DIGITAL APPENDIX 1

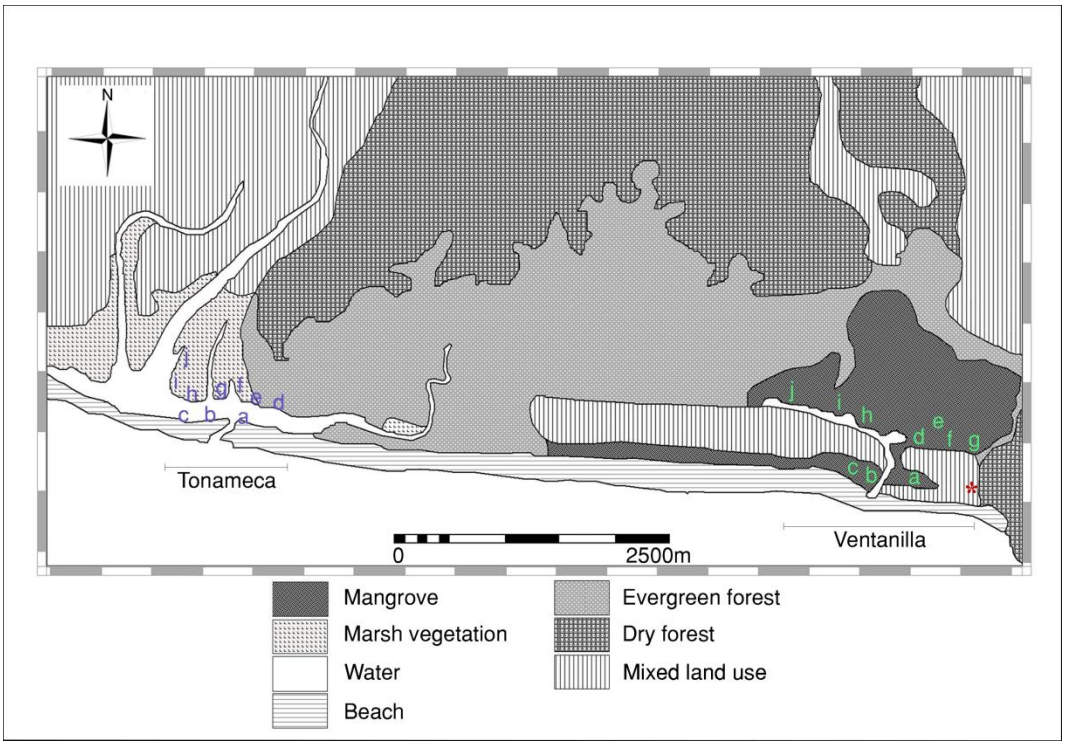

Fig. 1. A schematic map of point count sites and the main vegetation types of the study area (created using ILWIS, 2005). Mixed land use includes agricultural land, palm plantations, and regrowth. * = La Ventanilla village. Letter in green indicate point sites in mangrove (Ventanilla) and letters in blue are in the estuarine environment (Tonameca).

Table 1. Characteristics of the 20 sampling points shown in Fig. 1.

	Vegetation			Water	
Site	Composition [1]	Ht (m) [2]	% GF [3]	Hydrology [4]	% Area [5]
Ventanilla (mangrove)					
a	*L. racemosa* (79)	13	0	Precipitation	23
b	*L. racemosa* (92)	14	0	Precipitation	25
c	*L. racemosa* (89)	12	0	Precipitation	13
d	*R. mangle* (100)	12	0	Precipitation	48
e	*R. mangle* (100)	12	1	Precipitation	39
f	*R. mangle* (100)	12	0	Precipitation	49
g	*R. mangle* (96)	16	0	Precipitation	45
h	*R. mangle* (96)	12	0.1	Precipitation	43
i	*R. mangle* (93)	11	0.5	Precipitation	51
j	*R. mangle* (83)	9.5	1	Precipitation	41
Tonameca (estuary)					
a	Mon/Herb	<1	30	Tidal/Fluvial	50
b	Mon/Herb	<1	1	Tidal/Fluvial	50
c	Mon	<1	1	Tidal/Fluvial	50
d	Mon/Herb/Flo	<3	42.2	Tidal	50
e	Mon/Herb/Flo	<3	33.7	Tidal	50
f	Mon/Herb/ Flo	<3	60	Tidal	60
g	Mon/Herb/Flo	<3	50	Tidal	40
h	Mon/Herb/Flo	<3	50	Tidal	50
i	Mon/Herb/Flo	<3	50	Fluvial	50
j	Mon/Herb/Flo	<3	50	Fluvial	50

