RESEARCH

Foraging Guilds of North American Birds

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Many approaches have been taken to describe bird feeding behavior. Comparisons between different studies, however, have been difficult because of differences in terminology. We propose to establish a classification scheme for North American birds by using common terminology based on major food type, substrate, and technique, using foraging guilds.

The guild concept was originally proposed by Root (1967) to indicate a group of species that exploit the same class of environmental resources in a similar way. For example, Root defined a foliage-gleaning guild in oak woodlands as a group of birds whose diet consisted of arthropods obtained from the foliage zone of oaks. Root pointed out that birds could be a member of several guilds. Thus, seasonal changes that occur in avian feeding habitats could be accommodated. The guild concept has become a useful tool in looking at competition, niche separation, and functional relationships within the community. As a result, biologists can use the guild concept to show how different taxa interrelate and how impacts of habitat change influence community dynamics and not just individual species.

The guild concept has been used by a number of authors to compare or classify components of a community. It is possible to establish guilds on the bases of different criteria. Landres (1983) reviews some efforts to assign species to guilds. Guilds were used by Severinghaus (1981) to develop the idea of indicator species; he believed that since all members use the same resource, all should respond similarly to changes in their environment. There are enough exceptions, in part because

Severinghaus's guilds were not all based on habitat requirements, to question whether the indicator concept would be effective.

Thomas and others (1979) developed lists of species by life form for each habitat and successional stage in the Blue Mountains of Oregon. This is a use of the guild concept in which assemblages of species are defined according to common nesting and feeding requirements. Another use of the guild concept was made by Short and Burnham (1982), who grouped species into layers of each habitat. For example, forest species are associated with subsurface, ground surface, and shrub layer.

Verner (1984) defines management guilds as groups of species that respond in a similar way to a variety of changes likely to affect their environment. He states that all bird species that depend on tree canopies for their food supply—whether fruit, buds, leaves, or insects—could be in one management guild. This would give the manager some idea of the group of species that are affected by habitat change. Verner's use of management guilds does not fully consider the functional role originally proposed by Root; rather, it considers responses to changes in identifiable zones of forest habitats.

Standardization of guilds provides a means by which resource managers can compare communities of birds. The number of community components are reduced, thereby facilitating the description. Likewise, biologists can discuss competition and energy flow using common terminology (Landres 1984).

Guilds can be combined in different ways for different purposes. Basically, however, we need to develop bases for classifying each species into a guild. In this article, we have considered food, substrate from which the food was obtained, and technique used in obtaining the food as the common ground to classify 672 species of North American birds. These three criteria were selected because they can be observed or documented for each species. The components of major food, substrate on which food was found, and techniques used to obtain food provide realistic groupings of species. The user of this information can group the species in one of the guilds presently described or utilize different criteria to develop the grouping. With this classification, based on avian feeding behavior, users could compare the results of different studies for functional differences.

Our description of guilds brings the concept as proposed by Root (1967) into use by resource managers. Despite the different integrations and use of concept, it is now possible to have a "dictionary" of terms characteristic of each species. While debates can continue about the concept, our classification provides a reference point for application.

Birds' names are from the American Ornithologists' Union (1983); scientific names are listed in the Appendix. The major references used to develop this foraging guild classification included A. C. Bent's Life History of North American Birds series (Smithsonian Institute, US National Museum Bulletins, Washington, DC); Handbook of North American Birds, edited by Ralph S. Palmer (Yale University Press, New Haven, CT, 1962); Waterfowl of North America, by Paul A. Johnsgard (Indiana University Press, Bloomington, 1975); Ducks, Geese & Swans of North America, by Frank C. Bellrose (Stackpole Books, Harrisburg, PA, 1976); American Wildlife & Plants, by Alexander C. Martin and others (Dover Publications, New York, 1951); Crows of the World, by Derek Goodwin (Cornell University Press, Ithaca, NY, 1976); Audubon Water Bird Guide and Audubon Land Bird Guide by Richard H. Pough (Doubleday & Co., Garden City, NY, 1946); Management of Migratory Shore and Upland Game Birds in North America, edited by Glen C. Sanderson (International Association of Fish and Wildlife Agencies, Washington, DC, 1977).

Foraging Guild Designation

Often it was difficult to limit this classification to a single guild per species, so in several cases we have listed more than one guild. An additional guild was designated when a second food item represented at least 20% of the diet of a species or when the species spent at least 20% of its time feeding on a different substrate or using a different technique. Some species shift their food selec-

tion seasonally, which may require the use of different substrates or techniques. We indicate such changes in columns labeled as breeding period or nonbreeding period. We do not indicate gender- or age-specific differences in foraging guilds unless they appear vastly different and would affect the management of the species.

The species in this list include all those that can be found in North America during the breeding season or nonbreeding season. The geographic range covered by this list is from Greenland to Florida to California to Alaska. Birds of Mexico and the Caribbean are not included unless they are regularly found north of these areas at the specified season. Accidental species are not included. The Check-list of North American Birds, 6th edn. (American Ornithologists' Union, 1983) was used to determine the status of these birds.

Classification Procedures

For food type, we did not necessarily include all foods taken by each species—only the major food items (20% of diet during a given period).

Carnivore: vertebrates Crustaceovore: crustaceans

Frugivore: fruits Granivore: nuts

Herbivore: plants (leaves, stems, roots)

Insectivore: insects Molluscovore: mollusks

Omnivore: a variety of foods including both animal and plant foods (the less common food group makes

up 10% of diet) Piscivore: fish

Vermivore: sandworms, earthworms, etc.

Substrate refers to the place where a food item is found or taken.

air: caught in the air

bark: on, in, or under bark of trees

coastal: waters along coast (can include brackish as well as salt water)

coastal beach: beaches and/or tidal flats along coast coastal bottom: floor of continental shelf along coast

coastal rock: rocks along coast

coastal surface: surface of coastal waters

floral: on or in flowers

fresh marsh: freshwater marshes (on mud, in shallow water, or on marsh plants)

freshwater: freshwater habitats (ponds, lakes, rivers, streams)

freshwater bottom: bottoms of freshwater ponds and lakes

freshwater shoreline: shores of freshwater ponds, lakes, rivers, or streams

freshwater surface: surface of freshwater habitats ground: on the ground or on very low, weedy vegeta-

lower canopy/shrub: on leaves, twigs, and branches of shrubs, saplings, and lower crowns of trees

marsh: fresh, brackish, or saltwater marshes (on mud, in shallow water, or on marsh plants)

mud: inland on mud flats (wet fields, meadows, tundra, or associated with freshwater habitats)

pelagic: ocean waters away from coastlines

pelagic surface: surface of ocean waters

riparian bottom: bottoms of rivers and streams

salt marsh: brackish or salt marshes (on mud, in shallow water, or on marsh plants)

shoreline: along shoreline of both freshwater and saltwater (coastal) habitats

upper canopy: on leaves, twigs, and branches of trees in main canopy

water: brackish, fresh- and saltwater habitats

water bottom: on bottoms of fresh-, brackish, or saltwater habitats

water surface: on surface of fresh-, brackish, or saltwater habitats

Technique refers to the manner in which food is obtained. Note: some techniques are associated with particular food types and/or substrates.

