SUMMARY REPORT PREPARED FOR MINAE
RESOLUTION No 061-2012-SINAC
SCIENTIFIC PASSPORT No. 05318

MIGRATION MONITORING 2012
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 and continued in 2012. The long-term objective of this project is to monitor Neotropical migrant land-birds 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 16 April – 5 May 2012. Mist-netting occurred on all days for a total of 3210 net-hours. A number of days had reduced net-hours (<120) prior to getting the full complement of 20 mist-nets set up and following that due to adverse weather primarily rain.

Captures

A total of 749 birds of 83 species were captured of which 611 (55%) were new bandings, 137 (18%) were recaptures and 204 (27%) were released or otherwise un-banded. Of the 614 non-recaptures 295 (48%) were residents, 183 (30%) were hummingbirds and 133 (22%) were Neotropical migrants. The new capture Neotropical migrants and numbers captured were:

- Acadian Flycatcher (2)
- Traill's Flycatcher (9)
- Alder Flycatcher (13)
- Willow Flycatcher (9)
- Red-eyed Vireo (16)
- Yellow-green Vireo (2)
- Swainson's Thrush (29)
- Veery (1)
- Gray-cheeked Thrush (4)
- Ovenbird (1)
- Northern Waterthrush (1)
- Mourning Warbler (8)
- Chestnut-sided Warbler (4)
- Canada Warbler (34)

Discussion

Although the diversity of Neotropical migrant new captures was relatively high the absolute numbers were low (only 4 species exceeded 10 – Traill's Flycatcher (includes Alder and Willow), Red-eyed Vireo, Swainson's Thrush, and Canada Warbler). Its is difficult for the Calgary Bird Banding Society to justify continuing this project in light of this results. However a final decision will not be made pending more detailed assessment by CBBS.

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Calgary Bird Banding Society

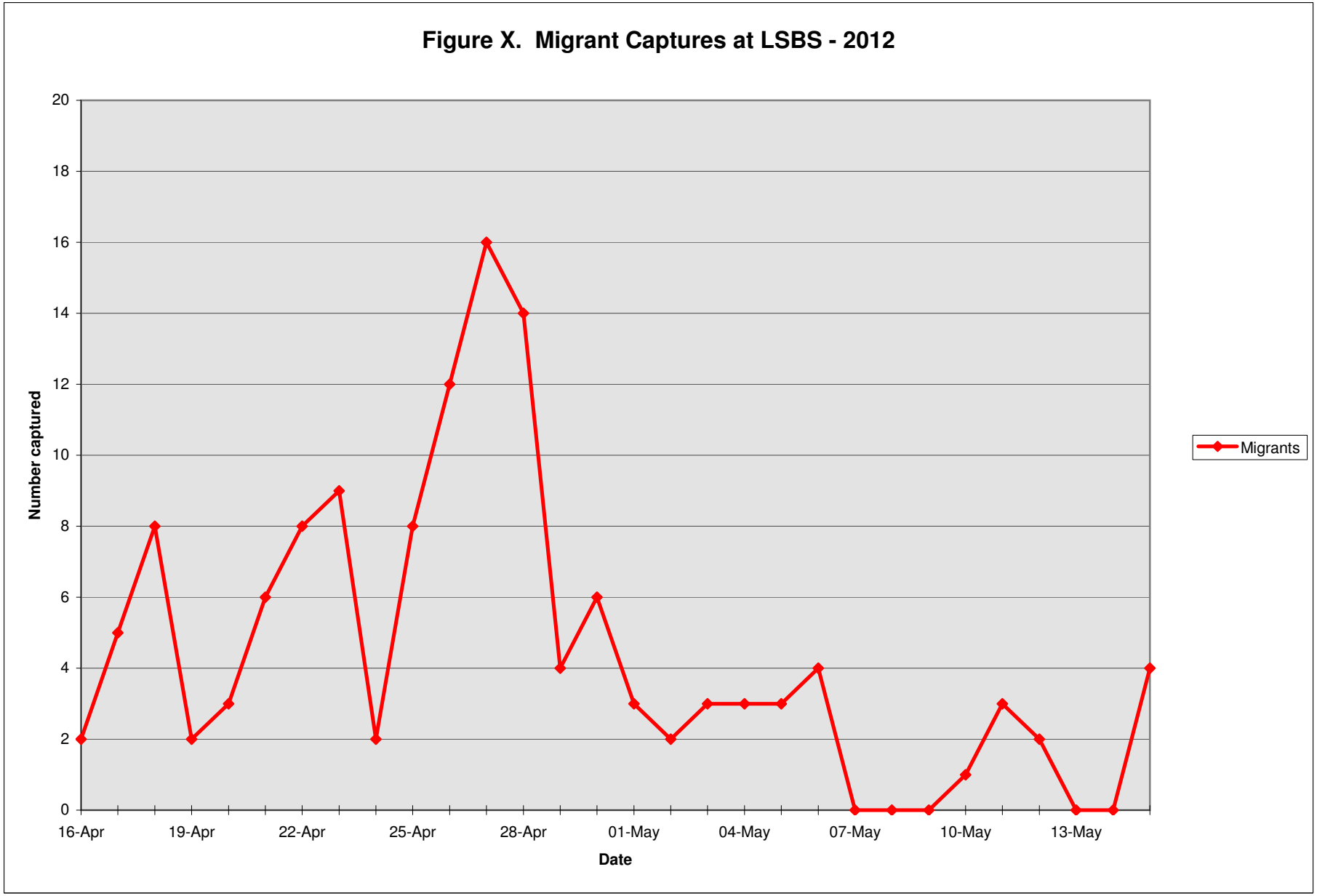
Figure X. Migrant Captures at LSBS - 2012
Number captured
20
18
16
14
12
10
8
6
4
2
0
16-Apr
19-Apr
22-Apr
25-Apr
28-Apr
01-May
04-May
07-May
10-May
13-May
Date
Migrants