[1] For Ventanilla the dominant mangle species is given with its composition percentage in parenthesis (*Rhizophora mangle* is red mangle and *Laguncularia racemosa* is white mangle). Estimates were obtained with point-quarter methodology. For Tonameca, Mon = monocotyledons (includes *Typha domingensis* and *Hymenachne amplexicaulis*), Herb = herbaceous species (includes *Mimosa* sp.), and Flo = floating vegetation (includes *Eichhornia crassipes, Pistia stratiotes* and *Nymphaea ampla*).

[2] Ht = Vegetation height. At Ventanilla tree heights were visually estimated during point-quarter sampling. For Tonameca, vegetation height estimates were obtained with 10 quadrants of 1 m^2 per site.

[3] GF = Ground flora. Visual estimates of percent coverage were obtained with 10 quadrants of 1 m^2 at each site.

[4] Hydrology refers to factors influencing water level and flow. “Tidal” only applied when the ephemeral connection with the Pacific Ocean was open (June to November).

[5] Percentage area of open water was estimated within quarters of a 25 m radius around the center of the count site. Estimates of quarters were then averaged. In the mangrove “open water” was defined as areas of 25 m^2 with no emergent trunks or roots.

DIGITAL APPENDIX 2

Classification of bird species from a Mexican wetland in a hierarchical system of key-resource guilds (Kg) nested within trophic guilds (Tg). The following categories of trophic resources are classified as being of minor (Min), significant (Sig), and major (Maj) importance: (1) vegetative parts of terrestrial plants; (2) fruit; (3) nectar; (4) terrestrial seeds; (5) terrestrial, arboreal and aerial invertebrates; (6) soil and leaf-litter invertebrates; (7) herpetofauna; (8) birds and mammals; (9) plankton and aquatic plant matter; (10) aquatic invertebrates of the water column and surface; (11) aquatic infauna; (12) crabs; (13) aquatic vertebrates; and (14) carrion. Nomenclature follows the American Ornithologists' Union 2015 check-list of North American birds.

Species	Tg[1]	Kg[2]	Min	Sig	Maj	References
Ortalis poliocephala	t1	a	4	1,2		Eguiarte & Martínez del Rio, 1985; Moermond & Denslow, 1985
Patagioenas flavirostris	t1	a		4	2	Greenberg et al., 1997; Rappole et al., 1993; Wheelwright et al., 1984
Zenaida asiatica	t1	a		4	2	Pruitt et al., 2008; Rappole et al., 1983
Trogon citreolus	t1	a		5	2	Eguiarte & Martínez del Rio, 1985; Greenberg & Bichier, 2005; Remsen et al., 1993
Eupsittula canicularis	t1	a	1	2,3,4		Matuzac et al., 2008
Amazona albifrons	t1	a	1	2,3,4		Matuzac et al., 2008
Saltator coerulescens	t1	a	1,3,4	2,5		Eguiarte & Martínez del Rio, 1985; Herrera et al., 2006; Hutto, 1994; Moermond & Denslow, 1985; Wheelwright et al., 1984
Icterus spurius	t1	a		1,2,3, 5		Gryj et al., 1990; Rappole et al., 1983
Icterus pustulatus	t1	a		2,3,5		Eguiarte & Martínez del Rio, 1985; Gryj et al., 1990; Herrera et al., 2006; Hutto, 1994; Rappole et al., 1983
Cassiculus melanicterus	t1	a		2,3,5		Eguiarte & Martínez del Rio, 1985; Gryj et al., 1990; Herrera et al., 2006
Leptotila verreauxi	t1	a	5	2,4		Greenberg et al., 1997; Herrera et al., 2003, 2006; Wheelwright et al., 1984
Turdus rufopalliatus	t1	a	3,5,6	2		Gryj et al., 1990; Hutto, 1994
Icteria virens	t1	a	3	2,5		Gryj et al., 1990; Parrish, 1997; Rappole et al., 1983