ambusher: slowly stalks or waits for prey to come within reach

chaser: pursues prey on ground

dabbler: submerges head and neck or tips up (various water substrates)

diver: dives from surface for underwater food excavator: locates food in bark by drilling holes

food pirate: steals food from other species, usually other birds

foot plunger: catches prey by plunging from air to water surface (or ground) and seizing prey in talons

forager: takes almost any food items encountered upon the substrate (includes all herbivores and omnivores feeding on terrestrial habitats or vegetation, except grazers and grubbers)

gleaner: selects particular food items from the substrate

grazer: feeds on grasses, sedges, or grains in fields or meadows

grubber: digs up roots and tubers of either terrestrial or aquatic plants

hawker: flies after prey and captures it either in air or on ground

hover-gleaner: hovers in air while selecting prey (from vegetation or ground)

plunger: dives from air into water to capture prey in bill or gular pouch

prober: inserts bill into substrate (beach, mud, ground) and locates prey by touch

sallier: perches on exposed branch or twig, waits for insect to fly by, and then pursues and catches insect in air

scaler: exposes prey under bark by scaling off loose bark

scavenger: takes a variety of items, including refuse or

screener: flies with bill open and screens prey from air

skimmer: flies low over water and skims food from water surface with lower mandible in water

strainer: strains food items from water or mud through lamellae along edge of bill

Foraging Guild Classification

Breeding period	Nonbreeding period	Year round
CA	RNIVORE: air haw	ker
Pomarine Jaeger		White-tailed Eagle
Long-tailed Jaeger		Sharp-shinned
Glaucous Gull		Hawk
		Cooper's Hawk
		Northern Goshawk
		Merlin
		Peregrine Falcon
		Gyrfalcon
		Prairie Falcon
GLENITIO	nn	

CARNI	VORE: coastal beach sci	avenger
Laughing Gull	Common Black-	Western Gull
Thayer's Gull	headed Gull	Great Black-
•	Bonaparte's Gull	backed Gull
	Heermann's Gull	
	Mew Gull	
	Ring-billed Gull	
	California Gull	
	Iceland Gull	
	Yellow-footed Gull	
	Glaucous-winged	
	Gull	

CARNIVORE: coastal food pirate

Parasitic Jaeger Great Skua

CARNIVORE: coastal scavenger

Pomarine Jaeger Western Gull Great Skua Glaucous-winged

Iceland Gull Glaucous Gull

Gull

CARNIVORE: coastal surface gleaner Bonaparte's Gull

CARNIVORE: ground chaser Great ner CARNIVORE: ground hawker nerican Swal- ow-tailed Kite ay Hawk North lomado Falcon marine Jaeger ng-tailed Jaeger Coope	-shouldered e eern Harrier -shinned wk er's Hawk ern Goshawk	CA	period RE: ground scavenger (RNIVORE: pelagic food p Pomarine Jaeger Parasitic Jaeger	Bald Eagle Crested Caracara
Great ner CARNIVORE: ground hawker nerican Swal- low-tailed Kite ay Hawk lomado Falcon marine Jaeger ng-tailed Jaeger Great Revolution CARNIVORE: ground hawker Revolution Re	-shouldered e eern Harrier -shinned wk er's Hawk ern Goshawk	CA	RNIVORE: <i>pelagic food f</i> Pomarine Jaeger Parasitic Jaeger	Bald Eagle Crested Caracara
Great ner CARNIVORE: ground hawker nerican Swal- low-tailed Kite ay Hawk lomado Falcon marine Jaeger ng-tailed Jaeger Great Revolution CARNIVORE: ground hawker Revolution Re	-shouldered e eern Harrier -shinned wk er's Hawk ern Goshawk		Pomarine Jaeger Parasitic Jaeger	Crested Caracara
nerican Swal- ow-tailed Kite ay Hawk lomado Falcon marine Jaeger ng-tailed Jaeger Black Kit North Sharp Coope	e lern Harrier shinned wk er's Hawk lern Goshawk		Pomarine Jaeger Parasitic Jaeger	pirate
nerican Swal- ow-tailed Kite ay Hawk lomado Falcon marine Jaeger ng-tailed Jaeger Black Kit North Sharp Coope	e lern Harrier shinned wk er's Hawk lern Goshawk		Pomarine Jaeger Parasitic Jaeger	, i, a, i
ay Hawk North lomado Falcon Sharp marine Jaeger Ha ng-tailed Jaeger Coope	ern Harrier -shinned wk er's Hawk ern Goshawk	CA	Parasitic Jaeger	
lomado Falcon Sharp marine Jaeger Ha ng-tailed Jaeger Coope	-shinned wk er's Hawk ern Goshawk	CA	DAMIODE: helegie como	
marine Jaeger Ha ng-tailed Jaeger Coope	wk er's Hawk ern Goshawk	CA		
ng-tailed Jaeger Coope	er's Hawk ern Goshawk		RNIVORE: pelagic scave	
	ern Goshawk		Short-tailed Alba-	Northern Fulma
			tross	Fork-tailed Storr Petrel
· - · ·	70.1		Cory's Shearwater Sooty Shearwater	Leach's Storm-
	non Black-		Black Storm-Petrel	Petrel
lifornia Gull Ha	· · · · · · · · · · · · · · · · · · ·		Pomarine Jaeger	renei
	s's Hawk houldered	•	Great Skua	
Ha			South Polar Skua	
	wk -winged		Ivory Gull	
Ha	. •		•	
	tailed Hawk	CA	RNIVORE: shoreline gle	aner
	son's Hawk	Mew Gull		
	tailed Hawk	CAD	NIVORE: shoreline scav	en ger
	tailed Hawk	CAR	Herring Gull	enger
Red-t	ailed Hawk		Thayer's Gull	
Ferru	ginous Hawk		Lesser Black-	
	h-legged		backed Gull	
Ha	wk			
	n Eagle	C	ARNIVORE: water ambu	
Amer	ican Kestrel			American Bitterr
	ie Falcon			Great Egret
Comn	non Barn- ·l			Snowy Egret Wood Stork
Easter Ow	rn Screech-		TACEOVORE: coastal an	nbusher
<u> </u>	rn Screech-	Tricolored Heron		
Ow		CRIISTA	CEOVORE: coastal beach	h aleaner
Great	Horned Owl	ORCO11	Black-bellied	Wilson's Plover
Snow			Plover	Black Turnstone
North	ern Hawk-		Snowy Plover	
Ow	·l		Semipalmated	
North	ern Pygmy-		Plover	
Ow			Piping Plover	
•	ginous		Red Knot	
	my-Owl	OBLICT	ACEONORE, coastal base	h hunhar
	wing Owl	CROST	ACEOVORE: coastal beac Willet	n prober
	ed Owl		Whimbrel	
Barre			Marbled Godwit	
	Gray Owl		Sanderling	
	eared Owl eared Owl		Dunlin	
Borea				
North		CRUSTA	CEOVORE: coastal bottor	0
	v-whet Owl		King Eider	Common Eider
	ern Shrike		Steller's Eider	
	rhead Shrike		Harlequin Duck	
			Oldsquaw	
CARNIVORE: ground scavenger	Vulture		Black Scoter Surf Scoter	
0 0	Vulture y Vulture		White-winged	
	rnia Condor		Scoter	