New Captures at LSBS - 2012

	Total		16-Apr	17-Apr	18-Apr	19-Apr	20-Apr	21-Apr	22-Apr	23-Apr	24-Apr	25-Apr	26-Apr	27-Apr	28-Apr	29-Apr	30-Apr	01-May	02-May	03-May	04-May	05-May	06-May	07-May	08-May	09-May	10-May	11-May	12-May	13-May	14-May	15-May
New Bandings																																
Little Tinamou																																
Double-toothed Kite																																
Tiny Hawk																																
White-throated Crake																																
Blue Ground-Dove	2					1			1																							
Gray-chested Dove	2												1							1												
Ruddy Quail-Dove																																
Squirrel Cuckoo																																
Groove-billed Ani	1								1																							
Bronzy Hermit																																
Band-tailed Barbthroat																																
Long-billed Hermit																																
White-necked Jacobin																																
Violet-crowned Woodnymph																																
Blue-throated Goldentail																																
Charming Hummingbird																																
Rufous-tailed Hummingbird																																
Black-throated Trogon	1													1																		
Blue-crowned Motmot																																
Rufous Motmot	1																													1		
American Pygmy Kingfisher	2																	1				1										
White-whiskered Puffbird	3											1		1	1																	
Rufous-tailed Jacamar	1														1																	
Olivaceous Piculet																																
Buff-throated Foliage-gleaner																																
Plain Xenops																																
Scaly-throated Leaftosser																																
Plain-brown Woodcreeper	2															1							1									
Wedge-billed Woodcreeper	9		2		2	1		1					1			1																1
Northern Barred Woodcreeper	2							1								1																
Cocoa Woodcreeper	1													1																		
Black-striped Woodcreeper																																
Streak-headed Woodcreeper	1												1																			
Fasciated Antshrike																																
Barred Antshrike																																
Western Slaty-Antshrike	3			1					1															1								
Slaty Antwren																																
Checker-throated Antwren	1																	1														
Dot-winged Antwren																																
Dusky Antbird	2			1													1															
Bare-crowned Antbird	1																						1									
Chestnut-backed Antbird	1								1																							
Spotted Antbird	1																				1											