Species	Tg[1]	Kg[2]	Min	Sig	Maj	References
Piranga rubra	t1	a	3	2,5		Coates-Estrada & Estrada, 1986; Gryj et al., 1990; Moermond & Denslow, 1985; Rappole et al., 1983; Wheelwright et al., 1984
Arremonops rufivirgatus	t1	b		2,4,5		Herrera et al., 2006; Howell & Webb, 1995
Cardinalis cardinalis	t1	b		2,4,5		Baldwin et al., 2008; McGraw et al., 2003; Poulin et al., 1994 (congener)
Columbina inca	t1	b	5		4	Herrera et al., 2006; Pérez & Bulla, 2000
Columbina talpacoti	t1	b	5		4	Herrera et al., 2006
Cyanocompsa parellina	t1	b	3	2,4		Coates-Estrada & Estrada, 1986; Gryj et al., 1990; Hutto, 1994
Sporophila minuta	t1	b			4	Poulin et al., 1994 (congener)
Sporophila torqueola	t1	b			4	Poulin et al., 1994 (congener)
Empidonax difficilis	t2	c		2,5		Parrish, 1997 (congener); Rappole et al., 1983
Empidonax minimus	t2	c		2,5		Parrish, 1997; Rappole et al., 1983
Empidonax traillii	t2	c		2,5		Eckhardt, 1979; Parrish, 1997; Rappole et al., 1983
Megarynchus pitangua	t2	c		2,5		Greenberg & Bichier, 2005; Wheelwright et al., 1984
Myiarchus cinerascens	t2	c		2,5		Hutto, 1994; Rappole et al., 1983
Myiarchus tyrannulus	t2	c		2,5		Herrera et al., 2006; Moermond & Denslow, 1985; Poulin et al., 1994; Rappole et al., 1983
Myiozetetes similis	t2	c		2,5		Eguiarte & Martínez del Rio, 1985; Herrera et al., 2006; Wheelwright et al., 1984
Vireo flavoviridis	t2	c		2,5		Morton, 1977
Vireo gilvus	t2	c		2,5		Parrish, 1993; Rappole et al., 1983; Root, 1967
Heliomaster constantii	t2	d		3,5		Arizmendi & Ornelas, 1990; Gryj et al., 1990; Remsen et al., 1986
Amazilia rutila	t2	d		3,5		Arizmendi & Ornelas, 1990; Gryj et al., 1990; Remsen et al., 1986

Species	Tg[1]	Kg[2]	Min	Sig	Maj	References
Archilochus colubris	t2	d		3,5		Arizmendi & Ornelas, 1980; Courter et al., 2013; Rappole et al., 1983
Agelaius phoeniceus	t2	e	2	4	5	Best, 2001; Krauss & Yasukawa, 2013; Rappole et al., 1983;
Attila spadiceus	t2	e	2	7	5	Herrera et al., 2003; Poulin et al., 1999; 2001; Sherry & McDade, 1982;
Camptostoma imberbe	t2	e		2	5	Fitzpatrick, 1980; Hutto, 1994; Rappole et al., 1983
Campylorhynchus rufinucha	t2	e			5	Greenberg & Bichier, 2005
Cardellina pusilla	t2	e	3	2	5	Greenberg & Bichier, 2005; Gryj et al., 1990; Hutto, 1981; Parrish, 1997; Rappole et al., 1983
Catharus ustulatus	t2	e		2,5,6		Coates-Estrada & Estrada, 1986; Moermond & Denslow, 1985; Parrish, 1997; Rappole et al., 1983; Wheelwright et al., 1984
Contopus sordidulus	t2	e	2		5	Eckhardt, 1979; Rappole et al., 1983
Crotophaga sulcirostris	t2	e	2,7		5	Greenberg & Bichier, 2005; Vehrencamp, 1978; Wheelwright et al., 1984; Wunderle, 1981
Geothlypis tolmiei	t2	e	3		5	Hutto, 1981; Parrish, 1997; Rappole et al., 1983
Geothlypis trichas	t2	e		2	5	Hutto, 1981; Parrish, 1997; Rappole et al., 1983
Icterus gularis	t2	e	3	2	5	Pleasants, 1981
Icterus pectoralis	t2	e	3	2	5	Pleasants, 1981 (congener); Wunderle, 1978
Mniotilta varia	t2	e	2,3		5	Greenberg & Bichier, 2005; Gryj et al., 1990; Parrish, 1997; Rappole et al., 1983
Morococcyx erythropygus	t2	e	6,7		5	Fleming & Hooker, 1975; Skutch, 1966
Pachyramphus aglaiae	t2	e	2	5		Greenberg et al., 1997; Hutto 1994
Passerculus sandwichensis	t2	e		4,5,6		Rappole et al., 1983
Pheugopedius felix	t2	e	2		5	Greenberg & Bichier, 2005; Herrera et al., 2006 (congener); pers. obs.

