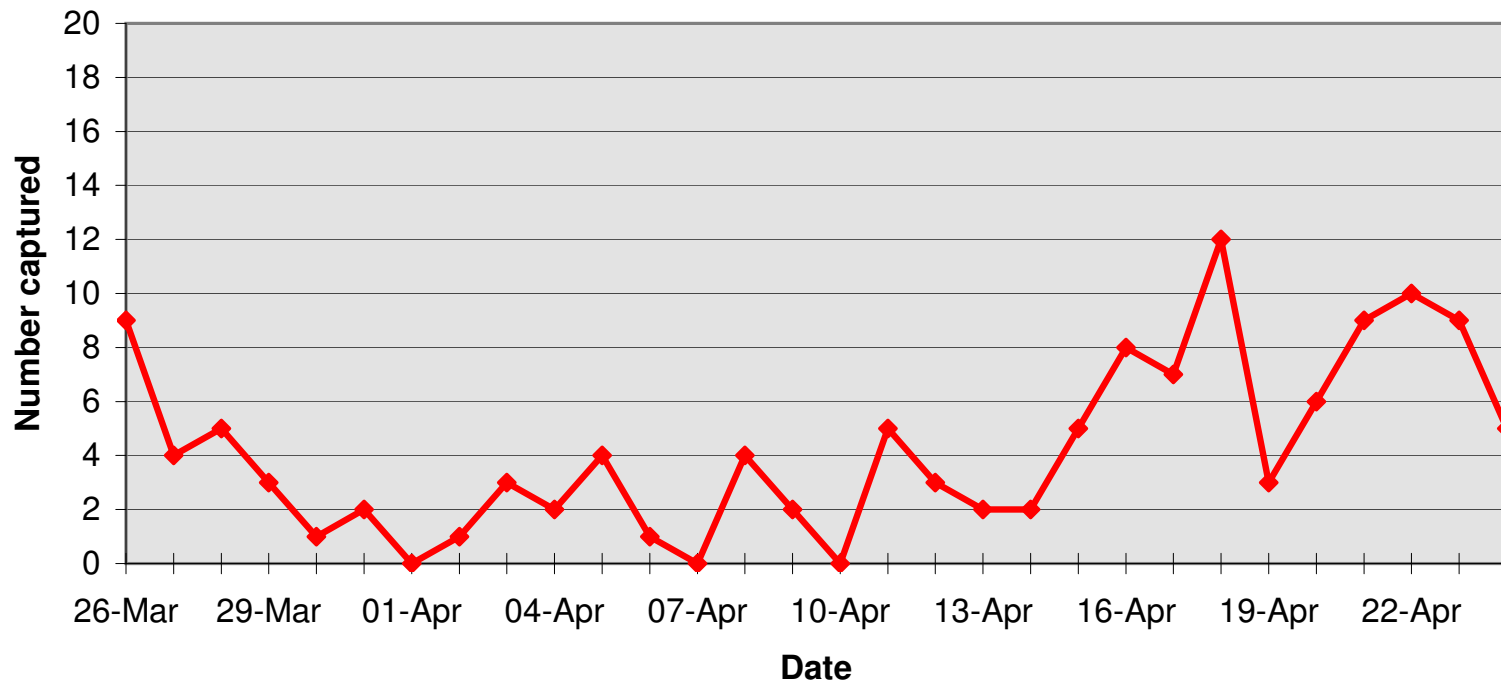
- Alder Flycatcher (1)
- Traill's Flycatcher (4)
- Willow Flycatcher (1)
- Philadelphia Vireo (1)
- Red-eyed Vireo (7)
- Yellow-green Vireo (4)
- House Wren (2)
- Gray Catbird (1)
- Swainson's Thrush (54)
- Wood Thrush (11)
- Golden-winged Warbler (1)
- Tennessee Warbler (3)
- Chestnut-sided Warbler (9)
- Ovenbird (4)
- Northern Waterthrush (2)
- Kentucky Warbler (4)
- Mourning Warbler (3)
- Canada Warbler (11)
- Yellow-breasted Chat (1)
- Summer Tanager (3)

Discussion

Although the diversity of Neotropical migrant new captures was relatively high the absolute numbers were low (only 3 species exceeded 10 - Swainson's Thrush, Canada Warbler and Wood Thrush). However many were captured late in the 30-day study period (73% during the last 17 days and 58% during the last 10 days) suggesting that the MM should be extended. With this in mind, the CBBS is considering a second year of pilot MM in 2012 with a study period from mid-April to mid-May.