night-heron Wood Stork

- Oraging Guild	l Classification (Contin	ucu)	. 5.459 556 010	assification (Continu	,
Breeding period	Nonbreeding I period	Year round	Breeding period	Nonbreeding period	Year round
	CRUSTACEOVORE: coastal	! diver	CRUSTACE	OVORE: pelagic diver	(continued)
Dovekie	Horned Grebe	Red-faced Cormo-		Black Guillemot	
Common Murr	e Eared Grebe	rant		Pigeon Guillemot	
Black Guillemo	t			Xantus' Murrelet	
Pigeon Guillem	ot			Ancient Murrelet	
Kittlitz's Murre				Cassin's Auklet	
Xantus' Murre				Parakeet Auklet	
Ancient Murrel				Least Auklet	
Cassin's Auklet				Whiskered Auklet Crested Auklet	
Parakeet Aukle	t			Rhinoceros Auklet	
Least Auklet	1			Kiimoceros Aukier	
Whiskered Auk	tlet		CRUST	ACEOVORE: pelagic so	avenger
Crested Auklet Rhinoceros Auk	klet			Short-tailed Shear-	
CR	USTACEOVORE: coastal roc	rk aleaner		water Wilson's Storm-Pet	
CR.	Ruddy Turnstone	Black Turnstone		rel	-
	Surfbird Purple Sandpiper		CRUSTAC	EOVORE: pelagic surf	ace gleaner
	Rock Sandpiper		**********	Buller's Shear-	Ashy Storm-Petrel
		•		water	,
CRU. Thick-billed	STACEOVORE: coastal surf	ace gleaner		Least Storm-Petrel	
Murre				Thick-billed	
Razorbill				Murre	
				Razorbill	
	FACEOVORE: freshwater bo	ottom gleaner	CDIICT	ACEOVORE: salt-marsh	naleaner
Lesser Scaup White-winged			Clapper Rail	Black Rail	Seaside Sparrow
Scoter			CRIIST	CACEOVORE: shoreline	aleaner
Hooded Merga	nser		Black-bellied	Least Sandpiper	gieaner
C	RUSTACEOVORE: freshwa	ter diver	Plover	1 1	
Pied-billed Gre			Snowy Plover		
Red-necked Gr	ebe		Semipalmated		
CR	RUSTACEOVORE: freshwate	er øleaner	Plover		
	, oo <u>, i oo o</u>	Solitary Sandpiper	Piping Plover Semipalmated		
CRUSTA	ACEOVORE: freshwater sho	oreline gleaner	Sandpiper		
Red Knot			Western Sandpiper		
Sanderling			Rufous-necked		
Least Sandpipe	er		Stint		
	CRUSTACEOVORE: marsh	oleaner	Rock Sandpiper		
Black Rail	oncorridge voice. marsing	Sucurior	CRUS	TACEOVORE: shorelin	e brober
	OBLICTA CEQUARE, m anch	hwa har	Willet	Long-billed	. F
King Rail	CRUSTACEOVORE: marsh	prover	Bar-tailed Godwit	Curlew	
******			Stilt Sandpiper		
Baird's Sandpi	CRUSTACEOVORE: mud g	leaner	CRUS	TACEOVORE: water as	nbusher
Danu's Bandpi	PCI .			Tricolored Heron	American Bittern
	CRUSTACEOVORE: mud p				Great Egret
White-rumped	Scarlet Ibis	White Ibis			Snowy Egret
Sandpiper		Glossy Ibis			Little Blue Heron
Dunlin		White-faced Ibis			Green-backed
	CRUSTACEOVORE: mud s	trainer			Heron
	GROSTAGEOVORE: muu S	Roseate Spoonbill			Black-crowned
		_			Night-Heron Yellow-crowned
	CRUSTACEOVORE: pelagi	· 1.			