New Captures at LSBS - 2012

	Total		16-Apr	17-Apr	18-Apr	19-Apr	20-Apr	21-Apr	22-Apr	23-Apr	24-Apr	25-Apr	26-Apr	27-Apr	28-Apr	29-Apr	30-Apr	01-May	02-May	03-May	04-May	05-May	06-May	07-May	08-May	09-May	10-May	11-May	12-May	13-May	14-May	15-May
Ocellated Antbird																																
Black-faced Antthrush																																
Yellow Tyrannulet	3								1									1			1											
Ochre-bellied Flycatcher	20			1		1	1		1	1			1	3	1	1	1			1	1				1	2		2			1	
Black-capped Pygmy-Tyrant	1			1																												
Northern Bentbill																																
Yellow-margined Flycatcher																																
Golden-crowned Spadebill																																
Royal Flycatcher	1								1																							
Sulphur-rumped Flycatcher																																
Tropical Pewee	1											1																				
Yellow-bellied Flycatcher																		.														
Acadian Flycatcher	2																	1														1
Alder Flycatcher	13									2				2	1		3	1			2	1	1									
Willow Flycatcher	9															1			1		1						1	3				2
Traill's Flycatcher	9							1	1			1		1	3		2															
Bright-rumped Attila	2		1																						1							
Great Kiskadee	1												1																			
Social Flycatcher	2							1						1																		
Gray-capped Flycatcher																																
Rufous Mourner																																
Great Crested Flycatcher																																
Cinnamon Becard																																
White-winged Becard	1								1																							
Thrush-like Schiffornis																																
White-collared Manakin	30		3	3	2	2	1	4	2	2		1		1		1	3	1	1						1	1		1				
Blue-crowned Manakin																																
Red-capped Manakin	2																	1			1											
Philadelphia Vireo																																
Red-eyed Vireo	16							1	1	1			1		1	1		1	1	3		1	2						2			
Yellow-green Vireo	2												2																			
Tawny-crowned Greenlet																																
Lesser Greenlet																																
Black-throated Wren	4			1	1																			1				1				
Bay Wren	5						1						1			2		1														
Stripe-breasted Wren	1																												1			
House Wren	3							2															1									
White-breasted Wood-Wren	2							1	1																							
Long-billed Gnatwren	2					1																				1						
Swainson's Thrush	29			2	5		1	1	3	2	2	2	2	1	5	1	1															1
Veery	1														1																	
Gray-cheeked Thrush	4												3			1																
Wood Thrush																																
Clay-colored Thrush	1								1																							

New Captures at LSBS - 2012

	Total		16-Apr	17-Apr	18-Apr	19-Apr	20-Apr	21-Apr	22-Apr	23-Apr	24-Apr	25-Apr	26-Apr	27-Apr	28-Apr	29-Apr	30-Apr	01-May	02-May	03-May	04-May	05-May	06-May	07-May	08-May	09-May	10-May	11-May	12-May	13-May	14-May	15-May
Gray Catbird																																
Golden-winged Warbler																																
Tennessee Warbler																																
Chestnut-sided Warbler	4			1	1									2																		
Ovenbird	1								1																							
Northern Waterthrush	1							1																								
Kentucky Warbler																																
Mourning Warbler	8							1				1		5									1									
Olive-crowned Yellowthroat	6		1	1														1	1						1						1	
Canada Warbler	33		2	2	2	2	2	1	2	4		4	4	4	3							1										
Buff-rumped Warbler	2			1			1																									
Yellow-breasted Chat																																
Bananaquit	1																			1												
Dusky-faced Tanager	2																			1			1									
White-shouldered Tanager																																
Red-throated Ant-Tanager	1									1																						
Summer Tanager																																
Crimson-collared Tanager																																
Passerini's Tanager	18			3			3	2	1	1			1		1								1		2			1				2
Olive-backed Euphonia	4		1																					1			1	1				
Green Honeycreeper	3						2	1																								
Shining Honeycreeper																																
Red-legged Honeycreeper																																
Blue-black Grassquit	4				1	1																1			1							
Variable Seedeater	81		1	2	2	2	4	4	9			1	9		2	8	7	3	1	2	2	3	3	2	3	1	1	2	3	1	1	2
Thick-billed Seed-Finch	16		1	1	3	1		1	1					1	1	1		1			1	1						1			1	
Orange-billed Sparrow	8		2		1	1				1				1	1			1														
Black-striped Sparrow																																
Grayish Saltator																																
Buff-throated Saltator	5			2					1									2														
Black-headed Saltator	1																	1														
Blue-black Grosbeak	4					1							1							1						1						
Black-cowled Oriole																																
Scarlet-rumped Cacique	1																						1									
Species	67		9	15	10	11	9	16	20	9	1	8	14	14	13	12	7	15	5	7	8	7	10	4	7	5	3	8	3	2	4	6
Total new bandings	408		14	23	20	14	16	24	32	15	2	12	29	25	22	20	18	18	5	10	10	9	13	5	10	6	3	12	6	2	4	9
Other unbanded captures																																
Semiplumbeous Hawk																																
Blue Ground Dove	1																									1						
Gray-chested Dove																																
Bronzy Hermit	9				2							1									1	1	1		1		1		1			
Band-tailed Barbthroat	39		5	5	1	3	2			1			3	1	1			3	1	2	1	1		1	2		3			1		2
Long-billed Hermit	28				4	1							2	1	1	4		1	1	2				2	2	2	1	1	1			2