Species	Tg[1]	Kg[2]	Min	Sig	Maj	References
Polioptila albiloris	t2	e			5	Greenberg & Bichier, 2005; Root, 1967
Setophaga americana	t2	e	3	2	5	Parrish, 1997; Rappole et al., 1983
Setophaga petechia	t2	e	2		5	Greenberg et al., 1997; Parrish, 1997; Rappole et al., 1983
Setophaga ruticilla	t2	e	2		5	Parrish, 1997; Poulin et al., 1994; Rappole et al., 1983
Thryophilus pleurostictus	t2	e	2,6		5	Herrera et al., 2006; Hutto, 1994
Vireo bellii	t2	e		2	5	Coates-Estrada & Estrada, 1986; Rappole et al., 1983
Vireo hypochryseus	t2	e	3	2	5	Gryj et al., 1990; Hutto, 1994; Parrish, 1997; Rappole et al., 1983; Wheelwright et al., 1984
Campephilus guatemalensis	t2	f			5	Askins, 1983; Greenberg et al., 1997; Hutto, 1994
Dryocopus lineatus	t2	f			5	Askins, 1983; Greenberg et al., 1997
Melanerpes chrysogenys	t2	f	3	2	5	Eguiarte & Martínez del Rio, 1985; Gryj et al., 1990; Hutto, 1994
Hirundo rustica	t2	g	2		5	Rappole et al., 1983
Petrochelidon pyrrhonota	t2	g	2		5	Rappole et al., 1983
Progne chalybea	t2	g			5	Howell & Webb, 1995
Stelgidopteryx serripennis	t2	g			5	Howell & Webb, 1995
Streptoprocne zonaris	t2	g			5	Rowley & Orr, 1965
Tachycineta albilinea	t2	g			5	Moore et al., 1999
Tyrannus crassirostris	t2	g	2	5		Hutto, 1994; Rappole et al., 1983
Tyrannus melancholicus	t2	g		2	5	Fitzpatrick, 1980; Moermond & Denslow, 1985; Rappole et al., 1983; Wheelwright et al., 1984
Nyctidromus albicollis	t2	g			5	Howell & Webb, 1995
Parkesia noveboracensis	t2	I	2,4,5, 13	10	6	Parrish, 1997; Poulin et al., 1994; Rappole et al., 1983