Dovekie Common Murre

Foraging Guilds of North American Birds			Foraging Guild C	lassification (Continu	eu)
Breeding period	Nonbreeding period	Year round	Breeding period	Nonbreeding period	Year round
CRUSTAC	CEOVORE: water botton	n gleaner	GRANIV	ORE: ground gleaner (c	ontinued)
King Eider	Tufted Duck	8		Rufous-winged	Mourning Dove
	Hooded Merganser			Sparrow	Inca Dove
	•			Rufous-crowned	Common Ground-
CRU	JSTACEOVORE: water of	liver		Sparrow	Dove
	Pied-billed Grebe			American Tree	White-tipped Dov
CDIIC	TI GROUPE			Sparrow	White-collared
CRUS	TACEOVORE: water ski	mmer Black Skimmer		Chipping Sparrow	Seedeater
		plack Skimmer		Field Sparrow	House Finch
CRUSTAC	CEOVORE: water surfac	e aleaner		Black-chinned	Lesser Goldfinch
Red Phalarope	shovekh water sarjae	Lesser Yellowlegs		Sparrow	Lawrence's Gold-
icea i mararope		Ecoci Tenowiego		Vesper Sparrow	finch
FR	UGIVORE: ground glea	ner		Lark Sparrow	House Sparrow
House Finch	9 9	Plain Chachalaca		Black-throated	Eurasian Tree
		;		Sparrow	Sparrow
	RE: lower-canopy/shr			Sage Sparrow	
	Red-headed Wood-			Five-striped	
Gray Kingbird	pecker	Woodpecker		Sparrow	
Rose-throated Be-	Eastern Phoebe	Nuttall's Wood-		Savannah Sparrow	
card	Great Crested Fly-	pecker		Baird's Sparrow	
Eastern Bluebird	catcher	Downy Wood-		Fox Sparrow	
	Cassin's Kingbird	pecker		Song Sparrow	
	Tree Swallow	Hairy Woodpecker		Lincoln's Sparrow	
	Wrentit	Phainopepla		Swamp Sparrow White-throated	
	Northern Mock-				
	ingbird			Sparrow Golden-crowned	
	Curve-billed			Sparrow	
	Thrasher			White-crowned	
	Bohemian Wax-			Sparrow	
	wing			Harris' Sparrow	
EDITO	VORE: upper-canopy g	laanar		Dark-eyed Junco	
urple Finch	Band-tailed Pigeon			McCown's Long-	
urpic i men	Dand-tailed 1 igeon	Pigeon		spur	
		Red-billed Pigeon		Lapland Longspur	
		Acorn Woodpecker		Chestnut-collared	
		Gila Woodpecker		Longspur	
		Strickland's Wood-		Snow Bunting	
		pecker		McKay's Bunting	
		Ivory-billed Wood-		Red-winged Black-	
		pecker		bird	
		Bohemian Wax-		Bronzed Cowbird	
		wing		Brown-headed	
		Cedar Waxwing		Cowbird	
CD 43	mione for location de	_		Rosy Finch	
	NIVORE: freshwater da	Fulvous Whistling-		Pine Grosbeak	
Green-winged Teal Northern Pintail		Duck		Purple Finch	
vortnern Pintall		Mallard		Cassin's Finch	
		ivialiaru		Common Redpoll	
GRANIVO	ORE: freshwater surfac	e gleaner		Hoary Redpoll	
•		Wood Duck		Pine Siskin	
CD	ANIVORE: ground glea	n <i>e</i> r		American Gold-	
GR Aallard	ANIVORE: grouna giea Gray Partridge	Fulvous Whistling-		finch	
California Quail	Mountain Quail	Duck		Evening Grosbeak	
Autornia Quan	Eurasian Skylark	Black-bellied			
	Horned Lark	Whistling-Duck	GRANIV	ORE: lower-canopy/shr	uh oleaner
	Dickcissel	Wood Duck	Sau 2111 V	American Gold-	Lesser Goldfinch
	Cassin's Sparrow	White-winged		finch	Lawrence's Gold-
		· · · · · · · · · · · · · · · · · · ·			finch

Foraging Guild Classification (Continued)		Foraging Guild Classification (Continued)				
Breeding period	Nonbreeding period	Year round	Breeding period	Nonbreeding period	Year round	
GRAN	IVORE: upper-canopy	aleaner	HERE	BIVORE: upper-canopy	v forager	
Purple Finch	Red-cockaded	Lewis' Wood-		Spruce Grouse	Plain Chachalaca	
F	Woodpecker	pecker		Blue Grouse		
	White-headed	pecaer		Ruffed Grouse		
	Woodpecker			Sharp-tailed		
	Red-breasted Nut-			Grouse		
	hatch				L1	
	White-breasted		ŀ	HERBIVORE: water dab		
	Nuthatch			Tundra Swan	American Wigeon	
	Brown-headed			Trumpeter Swan		
	Nuthatch			Mute Swan		
				Canada Goose		
	Pine Grosbeak			Gadwall		
	Cassin's Finch			American Coot		
	Red Crossbill			HERBIVORE: water di	ver	
	White-winged			Masked Duck	Redhead	
	Crossbill			American Coot		
	Pine Siskin		F	IERBIVORE: water gru	bber	
	Evening Grosbeak			Snow Goose		
G	RANIVORE: water dab	bler	INSECTIVORE: air hawker			
	Green-winged Tea	1	American Swal-	Common Black-	Mississippi Kite	
			low-tailed Kite	headed Gull	Swainson's Hawl	
н	ERBIVORE: coastal da	obler	Gray Hawk	neaded Guii	Burrowing Owl	
	Whooper Swan		American Kestrel		Dullowing Owi	
	Emperor Goose					
	Brant		Aplomado Falcon			
	Eurasian Wigeon		Franklin's Gull			
нея	RBIVORE: freshwater a	labbler	Bonaparte's Gull			
Tundra Swan	Cinnamon Teal	Black-bellied	Black Tern			
Trumpeter Swan	Ommunion 1 dai	Whistling-Duck	Elf Owl			
Mute Swan		Williams 2 den		INSECTIVORE: air sale	lier	
Canada Goose			Elegant Trogon		Anna's Humming	
Gadwall			Red-headed Wood-		bird	
		7*	pecker		Green Kingfisher	
	ERBIVORE: freshwater	diver	Olive-sided Fly-		Lewis' Wood-	
Masked Duck			catcher		pecker	
н	ERBIVORE: ground for	ager	Greater Pewee		Hammond's Fly-	
Willow Ptarmigan	Ring-necked	Chukar	Western Wood-		catcher	
Rock Ptarmigan	Pheasant	Sage Grouse	Pewee		Gray Flycatcher	
White-tailed Ptar-	Greater Prairie-	Gambel's Quail	Eastern Wood-		Black Phoebe	
migan	Chicken	Jan. 50. 5 &	Pewee		Eastern Phoebe	
Mountain Quail	Lesser Prairie-		Yellow-bellied Fly-		Say's Phoebe	
.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Chicken		catcher		Vermillion Fly-	
	Wild Turkey		Acadian Flycatcher		catcher	
	California Quail		Alder Flycatcher		Ash-throated Fly-	
	Camorina Quan				catcher	
H	ERBIVORE: ground gr	azer	Willow Flycatcher			
Mute Swan	Mallard	Greater White-	Least Flycatcher		Great Crested Fly	
Pink-footed Goose		fronted Goose	Dusky Flycatcher	_	catcher Great Kiskadee	
Emperor Goose		Snow Goose	Western Flycatcher	Γ		
Brant		Ross' Goose	Buff-breasted Fly-		Couch's Kingbird	
Barnacle Goose		Canada Goose	catcher		Cassin's Kingbird	
American Wigeon			Dusky-capped Fly-	•	Western Kingbird	
-	ERBIVORE: ground gr	uhher	catcher		Scissor-tailed Fly	
н	Montezuma Quai		Brown-crested Fly-	-	catcher	
	· •		catcher		Townsend's Soli-	
HERBIV	ORE: lower-canopy/si		Sulphur-bellied		taire	
	Willow Ptarmigan		Flycatcher		Cedar Waxwing	
	Rock Ptarmigan		Tropical Kingbird			
	White-tailed Ptar-		Thick-billed King-			
	migan		bird			