Prepared by: Douglas McConnell Collister
Calgary Bird Banding Society

Figure X. Migrant Captures at LSBS - 2011



Appendix X. Captures at La Selva Biological Station 2011

	Total	26-Mar	27-Mar	28-Mar	29-Mar	30-Mar	31-Mar	01-Apr	02-Apr	03-Apr	04-Apr	05-Apr	06-Apr	07-Apr	08-Apr	09-Apr	10-Apr	11-Apr	12-Apr	13-Apr	14-Apr	15-Apr	16-Apr	17-Apr	18-Apr	19-Apr	20-Apr	21-Apr	22-Apr	23-Apr	24-Apr		
New Bandings																																	
Little Tinamou	1																1																
Double-toothed Kite																																	
Tiny Hawk																																	
White-throated Crake	1																1																
Gray-chested Dove	6				1		1				2							1		1													
Ruddy Quail-Dove	2															1											1						
Squirrel Cuckoo	2										1																	1					
Groove-billed Ani	4		1	1		1																								1			
Bronzy Hermit																																	
Band-tailed Barbthroat																																	
Long-billed Hermit	1			1																													
White-necked Jacobin																																	
Violet-crowned Woodnymph																																	
Blue-throated Goldentail																																	
Charming Hummingbird																																	
Rufous-tailed Hummingbird	3			3																													
Black-throated Trogon	2							1							1																		
Blue-crowned Motmot																																	
White-whiskered Puffbird	1												1																				
Rufous-tailed Jacamar	1						1																										
Olivaceous Piculet																																	
Buff-throated Foliage-gleaner																																	
Plain Xenops																																	
Scaly-throated Leaf-tosser																																	
Plain-brown Woodcreeper	2						1	1																									
Wedge-billed Woodcreeper	8					2	1		1		1												1					1	1				
Northern Barred Woodcreeper	1																			1													
Cocoa Woodcreeper	1																						1										
Black-striped Woodcreeper																																	
Fasciated Antshrike	1																																1
Barred Antshrike	1																				1												
Western Slaty-Antshrike	4						1										1										1		1				
Slaty Antwren																																	
Dot-winged Antwren																																	
Dusky Antbird	3	1						1																									
Chestnut-backed Antbird	2					1											1																
Ocellated Antbird	1																				1												
Black-faced Antthrush																																	
Yellow Tyrannulet	8	1							1				2												1	1	1	1					