Species	Tg[1]	Kg[2]	Min	Sig	Maj	References
Pitangus sulphuratus	t2	II	7,12, 13	2,5		Eguiarte & Martínez del Rio, 1985; Fitzpatrick, 1980; Herrera et al., 2006; Iribarne & Martinez, 1999; Rappole et al., 1983
Quiscalus mexicanus	t2	II	2,7, 12,14	6	4,5	Wehtje, 2003; Teather & Weatherhead 1988; pers. obs.
Rupornis magnirostris	t3	h	5	7	8	Baldarón et al., 2011; Panasci & Whitacre, 2000
Buteo plagiatus	t3	h	5	7	8	pers. obs
Buteogallus anthracinus	t3	h		5,7,8, 12		Rappole et al., 1983
Circus cyaneus	t3	h	5,7		8	García & Arroyo, 2005; Rappole et al., 1983
Falco peregrinus	t3	h	5		8	Castellanos et al., 2006; Ellis et al., 2004
Geranospiza caerulescens	t3	h		7	8	Sutter et al., 2001
Calocitta formosa	t3	i		2,5,7, 8		Berg, 2004
Glaucidium brasilianum	t3	i		5,7,8		Poulin et al., 1994; pers. obs
Piaya cayana	t3	i	2,8	5,7		Greenberg et al., 1997; Greenberg & Birchier, 2005; Komar & Thurber, 2003; Skutch, 1966
Anas clypeata	a1	j	4,13	9,10		Bellrose, 1980; Rappole et al., 1983; Tietje & Teer, 1996
Anas discors	a1	j		4,9,10		Bellrose, 1980; Botrero & Rusch, 1994; Rappole et al., 1983
Aythya americana	a1	j	4,5, 10,13		9	Adair et al., 1996; Bellrose, 1980; Mitchell et al., 1994; Rappole et al., 1983
Dendrocygna bicolor	a1	j		4,9,10		Carroll, 1932; Rappole et al., 1983; Rylander & Bolen, 1974
Gallinula galeata	a1	j		5,9,10		Rappole et al., 1983
Porphyrio martinicus	a1	j		9,10		Rappole et al., 1983; Stephens, 1984
Actitis macularius	a2	k	13	5	10	Placyk & Harrington, 2004; Rappole et al., 1983
Arenaria interpres	a2	k	12	5,10, 11		Rappole et al., 1983; Whitfield, 1990
Calidris alba	a2	k	9,12, 13	5,10, 11		Petracci, 2002; Rappole et al., 1983; Vanermen et al., 2009

Species	Tg[1]	Kg[2]	Min	Sig	Maj	References
Calidris mauri	a2	k		5,10, 11		Paulson, 2005; Rappole et al., 1983
Calidris melanotos	a2	k	9	5,10, 11		Brooks, 1967; Holden & Cleeves, 2002; Rappole et al., 1983
Calidris minutilla	a2	k		5,10, 11		Baker & Baker, 1973; Brooks, 1967; Paulson, 2005; Rappole et al., 1983
Charadrius collaris	a2	k	12	5,10		Howell & Webb, 1995; Iribarne & Martinez, 1999
Charadrius nivosus	a2	k	11	5,10		Paulson, 2005; Rappole et al., 1983
Charadrius semipalmatus	a2	k	11	5,10, 12		Baker & Baker, 1973; Rappole et al., 1983; Smith & Nol, 2000
Charadrius wilsonia	a2	k	11	5,10, 12		Iribarne & Martinez, 1999; Paulson, 2005; Rappole et al., 1983
Pluvialis squatarola	a2	k	12	5,10		Iribarne & Martinez, 1999; Rappole et al., 1983
Himantopus mexicanus	a2	l		5,13	10	Rappole et al., 1983; Ueng et al., 2009 (congener)
Phalaropus tricolor	a2	l		5,9	10	Paulson, 2005; Rappole et al., 1983
Recurvirostra americana	a2	l	5,9,13	10,11		Boettcher et al., 1995; Rappole et al., 1983
Tringa flavipes	a2	l	13	5,11	10	Baker & Baker, 1973; Brooks, 1967; Paulson, 2005; Rappole et al., 1983; Weber & Haig, 1997
Tringa melanoleuca	a2	l	11	5,13	10	Brooks, 1967; Paulson, 2005; Rappole et al., 1983
Tringa semipalmata	a2	l	11,12, 13	5,10		Castillo-Guerrero et al., 2009; Paulson, 2005; Rappole et al., 1983
Limnodromus griseus	a2	m		10	11	Baker & Baker, 1973; Rappole et al., 1983; Weber & Haig, 1997
Limosa fedoa	a2	m	5,10, 12		11	Castillo-Guerrero et al., 2009; Rappole et al., 1983
Numenius phaeopus	a2	m	5,10, 12		11	Rappole et al., 1983; Velásquez & Navarro, 1993
Plegadis chihi	a2	I	7,13	5,11	10	Rappole et al., 1983; Safran et al., 2000; Soave et al., 2006
Jacana spinosa	a2	I	5,9,13		10	Howell & Webb, 1995; Jenni & Collier, 1972
Eudocimus albus	a2.5	n	5,7	10,12, 13		Kushlan, 1979; Rappole et al., 1983
Ixobrychus exilis	a2.5	n	7	5,10, 13		Rappole et al., 1983