Foraging Guild Classification (Continued)		Foraging Guild Classification (Continued)			
Breeding period	Nonbreeding period	Year round	Breeding period	Nonbreeding period	Year round
INSEC	TIVORE: air sallier (co	ntinued)	INSECTI	VORE: bark gleaner (continued)
Eastern Kingbird Gray Kingbird Rose-throated Becard Bohemian Wax- wing American Redstar Hooded Warbler	`			-	White-breasted Nuthatch Pygmy Nuthatch Brown-headed Nuthatch Brown Creeper Wrentit Yellow-throated
Wilson's Warbler Painted Redstart Western Tanager Rufous-winged					Warbler Pine Warbler Black-and-white Warbler
Sparrow Black-throated			I	NSECTIVORE: bark sca	
Sparrow Rosy Finch					White-headed Woodpecker Three-toed Wood-
	INSECTIVORE: air scree	ner			pecker
Lesser Nighthawk Common Night- hawk Antillean Night-		Common Pauraque Common Poorwill Chuck-will's- widow			Black-backed Woodpecker Ivory-billed Wood- pecker
hawk Buff-collared Nightjar Black Swift Chimney Swift Purple Martin Bank Swallow Cliff Swallow Cave Swallow Barn Swallow		Whip-poor-will Vaux's Swift White-throated Swift Tree Swallow Violet-green Swal- low Northern Rough- winged Swallow	INSECT Eurasian Dotterel	FIVORE: coastal beach Black-bellied Plover Semipalmated Plover Piping Plover Wandering Tattler Western Sandpiper Dunlin Short-billed	Wilson's Plover
IN	SECTIVORE: bark excau	vator Pileated Wood- pecker		Dowitcher Long-billed Dowitcher	
		-	INSEC	TIVORE: coastal beach	n prober
Pine Warbler Prothonotary Warbler Painted Redstart	NSECTIVORE: bark gleat Yellow-bellied Sapsucker Red-breasted Sap- sucker Williamson's Sap- sucker	ner Red-headed Wood- pecker Acorn Woodpecker Gila Woodpecker Golden-fronted Woodpecker Red-bellied Wood- pecker Ladder-backed Woodpecker	INSEC INSEC Northern Jacana	Willet TIVORE: coastal rock Purple Sandpiper Rock Sandpiper TIVORE: fresh-marsh	gleaner gleaner
		Nuttall's Wood- pecker Downy Wood- pecker Hairy Woodpecker Strickland's Wood- pecker Red-cockaded Woodpecker Red-breasted Nut- hatch	INSE Pied-billed Grebe Horned Grebe Red-necked Grebe INSEC Wood Sandpiper Solitary Sandpiper	ECTIVORE: freshwater ETIVORE: freshwater g RE: Freshwater shore	Least Grebe Eared Grebe gleaner Black-necked Stilt

Foraging Guild Classification (Continued)

Breeding period	Nonbreeding period	Year round
INSECTIVORE: Fr	eshwater shoreline gle	aner (continued)
Sanderling	_	
Least Sandpiper		
Wilson's Phalarope		
Louisiana Water-		

INSECTIVORE: freshwater surface gleaner

Little Gull Sabine's Gull Black Tern

Warbler Mourning Warbler

Painted Redstart

INSECTIVORE: ground gle	aner
Lesser Golden-	Cattle Egret
Plover	Mountain Plover
Killdeer	Greater Roadrun-
Upland Sandpiper	ner
Eskimo Curlew	Smooth-billed Ani
Surfbird	Groove-billed Ani
Pectoral Sandpiper	Rock Wren
Rock Sandpiper	Canyon Wren
Curlew Sandpiper	Bewick's Wren
Buff-breasted	Winter Wren
Sandpiper	Sedge Wren
Long-billed	Mountain Bluebird
Dowitcher	Le Conte's
Bonaparte's Gull	Thrasher
Mew Gull	Gray-crowned
Ring-billed Gull	Yellow-throat
California Gull	
Northern Flicker	
Black-billed Mag-	
pie	
Yellow-billed	
Magpie	
Bluethroat	
Northern Wheat-	
еаг	
Eastern Bluebird	
Western Bluebird	
Hermit Thrush	
Fieldfare	
Varied Thrush	
Sage Thrasher	
Yellow Wagtail	
White Wagtail	
Red-throated Pipit	
Water Pipit	
Sprague's Pipit	
Palm Warbler	
Worm-eating	
Warbler	
Ovenbird	
Kentucky Warbler	
Connecticut	
147L1	

Foraging Guild Classification (Continued)

Breeding period	Nonbreeding period	Year round
INSECTIVOE	RE: ground gleaner	(continued)
Cassin's Sparrow		
Brewer's Sparrow		
Baird's Sparrow		
Eastern Meadow-	•	
lark		
Western Meadow- lark		
Rusty Blackbird		
INSEC	CTIVORE: ground ho	wker
Eastern Screech-		Flammulated Owl
Owl		Whiskered
Western Screech-		Screech-Owl
Owl		
Northern Pygmy-		
Owl .		
Elf Owl		
	E: lower-canopy/sh	
Black-billed		Ash-throated Fly-
Cuckoo		catcher
Yellow-billed		Carolina Wren
Cuckoo		House Wren
Mangrove Cuckoo		Golden-crowned
Black-capped		Kinglet
Chickadee		Ruby-crowned
Carolina Chick-		Kinglet
adee		Black-tailed Gnat-
Mexican Chick-		catcher
adee		Black-capped
Mountain Chick-		Gnatcatcher
adee		Hutton's Vireo
Siberian Tit		Nashville Warbler
Boreal Chickadee		Black-throated
Chestnut-backed		Gray Warbler
Chickadee		Prairie Warbler Common Yellow-
Bridled Titmouse		
Tufted Titmouse		throat
Verdin		
Bushtit White-eyed Vireo		
Bell's Vireo		
Black-capped		
Vireo Gray Vireo		
Solitary Vireo		
Blue-winged Warbler		
Orange-crowned		
Warbler		
Virginia's Warbler		
Colima Warbler		
Lucy's Warbler		
Yellow Warbler		
Chestnut-sided		
Warbler		
Magnolia Warbler		
Black-throated		