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	Total	26-Mar	27-Mar	28-Mar	29-Mar	30-Mar	31-Mar	01-Apr	02-Apr	03-Apr	04-Apr	05-Apr	06-Apr	07-Apr	08-Apr	09-Apr	10-Apr	11-Apr	12-Apr	13-Apr	14-Apr	15-Apr	16-Apr	17-Apr	18-Apr	19-Apr	20-Apr	21-Apr	22-Apr	23-Apr	24-Apr
Olive-striped Flycatcher	2																													2	
Ochre-bellied Flycatcher	22	1	2	2		1			1	1					2		3	1	2				1		2		2		1		
Black-capped Pygmy-Tyrant	1																												1		
Northern Bentbill	2		1																					1							
Yellow-margined Flycatcher	1																				1										
Golden-crowned Spadebill																															
Royal Flycatcher	1														1																
Sulphur-rumped Flycatcher																															
Yellow-bellied Flycatcher																															
Alder Flycatcher	1																												1		
Trail's Flycatcher	4																						1						2	1	
Willow Flycatcher	1																										1				
Bright-rumped Attila	6					1	1	1				1										1	1								
Rufous Mourner	4						1	2										1													
Great Crested Flycatcher																															
Gray-capped Flycatcher	1																										1				
Cinnamon Becard	3		1	1									1																		
White-winged Becard	1		1																												
Thrush-like Schiffornis																															
White-collared Manakin	25	6	4	2		1		2			1		1		1		2	2			1				1				1		
Blue-crowned Manakin																															
Red-capped Manakin	2																	1									1				
Philadelphia Vireo	1																						1								
Red-eyed Vireo	7											1			1			1	1									2	1		
Yellow-green Vireo	4	1										1							1							1					
Tawny-crowned Greenlet																															
Lesser Greenlet	2			1																	1										
Black-throated Wren	1	1																													
Bay Wren	8						2			1	2								1			1				1					
Stripe-breasted Wren	1						1																								
House Wren	2																								1			1			
White-breasted Wood-Wren	2		1		1																										
Long-billed Gnatwren	2			1									1																		
Swainson's Thrush	54			1					1	2	1	1				2		4	1		1	3	4	5	9	1	1	5	5	4	3
Wood Thrush	11	3		2	3						1		1										1								
Clay-colored Thrush	5			1		2	1									1															
Gray Catbird	1																					1									
Golden-winged Warbler	1											1																			
Tennessee Warbler	3	1				1									1																
Chestnut-sided Warbler	9	1	3	1															1	1								2			

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	Total	26-Mar	27-Mar	28-Mar	29-Mar	30-Mar	31-Mar	01-Apr	02-Apr	03-Apr	04-Apr	05-Apr	06-Apr	07-Apr	08-Apr	09-Apr	10-Apr	11-Apr	12-Apr	13-Apr	14-Apr	15-Apr	16-Apr	17-Apr	18-Apr	19-Apr	20-Apr	21-Apr	22-Apr	23-Apr	24-Apr
Ovenbird	3	1					1																				1				
Northern Waterthrush	2						1																							1	
Kentucky Warbler	4	1		1						1					1																
Mourning Warbler	3																						1			1	1				
Olive-crowned Yellowthroat	3															1			1			1									
Canada Warbler	11																				1	1	2	1		2	1	1	1	1	
Yellow-breasted Chat	1		1																												
Bananaquit																															
Dusky-faced Tanager	3				1	1							1																		
White-shouldered Tanager																															
Red-throated Ant-Tanager	5				1			2											1							1					
Summer Tanager	3														1										1	1					
Crimson-collared Tanager	1																														
Passerini's Tanager	19	3	3	4	1	1	1	1	2					1														1		1	
Green Honeycreeper																															
Shining Honeycreeper																															
Red-legged Honeycreeper																															
Blue-black Grassquit	5														1						1		1	1					1		
Variable Seedeater	63	2	2	2	3	2	3	2	3		2		5		2	2	4	1		5	2	2	3	2	3			4	3	2	
Thick-billed Seed-Finch	21	4	1	1				1	2	1		2	1	1		1	1	1		2	1			1							
Orange-billed Sparrow	1																				1										
Black-striped Sparrow																															
Grayish Saltator	1							1																							
Buff-throated Saltator	4						1		1													1		1							
Black-headed Saltator	1																											1			
Blue-black Grosbeak	7				1			1				2						1	1			1									
Black-cowled Oriole	3																								1					2	
Scarlet-rumped Cacique	4												1							1	1	1									
Species	77	14	12	16	8	11	16	12	8	6	7	7	10	2	10	5	8	10	11	8	9	9	13	7	9	8	12	7	11	10	6
Total new bandings	415	27	21	25	12	14	19	16	12	7	10	9	15	2	12	7	11	17	13	9	13	12	17	14	19	10	14	12	19	18	9