New Captures at LSBS - 2012

	Total		16-Apr	17-Apr	18-Apr	19-Apr	20-Apr	21-Apr	22-Apr	23-Apr	24-Apr	25-Apr	26-Apr	27-Apr	28-Apr	29-Apr	30-Apr	01-May	02-May	03-May	04-May	05-May	06-May	07-May	08-May	09-May	10-May	11-May	12-May	13-May	14-May	15-May
Stripe-throated Hermit	16		1	4		3	1	1					2	1				1													2	
White-tipped Sicklebill																																
Scaly-chested Hummingbird																																
White-necked Jacobin	5								1	1		1			2																	
Violet-headed Hummingbird																																
Violet-crowned Woodnymph	14		1			1							1	1		1		1	1					1	1	1	2	1				1
Blue-throated Goldentail																																
Blue-chested Hummingbird	7					1	1		2					1						1			1									
Rufous-tailed Hummingbird	62			1	1	3	2	1	5				3	4		5	7	2	1	4		2	2	1	4	5	2	1	1	1	2	2
Bronze-tailed Plumeleteer	2				1																	1										
Purple-crowned Fairy	2											1				1																
American Pygmy Kingfisher	1											1																				
White-whiskered Puffbird	2																						2									
Plain-brown Woodcreeper	2																						2									
Wedge-billed Woodcreeper	1																										1					
Antwren spp																																
Yellow Tyrannulet	1																															1
Northern Bentbill																																
White-collared Manakin																																
Orange-collared Manakin																																
Black-throated Wren																																
Swainson's Thrush																																
Ovenbird																																
Canada Warbler	1													1																		
Northern Waterthrush																																
Passeini's Tanager																																
Blue-black Grassquit	3															1	1		1													
Variable Seedeater	4								1				1	1				1														
Orange-billed Sparrow	1																						1									
Blue-black Grosbeak	3		3																													
Total unbanded other captures	204		10	10	9	12	6	2	9	2	0	4	12	11	4	12	8	9	5	9	2	5	9	5	10	9	10	3	3	2	4	8
Total new captures	612		24	33	29	26	22	26	41	17	2	16	41	36	26	32	26	27	10	19	12	14	22	10	20	15	13	15	9	4	8	17
Net hrs	3210		49.4	103.4	106.7	111.3	118.4	120.0	120.0	95.1	15.0	116.3	122.0	121.9	121.4	117.5	118.0	117.8	95.8	117.1	116.5	115.7	69.2	117.7	118.9	126.1	119.0	118.9	104.2	118.7	115.8	82.6
New captures/net-hour	0.19		0.49	0.32	0.27	0.23	0.19	0.22	0.34	0.18	0.13	0.14	0.34	0.30	0.21	0.27	0.22	0.23	0.10	0.16	0.10	0.12	0.32	0.08	0.17	0.12	0.11	0.13	0.09	0.03	0.07	0.21
Recaptures																																
Gray-chested Dove	1															1																
Squirrel Cuckoo																																
Bronzy Hermit																																
Band-tailed Barbthroat	1																										1					
Long-billed Hermit	10		1		1	1							1	2										3	1							
Stripe-throated Hermit	1					1																										