Blue Warbler

	NTLP		Nonbreeding		
Breeding period	Nonbreeding period	Year round	Breeding period	Nonbreeding period	Year round
INSECTIVORE: l	ower-canopy/shrub glea	ner (continued)	INSECTIVORE: upper-canopy gleaner (continued)		
Yellow-rumped			Red-eyed Vireo		Townsend's
Warbler			Bachman's		Warbler
Golden-cheeked			Warbler		Black-throated
Warbler			Golden-winged		Green Warbler
Kirtland's Warbler			Warbler		Yellow-throated
American Redstart	:		Tennessee Warbler		Warbler
Prothonotary			Northern Parula		
Warbler			Cape May		
Swainson's			Warbler		
Warbler			Blackburnian		
MacGillvray's			Warbler		
Warbler			Grace's Warbler		
Hooded Warbler			Bay-breasted		
Wilson's Warbler		•	Warbler	•	
Canada Warbler			Blackpoll Warbler		
Olive Warbler			Cerulean Warbler		
Black-throated			Red-faced Warbler		
Sparrow			Hepatic Tanager		
IN	SECTIVORE: marsh glean	ner	Summer Tanager		
Black Rail		Marsh Wren	Scarlet Tanager		
			Orchard Oriole		
	NSECTIVORE: marsh prob	per	INSE	CCTIVORE: water amb	
King Rail					American Bittern
Virginia Rail					Least Bittern
I	NSECTIVORE: mud glean	er	INSECT	TIVORE: water bottom	gleaner
White-rumped		Glossy Ibis		Hooded Merganser	3
Sandpiper		White-faced Ibis		·	
Baird's Sandpiper			ID	ISECTIVORE: water di	ver
Dunlin				Pied-billed Grebe	
	ETIZODE with awine better	-1		TVORE: water surface	
Harlequin Duck	TIVORE: riparian bottom	American Dipper	Red-necked Phala- rope	Solitary Sandpiper	Greater Yellowlegs Lesser Yellowlegs
INSI	ECTIVORE: salt-marsh glo	eaner Seaside Sparrow	Red Phalarope		Gull-billed Tern Forster's Tern
1210	PECETYODE shoreling als	an an	MOLLUS	SCOVORE: coastal beac	h gleaner
Black-bellied	SECTIVORE: shoreline gle	Spotted Sandpiper		Black-bellied	
Plover	Killdeer Long-billed Cur-	Spotted Sandpiper		Plover	
Semipalmated	lew			Semipalmated	
Plover	Least Sandpiper			Plover	
Piping Plover	Least Danupiper			Red Knot	
Semipalmated		*		Western Sandpiper	
Sandpiper			MOLLU	SCOVORE: coastal beau	ch prober
Western Sandpipe	r			Whimbrel	American Oyster-
Rufous-necked	•			Marbled Godwit	catcher
Stint Stint				Sanderling	
VIIII				Dumlim	

Dunlin

MOLLUSCOVORE: coastal bottom gleaner

Greater Scaup

Steller's Eider Harlequin Duck

Oldsquaw Black Scoter

Surf Scoter

Scoter

White-winged

King Eider Spectacled Eider

Common Eider

INSECTIVORE: shoreline prober

Willet

Stilt Sandpiper

Bar-tailed Godwit Marbled Godwit

 ${\tt INSECTIVORE:}\ upper-canopy\ gleaner$ Arctic Warbler Northern Beardless-Tyrannulet Yellow-throated Blue-gray Gnat-Vireo Warbling Vireo catcher Tropical Parula Philadelphia Vireo

Foraging Guild Cl	Foraging Guild Classification (Continued)			Foraging Guild Classification (Continued)		
Breeding period	Nonbreeding period	Year round	Breeding period	Nonbreeding period	Year round	
мс Razorbill	DLLUSCOVORE: coastal d	iver	MOLLUSCOVORE: water ambusher Wood Stork			
MOL	LUSCOVORE: coastal pla Red-footed Booby	unger	MOLLUS King Eider	COVORE: water botton Tufted Duck	m gleaner	
MOLLI	JSCOVORE: coastal rock Ruddy Turnstone Surfbird Rock Sandpiper	gleaner American Black Oystercatcher Black Turnstone	OM Williamson's Sap- sucker	ANIVORE: bark excave	ator Yellow-bellied Sapsucker Red-breasted Sap- sucker	
MOLLI	JSCOVORE: fresh-marsh	gleaner Limpkin		IVORE: coastal beach j	_	
MOLLUSC	OVORE: fresh-marsh hov	ver-gleaner Snail Kite	Common Ringed Plover Ruddy Turnstone	Northern Pintail		
MOLLUSO White-winged Scoter	OVORE: freshwater botto	om gleaner	OMNIV	ORE: coastal beach sc	avenger Northwestern Crow	
	LUSCOVORE: ground gl	eaner	OMNI	VORE: coastal bottom	forager	
Ovenbird			Steller's Eider		_	
Virginia Rail	LLUSCOVORE: marsh þi	-ober	OM	MNIVORE: coastal dab Northern Pintail	bler	
Dunlin Me	OLLUSCOVORE: mud pro Scarlet Ibis	ober	OMN	IIVORE: floral hover-g	leaner	
	DLLUSCOVORE: pelagic a Razorbill Pigeon Guillemot	liver	Broad-billed Hum- mingbird White-eared Hum- mingbird	, ,	Ruby-throated Hummingbird Black-chinned Hummingbird	
MOL	LUSCOVORE: pelagic pl White-tailed	unger	Buff-bellied Hum- mingbird		Anna's Humming- bird	
	Tropicbird Red-billed Tropic- bird		Violet-crowned Hummingbird Blue-throated		Costa's Humming bird	
MOLI	USCOVORE: pelagic scar Short-tailed Alba-	venger	Hummingbird Magnificent Hum- mingbird			
	tross		Lucifer Humming- bird			
MOLLUS	SCOVORE: pelagic surfac Short-tailed Alba- tross	e gleaner	Calliope Hum- mingbird			
	Laysan Albatross Greater Shear- water		Broad-tailed Hum- mingbird Rufous Humming-			
	Buller's Shear- water		bird Allen's Humming- bird			
	Audubon's Shear- water		OMN	IVORE: fresh-marsh f	Orager	
MOTT		aleaner	Yellow Rail		Purple Gallinule	
Clapper Rail	.USCOVORE: salt-marsh	Seaside Sparrow	Sora Whooping Crane		Common Moorher Sandhill Crane	
	LUSCOVORE: shoreline g	leaner	OMNIV	ORE: freshwater botto	m forager	
Semipalmated Plover			Canvasback Ring-necked Duck		, 9	
MOL Bar-tailed Godwit Marbled Godwit Stilt Sandpiper	LUSCOVORE: shoreline p	brober	Greater Scaup Surf Scoter Common Golden- eye			