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	Total	26-Mar	27-Mar	28-Mar	29-Mar	30-Mar	31-Mar	01-Apr	02-Apr	03-Apr	04-Apr	05-Apr	06-Apr	07-Apr	08-Apr	09-Apr	10-Apr	11-Apr	12-Apr	13-Apr	14-Apr	15-Apr	16-Apr	17-Apr	18-Apr	19-Apr	20-Apr	21-Apr	22-Apr	23-Apr	24-Apr
Other unbanded captures																															
Semiplumbeous Hawk	1						1																								
Gray-chested Dove																															
Bronzy Hermit	21		3		2	1	1								1		1	1				1		4	1			3		1	1
Band-tailed Barbthroat	24	3	5		2	2			1	2	2				1		1		1			1					2			1	
Long-billed Hermit	49	2	3		3		3	4	2	1		2		3	2		1	2	2	1	1	2	4	2		1	1	2	3	2	
Stripe-throated Hermit	22	4	1		3	1	1			1	1				3		1		1		2	1			1					1	
White-tipped Sicklebill	1						1																								
Scaly-chested Hummingbird	2						1																							1	
White-necked Jacobin	5							1																				2	2		
Violet-headed Hummingbird	3					1											1										1				
Violet-crowned Woodnymph	13	1	1			1	1				1		1				1		1				1	1		1	2				
Blue-throated Goldentail	1												1																		
Blue-chested Hummingbird	13	1						1			1	1			1								2	2			1	2	1		
Rufous-tailed Hummingbird	81	6	7		2	2	4	6	5	5	4		2	2	2	1	3	2	2	1	4	1	1	3	1	4	5	1	3	2	
Bronze-tailed Plumeleteer	8	1	1					2	3						1																
Wedge-billed Woodcreeper	1		1																												
Antwren spp																															
Ochre-bellied Flycatcher	1																								1						
Northern Bentbill																															
Orange-collared Manakin																															
Swainson's Thrush																															
Ovenbird	1	1																													
Northern Waterthrush																															
Passeini's Tanager	1	1																													
Variable Seedeater	4						1			1												1									1
Orange-billed Sparrow																															
Blue-black Grosbeak																															
Total unbanded other captures	252	20	22	0	12	8	14	14	11	10	9	3	4	5	11	1	8	6	7	2	8	6	8	13	3	9	7	11	9	8	3
Total new captures	667	47	43	25	24	22	33	30	23	17	19	12	19	7	23	8	19	23	20	11	21	18	25	27	22	19	21	23	28	26	12
Net hrs	3214	79.3	90.0	89.7	89.7	94.2	120.6	119.9	119.9	119.5	52.5	119.7	120.0	106.7	120.7	55.5	122.3	118.4	119.9	120.0	121.5	120.0	121.5	120.3	120.4	119.5	120.0	120.0	107.7	120.3	43.8
New captures/net-hour	0.21	0.59	0.48	0.28	0.27	0.23	0.27	0.25	0.19	0.14	0.36	0.10	0.16	0.07	0.19	0.14	0.16	0.19	0.17	0.09	0.17	0.15	0.21	0.22	0.18	0.16	0.18	0.19	0.26	0.22	0.27