Species	Tg[1]	Kg[2]	Min	Sig	Maj	References
Platalea ajaja	a2.5	n	9	10,13		Rappole et al., 1983; Swennen & Yu, 2005 (congener)
Podilymbus podiceps	a2.5	n	9	5,10, 13		Rappole et al., 1983
Tachybaptus dominicus	a2.5	n		5,10, 13		Howell & Webb, 1995
Egretta caerulea	a2.5	o	5,7	10,13	12	Miranda & Collazo, 1997; Olmos et al., 2001; Rappole et al., 1983; Wunderle, 1981
Nyctanassa violacea	a2.5	o	5,7, 10,13		12	Martínez, 2004; Rappole et al., 1983
Chlidonias niger	a2.5	III		5,10, 13		Beintema et al., 2010; Rappole et al., 1983
Ardea alba	a3	p	5,7,12	10	13	Miranda & Collazo, 1997; Ramo & Busto, 1993; Rappole et al., 1983
Ardea herodias	a3	p	5,7,8, 9,10		13	Ramo & Busto, 1993; Rappole et al., 1983
Butorides virescens	a3	p	5	10	13	Helm, 2012; Rappole et al., 1983
Cochlearius cochlearius	a3	p		10	13	Kushlan, 2009; Ramo & Busto, 1993
Egretta rufescens	a3	p	10		13	Ramo & Busto, 1993; Rappole et al., 1983
Egretta thula	a3	p	5,7	10	13	Miranda & Collazo, 1997; Ramo & Busto, 1993; Rappole et al., 1983
Egretta tricolor	a3	p	5,10		13	Miranda & Collazo, 1997; Ramo & Busto, 1993; Rappole et al., 1983
Mycteria americana	a3	p	5,7,9, 10		13	Ogden et al., 1976; Rappole et al., 1983
Nycticorax nycticorax	a3	p	5,7,9, 10	8	13	Hall & Kress, 2008; Rappole et al., 1983
Phalacrocorax brasilianus	a3	q	9,10		13	Casaux et al., 2009; Rappole et al., 1983
Anhinga anhinga	a3	q	9,10		13	Owre, 1967; Rappole et al., 1983
Hydroprogne caspia	a3	q	10		13	Collis et al., 2012; Rappole et al., 1983; Thompson et al., 2002
Megaceryle alcyon	a3	q	10		13	Rappole et al., 1983; Sullivan et al., 2006
Megaceryle torquata	a3	q	10		13	Green et al., 1978; Rappole et al., 1983; Willard, 1985
Pandion haliaetus	a3	q	5,7		13	Green et al., 1978; Rappole et al., 1983
Pelecanus occidentalis	a3	q	10		13	Rappole et al., 1983; Visser et al., 2005

Species	Tg[1]	Kg[2]	Min	Sig	Maj	References
Rynchops niger	a3	q		10	13	Naves & Vooren, 2006; Rappole et al., 1983
Sternula antillarum	a3	q			13	Atwood & Kelly, 1984; Elliott et al., 2007; Zuria & Mellink, 2005
Chloroceryle amazona	a3	q	10		13	Willard, 1985
Chloroceryle americana	a3	q	10		13	Fry et al., 1992; Willard, 1985
Thalasseus elegans	a3	III	10		13	Dahdul & Horn, 2003; Rappole et al., 1983
Thalasseus maximus	a3	III	10,12		13	Aygen & Emslie, 2006; Rappole et al., 1983
Fulica americana	Ex1	n/a	4,5, 10,13		9	Rappole et al., 1983; Villamagna et al., 2010
Dendrocygna autumnalis	Ex2	n/a	1,5,10		4	Bellrose, 1980; Kramer & Euliss, 1986
Fregata magnificens	Ex2	n/a	10		13	Calixto-Albarrán & Osorno, 2000
Bubulcus ibis	Ex2	n/a	7	5		Rappole et al., 1983; Wunderle, 1981
Cathartes aura	Ex3	n/a	5		14	Rappole et al., 1983
Coragyps atratus	Ex3	n/a	5		14	Rappole et al., 1983
Leucophaeus atricilla	Ex4	n/a	12	5,10, 13,14		Bernhardt et al., 2010; Dosch, 1997; Howell & Dunn, 2007; Rappole et al., 1983
Leucophaeus pipixcan	Ex4	n/a		5,10, 13,14		Howell & Dunn, 2007; Rappole et al., 1983
Coccyzus minor	Ex4	n/a		2,5,7		Rappole et al., 1983; Wunderle, 1981
Momotus mexicanus	Ex4	n/a		2,5,7		Remsen et al., 1993; pers. obs.