Foraging Guild Classification (C	Continued
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Foraging Guild Cla	oraging Guild Classification (Continued)		Foraging Guild Classification (Continued)		
	Nonbreeding			Nonbreeding	
Breeding period	period	Year round	Breeding period	period	Year round
omnivore: fi	reshwater bottom foraş	ger (continued)	OMNIVORE: ground forager (continued)		
Barrow's Golden-			Five-striped Spar-		Lark Bunting
eye			row		Grasshopper Spar-
Ruddy Duck			Savannah Sparrow		row
OMI	NIVORE: freshwater da	ıbbler	Fox Sparrow Song Sparrow		Henslow's Spar- row
Mallard		Blue-winged Teal	Lincoln's Sparrow		Le Conte's Spar-
Cinnamon Teal			Swamp Sparrow		row
American Coot			White-throated		Sharp-tailed Spar-
	MNIVORE: freshwater a	liver	Sparrow		row
American Coot			Golden-crowned		Yellow-eyed Junco
OMI	NIVORE: freshwater str	rainer	Sparrow White-crowned		Smith's Longspur
Northern Shoveler	•		Sparrow		
Oi	MNIVORE: ground fora	ger :	Harris' Sparrow		
Gray Partridge	Northern Flicker	Northern Bobwhite	Dark-eyed Junco		
Ring-necked	Black-billed Mag-	Scaled Quail	McCown's Long-		
Pheasant	pie	Sandhill Crane	spur		
Spruce Grouse	Yellow-billed	Whooping Crane	Lapland Longspur		
Blue Grouse	Magpie	Rock Dove	Chestnut-collared		
Ruffed Grouse	Eastern Bluebird	Golden-fronted	Longspur		
Greater Prairie- Chicken	Western Bluebird Hermit Thrush	Woodpecker	Snow Bunting McKay's Bunting		
Lesser Prairie-	American Robin	Red-bellied Wood-	Bobolink		
Chicken	Varied Thrush	Steller's Jay	Red-winged Black-		
Sharp-tailed	Sage Thrasher	Blue Jay	bird		
Grouse	Water Pipit	Green Jay	Bronzed Cowbird		
Wild Turkey	Sprague's Pipit	Brown Jay	Brown-headed		
Montezuma Quail	Pine Warbler	Scrub Jay	Cowbird		
Long-billed Cur-	Palm Warbler	Gray-breasted Jay	Rosy Finch Cassin's Finch		
lew Eurasian Skylark	Ovenbird Brewer's Sparrow	Pinyon Jay Clark's Nutcracker	Cassin's Finch Common Redpoll		
Horned Lark	Eastern Meadow-	American Crow	Hoary Redpoll		
Veery	lark	Chihuahuan Raven	Pine Siskin		
Gray-cheeked	Western Meadow-	Cactus Wren	American Gold-		
Thrush	lark	Townsend's Soli-	finch		
Swainson's Thrush	Rusty Blackbird	taire	0.4		
Wood Thrush		Gray Catbird	ОМ	NIVORE: ground scav	enger Common Raven
Northern Mock-		Brown Thrasher			Common Raven
ingbird Curve-billed		Long-billed Thrasher	OMNIVO	RE: lower-canopy/sh:	ruh forager
Thrasher		Bendire's Thrasher	Veery	Northern Flicker	Steller's Jay
Blue Grosbeak		California	Gray-cheeked	Pileated Wood-	Plain Titmouse
Dickcissel		Thrasher	Thrush	pecker	Cactus Wren
Botteri's Sparrow		Crissal Thrasher	Swainson's Thrush	Black-capped	American Robin
Rufous-crowned		European Starling	Yellow-breasted	Chickadee	Gray Cathird
Sparrow		Crested Myna	Chat	Carolina Chick- adee	Brown Thrasher Long-billed
American Tree		Northern Cardinal	Varied Bunting Rufous-winged	Mexican Chick-	Thrasher
Sparrow Chipping Sparrow		Pyrrhuloxia Olive Sparrow	Sparrow	adee	Bendire's Thrasher
Clay-colored Spar-		Green-tailed	Clay-colored Spar-	Mountain Chick-	Crissal Thrasher
row		Towhee	row	adee	Lazuli Bunting
Field Sparrow		Rufous-sided	Sage Sparrow	Siberian Tit	Indigo Bunting
Black-chinned		Towhee	Song Sparrow	Boreal Chickadee	Painted Bunting
Sparrow		Brown Towhee	Hooded Oriole	Chestnut-backed Chickadee	Audubon's Oriole
Vesper Sparrow		Abert's Towhee Bachman's Spar-	Scott's Oriole Common Redpoll	Bridled Titmouse	
Lark Sparrow Sage Sparrow		row	Hoary Redpoll	Tufted Titmouse	•
Sage oparion			<i>,</i> r		

				367 1 1°	
Breeding period	Nonbreeding period	Year round	Breeding period	Nonbreeding period	Year round
OMNIVORE:	lower-canopy/shrub forage	r (continued)	OMNI	VORE: upper-canopy	forager
American Gold-	Verdin	•	Elegant Trogon	Cape May	Gray Jay
finch	Bushtit		Black-whiskered	Warbler	Blue Jay
imen	Eastern Bluebird		Vireo		Pinyon Jay
	Western Bluebird		Hermit Warbler		Clark's Nutcrack
	Mountain Bluebird		Western Tanager		Pygmy Nuthatch
	Hermit Thrush		Rose-breasted		Altamira Oriole
	Sage Thrasher		Grosbeak		
	White-eyed Vireo		Black-headed		
	Solitary Vireo		Grosbeak		
	Orange-crowned		Northern Oriole		
	Warbler		Pine Grosbeak		
	Magnolia Warbler		Red Crossbill		
	Black-throated		White-winged		
	Blue Warbler		Crossbill		
	Yellow-rumped		Pine Siskin		
	Warbler		Evening Grosbeak		
	Pine Warbler		OMN	IVORE: water bottom f	orager
	Brewer's Sparrow		Oldsquaw	Canvasback	
	OMNIVORE: marsh dabbler		Black Scoter	Ring-necked Duck	
		Iottled Duck		Lesser Scaup	
		Iottica Dacii		Common Golden-	
	OMNIVORE: marsh forager			eye	
	Yellow Rail			Barrow's Golden-	
	Virginia Rail			eye	
	Sora			Bufflehead	
	Whooping Crane			Ruddy Duck	
	OMNIVORE: mud forager		0	MNIVORE: water dabb	
	C	ommon Snipe	Spectacled Eider		American Black
	OMNIVORE: mud prober				Duck
Short-billed Dowitcher			О	MNIVORE: water strai Northern Shoveler	ner
	OMNIVORE: mud strainer		PIS	CIVORE: coastal ambu	sher
	Greater Flamingo		Tricolored Heron		
	OMNIVORE: pelagic forager	•		PISCIVORE: coastal div	
	British Storm-		Common Murre	Red-throated Loon	
	Petrel		Thick-billed	Arctic Loon	
			Murre	Common Loon	Pelagic Cormora
	OMNIVORE: pelagic scavenge	er	Black Guillemot	Yellow-billed Loon	
	Black-footed Alba-		Pigeon Guillemot	Horned Grebe	rant
	tross		Marbled Murrelet	Red-necked Grebe	
	OMNIVORE: salt-marsh forag	er	Rhinoceros Auklet	Red-breasted Mer-	
	Clapper Rail		Tufted Puffin	ganser	
		a r	Atlantic Puffin Horned Puffin		
	OMNIVORE: salt-marsh probe King Rail	ε <i>1</i>			. • .
	-		PIS	COVORE: coastal food f	birate
TA71 * 1 1	OMNIVORE: shoreline forage			Magnificent Frig-	
Whimbrel	1	ish Crow		atebird	
Bristle-thighed				Laughing Gull	
Curlew				ISCIVORE: coastal plur	
Purple Sandpipe	<u>-1</u>		Elegant Tern	Masked Booby	Northern Ganne
Herring Gull			Roseate Tern	Blue-footed Booby	Brown Pelican
TTdat. = O. 1	OMNIVORE: shoreline probe	r	Aleutian Tern	Brown Booby	Royal Tern
Hudsonian God			Sooty Tern	Red-footed Booby	Sandwich Tern
	OMNIVORE: shoreline scaveng			Caspian Tern	
Herring Gull	F	ish Crow		Common Tern	