New Captures at LSBS - 2012

	Total		16-Apr	17-Apr	18-Apr	19-Apr	20-Apr	21-Apr	22-Apr	23-Apr	24-Apr	25-Apr	26-Apr	27-Apr	28-Apr	29-Apr	30-Apr	01-May	02-May	03-May	04-May	05-May	06-May	07-May	08-May	09-May	10-May	11-May	12-May	13-May	14-May	15-May
Charming Hummingbird																																
Rufous-tailed Hummingbird	1				1																											
Black-throated Trogon																																
Blue-crowned Motmot																																
American Pygmy Kingfisher	1																					1										
White-whiskered Puffbird	1																															1
Rufous-tailed Jacamar																																
Olivaceous Piculet																																
Buff-throated Foliage-gleaner																																
Plain Xenops																																
Plain-brown Woodcreeper	1																				1											
Wedge-billed Woodcreeper	8											1		1			1					1		1			1		1			1
Cocoa Woodcreeper																																
Black-striped Woodcreeper																																
Barred Antshrike																																
Western Slaty-Antshrike	3														1									2								
Slaty Antwren																																
Checker-throated Antwren	3																	3														
Dot-winged Antwren																																
Chestnut-backed Antbird																																
Dusky Antbird	4			1								1						1			1											
Bicolored Antbird																																
Black-faced Antthrush																																
Ochre-bellied Flycatcher	14		1	2								2	1		2		1				2					2					1	
Northern Bentbill																																
Yelloow-margined Flycatcher																																
Golden-crowned Spadebill																																
Royal Flycatcher	1								1																							
Traill's Flycatcher	1									1																						
Alder Flycatcher	5											1									3	1										
Willow Flycatcher	1																															1
Bright-rumped Attila	1						1																									
Dusky-capped Flycatcher																																
White-collared Manakin	20		1	3			3		1				1		1	1	2	1	2	1						1	1		1			
Blue-crowned Manakin																																
Red-capped Manakin																																
Tawny-crowned Greenlet																																
Black-throated Wren	7					1	1									1										2				1	1	
Bay Wren	6			1				1	1			1	1						1													
Stripe-breasted Wren	1																												1			
White-breasted Wood-Wren																																
Long-billed Gnatwren	1																			1												
Swainson's Thrush	1					1																										
Veery	1																	1														

New Captures at LSBS - 2012

	Total		16-Apr	17-Apr	18-Apr	19-Apr	20-Apr	21-Apr	22-Apr	23-Apr	24-Apr	25-Apr	26-Apr	27-Apr	28-Apr	29-Apr	30-Apr	01-May	02-May	03-May	04-May	05-May	06-May	07-May	08-May	09-May	10-May	11-May	12-May	13-May	14-May	15-May
Wood Thrush																																
Chestnut-sided Warbler																																
Ovenbird																																
Northern Waterthrush	1			1																												
Kentucky Warbler																																
Mourning Warbler	2													1	1																	
Olive-crowned Yellowthroat	3		1	1																1												
Canada Warbler	4			1				1							1	1																
Buff-rumped Warbler	1						1																									
Yellow-breasted Chat																																
Bananaquit																																
Gray-headed Tanager																																
White-throated Shrike-Tanager																																
White-shouldered Tanager																																
Red-throated Ant-Tanager																																
Passerini's Tanager	3			1			1	1																								
Green Honeycreeper																																
Red-legged Honeycreeper																																
Variable Seedeater	13		1						2				3		2					2	1	1			1							
Thick-billed Seed-Finch	4					1											1								1			1				
Orange-billed Sparrow	5			1	2											1														1		
Black-striped Sparrow																																
Buff-throated Saltator	3			1					1									1														
Blue-black Grosbeak	3		1	1			1																									
	137																															
Total recaptures	137		6	14	4	5	8	3	6	1	0	6	7	4	8	5	5	7	3	5	8	4	0	6	3	5	3	1	3	2	2	3
Total new captures + recaptures	749		30	47	33	31	30	29	47	18	2	22	48	40	34	37	31	34	13	24	20	18	22	16	23	20	16	16	12	6	10	20