[1] 'Ex' denotes species excluded from trophic guilds on account of: (1) abundance fluctuations (559 of 661 observations were between November 2011 and March 2012); (2) lagoon used exclusively for non-foraging activities; (3) carrion-based diet; or (4) significant resource consumption across three trophic levels.

[2] Species excluded from key-resource guilds because they: (I) did not share resources, microhabitat, or foraging technique with any other; (II) did not consume a sufficient portion of any one resource, or (III) presented relatively little foraging activity within the lagoon.

Additional details and criteria

Trophic guild ‘t2’: Terrestrial insectivores

Species were included if they had significant consumption of fruit and terrestrial invertebrates, or nectar and terrestrial invertebrates, and no other categories. This was because insectivory among invertebrates raises the trophic level of insectivorous birds.

Key-resource guild ‘e’: Terrestrial insectivores

Parkesia noveboracensis was excluded because it consumes <0.25 terrestrial invertebrates (category 5). *Pitangus sulphuratus* and *Quiscalus mexicanus* consume >0.25 terrestrial invertebrates, but were excluded because they also consume an equal portion of fruit (*P. sulphuratus*) or seeds (*Q. mexicanus*). Because of similarity between terrestrial invertebrates (category 5) and soil invertebrates (category 6), two species were included that consume equal portions of >0.25 of these categories (*Catharus ustulatus* and *Passerculus sandwichensis*).

Key-resource guild ‘f’: Woodpeckers

Species in this group have functional adaptations for obtaining resources that are unavailable to other insectivores (Bock, 1999).

Key-resource guild ‘g’: Aerial hawkers or sweepers

Single point observations indicated that these species used airspace for foraging.

Trophic guild ‘a2’: Aquatic invertebrates

Soil invertebrates were excluded from shorebird diets as this resource is characteristic of breeding habitat (O´Brien, Crossley &, Karlson 2006) and diet (Custer & Pitelka, 1978), and because shorebirds were never observed outside aquatic environments in the study area. Single point observations of *Jacana spinosa* and *Plegadis chihi* were in aquatic vegetation or vegetated shorelines. Because of these distinct foraging substrates, these species were not included in any nested key-resource guilds.

Key-resource guild ‘k’: Shore-line insectivores

These species were always observed foraging on sandy shores, wet sediments or sand, and never observed foraging in shallow water.

Key-resource guild ‘l’: Wading insectivores

At least 25 % of single point observations involving foraging in shallow water, which implied the consumption of different prey species to birds in ‘k’. No single point observations were obtained for *Tringa flavipes*, and *Phalaropus tricolor*, although we observed wading and swimming (*P. tricolor*) outside point counts. Furthermore, the morphological adaptations in these species (i.e., bill and leg length) are similar to other members of ‘l’.

Key-resource guild ‘m’: Probing aquatic insectivore

Structural specializations in the bill and specific foraging methods allow these species to access resources by deep sediment probing (Baker & Baker 1973; references in Wiens, 1989, p. 324). These resources are unavailable to other species in the trophic guild of aquatic insectivores.

Trophic guild ‘a2.5’: Secondary aquatic consumers

Key-resource guild ‘n’: Aquatic insectivores/piscivores

Chlidonias niger was not included because most single point observations involved resting instead of foraging (95 %).

Trophic guild ‘a3’: Piscivores

Key-resource guild ‘q’: Deep water piscivores

Thalasseus maximus and *T. elegans* were not included because most single point observations involved resting (>98 %).

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