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	Total	26-Mar	27-Mar	28-Mar	29-Mar	30-Mar	31-Mar	01-Apr	02-Apr	03-Apr	04-Apr	05-Apr	06-Apr	07-Apr	08-Apr	09-Apr	10-Apr	11-Apr	12-Apr	13-Apr	14-Apr	15-Apr	16-Apr	17-Apr	18-Apr	19-Apr	20-Apr	21-Apr	22-Apr	23-Apr	24-Apr
Recaptures																															
Gray-chested Dove	1																													1	
Squirrel Cuckoo	1																				1										
Bronzy Hermit																															
Long-billed Hermit																															
Charming Hummingbird																															
Black-throated Trogon																															
Blue-crowned Motmot																															
Rufous-tailed Jacamar	1										1																				
Olivaceous Piculet																															
Buff-throated Foliage-gleaner																															
Plain Xenops																															
Plain-brown Woodcreeper	1								1																						
Wedge-billed Woodcreeper	4												1						1												
Cocoa Woodcreeper																															
Black-striped Woodcreeper																															
Barred Antshrike																															
Western Slaty-Antshrike	1																														1
Slaty Antwren																															
Dot-winged Antwren																															
Chestnut-backed Antbird																															
Dusky Antbird	1			1																											
Bicolored Antbird																															
Black-faced Antthrush																															
Olive-striped Flycatcher	2																														2
Ochre-bellied Flycatcher	33		2	2		1	1	2		2		1	1	3	1	3	1	1	2		1		2	1		1	3	1		1	
Northern Bentbill	1																	1													
Trail's Flycatcher	1																														1
Yellow-margined Flycatcher	1																										1				
Golden-crowned Spadebill																															
Bright-rumped Attila	3											1													1			1			
Dusky-capped Flycatcher																															
White-collared Manakin	17		1	1	1				2	2				1				1	3	3								1			1
Blue-crowned Manakin																															
Red-capped Manakin																															
Tawny-crowned Greenlet																															
Black-throated Wren	10	1	3	1	1	1								1			1		1												
Bay Wren	5		1																1	1		1						1			
Stripe-breasted Wren	2													1															1		
White-breasted Wood-Wren	3															1			2												

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	Total	26-Mar	27-Mar	28-Mar	29-Mar	30-Mar	31-Mar	01-Apr	02-Apr	03-Apr	04-Apr	05-Apr	06-Apr	07-Apr	08-Apr	09-Apr	10-Apr	11-Apr	12-Apr	13-Apr	14-Apr	15-Apr	16-Apr	17-Apr	18-Apr	19-Apr	20-Apr	21-Apr	22-Apr	23-Apr	24-Apr	
Long-billed Gnatwren	1						1																									
Swainson's Thrush	4																						1					1		1		1
Wood Thrush	4												1						1													
Chestnut-sided Warbler	5		1	1		1					1					1																
Ovenbird	3		1	1								1																				
Northern Waterthrush	1																								1							
Kentucky Warbler	1																	1														
Mourning Warbler	2																										1	1				
Olive-crowned Yellowthroat	3																1								2							
Canada Warbler	1																											1				
Yellow-breasted Chat	2								1	1																						
Bananaquit																																
Gray-headed Tanager																																
White-throated Shrike-Tanager																																
White-shouldered Tanager																																
Red-throated Ant-Tanager	1																			1												
Passerini's Tanager	10	1	3	1		1							1	2															1			
Green Honeycreeper																																
Red-legged Honeycreeper																																
Variable Seedeater	8								2							2							2				2					
Thick-billed Seed-Finch	5		1										1			1									1		1					
Orange-billed Sparrow																																
Black-striped Sparrow																																
Buff-throated Saltator	2								1																							1
Blue-black Grosbeak	6					1							1						1	1											2	
Black-cowled Oriole	1																															1
	148																															
Total recaptures	148	2	14	7	3	4	2	2	7	6	1	2	7	8	1	8	4	5	12	4	2	1	7	4	4	5	8	5	2	4	7	
Total new captures + recaptures	815	49	57	32	27	26	35	32	30	23	20	14	26	15	24	16	23	28	32	15	23	19	32	31	26	24	29	28	30	30	19	
New captures																																
Migrants	127	9	4	5	3	1	2	0	1	3	2	4	1	0	4	2	0	5	3	2	2	5	8	7	12	3	6	9	10	9	5	
Residents	293	20	18	16	9	13	19	16	11	5	8	5	14	2	8	5	11	12	10	7	12	7	9	8	7	7	8	3	9	9	5	
Hummingbirds	247	18	21	4	12	8	12	14	11	9	9	3	4	5	11	1	8	6	7	2	7	6	8	12	3	9	7	11	9	8	2	
Swainson's Thrush	54	0	0	1	0	0	0	0	1	2	1	1	0	0	0	2	0	4	1	0	1	3	4	5	9	1	1	5	5	4	3	