	Nonbreeding			Nonbreeding	
Breeding period	period	Year round	Breeding period	period	Year round
PISCIVORE: coastal surface gleaner		P	ISCIVORE: water ambus	her	
Razorbill	American White Pelican Magnificent Frig- atebird Laughing Gull Heermann's Gull			Tricolored Heron	Least Bittern Great Blue Heron Little Blue Heron Reddish Egret Green-backed Heron
		r.			Black-crowned
Common Loon	PISCIVORE: freshwater d				Night Heron
Yellow-billed Loo	n	Anhinga Common Mer-			Greater Yellow-
Horned Grebe	11				leggs
Red-necked Grebe	•	ganser		PISCIVORE: water dive	r
Western Grebe	•		Red-throated Loon		Great Cormorant
Hooded Merganse Red-breasted Mer			Arctic Loon	Hooded Merganser	Double-crested Cormorant
ganser					Olivaceous Cormo
PIS	SCIVORE: freshwater plu	9	DIG	CIVORE, water foot blu	
		Green Kingfisher	F 10	CIVORE: water foot-plu	Osprey
		Great Kiskadee			Bald Eagle
PISCIV	/ORE: freshwater surface	e gleaner			White-tailed Eagle
American White	,	3		_	
Pelican				PISCIVORE: water plung	
			Caspian Tern		Forster's Tern
	PISCIVORE: pelagic div		Common Tern		Belted Kingfisher
	Arctic Loon	Black-legged Kitti-	Arctic Tern		
	Red-necked Grebe	wake	Least Tern		
	Audubon's Shear- water	Red-legged Kitti- wake	P	ISCIVORE: water skimn	ner
	Common Murre	wake			Black Skimmer
	Thick-billed		,	DISCINODE: anatam atmain	
	Murre		ļ	PISCIVORE: water strain	
	Black Guillemot				Roseate Spoonbill
	Pigeon Guillemot		VERN	AIVORE: coastal beach g	leaner
	Marbled Murrelet			Black-bellied	
	Rhinoceros Auklet			Plover	
	Tufted Puffin			Snowy Plover	
	Atlantic Puffin			Western Sandpiper	
	Horned Puffin			Dunlin	
F	PISCIVORE: <i>pelagic plun</i> White-tailed	ger	VERM Bar-tailed Godwit	MIVORE: coastal beach p Marbled Godwit	prober
	Tropicbird			Short-billed Dowitcher	
	Red-billed Tropic-			Downener	
	bird			RE: freshwater shorelin	ne gleaner
PI	SCIVORE: pelagic scaver	n per	Least Sandpiper		
	Pink-footed Shear-	-507		RMIVORE: ground glea	ner
	water		American Robin		
	Greater Shear-		VI	ERMIVORE: ground pro	ber
	water		White-rumped	-	American Wood-
	Manx Shearwater		Sandpiper		cock
	Black-vented Shearwater		Dunlin Common Snipe		
***	•	,	•	mn. m	
PISCI Brown Noddy	IVORE: <i>pelagic surface g</i> Heerman's Gull	geaner	· V	ERMIVORE: mud glean Common Black-	er Semipalmated
•	Razorbill			headed Gull	Plover

Foraging Guild Classification (Continued)

Breeding period	Nonbreeding period	Year round
VE	RMIVORE: shoreline gled	iner
Black-bellied Plover	Least Sandpiper	
VE	RMIVORE: shoreline pro	ber
Stilt Sandpiper	•	

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Appendix I. Taxonomic list of North American birds and their foraging guilds.

(Sci. name AOU list)	Breeding period	Nonbreeding period	Year round
Red-throated Loon	Piscivore:	Piscivore:	
Gavia stellata	water diver	coastal diver	
Arctic Loon	Piscivore:	Piscivore:	
Gavia arctica	water diver	coastal diver	
		pelagic diver	
Common Loon	Piscivore:	Piscivore:	
Gavia immer	freshwater diver	coastal diver	
ellow-billed Loon	Piscivore:	Piscivore:	
Gavia adamsii	freshwater diver	coastal diver	
Least Grebe		0045141 41701	Insectivore:
Tachybaptus dominicus			freshwater diver
Pied-billed Grebe	Insectivore:	Insectivore:	Hestiwater urver
Podilymbus podiceps	freshwater diver	water diver	
1 out ymous poutceps	Crustaceovore:	Crustaceovore:	
	freshwater diver	water diver	
Horned Grebe	Insectivore:	Crustaceovore:	
Podiceps auritus	freshwater diver		
Fourceps auritus	Piscivore:	coastal diver	
		Piscivore:	
and marked Cooks	freshwater diver	coastal diver	
Red-necked Grebe	Piscivore:	Piscivore:	
Podiceps grisegena	freshwater diver	coastal diver	
	Crustaceovore:	pelagic diver	
	freshwater diver		
	Insectivore:		
	freshwater diver		
Eared Grebe		Crustaceovore:	Insectivore:
Podiceps nigricollis		coastal diver	freshwater diver
Western Grebe	Piscivore:	Piscivore:	
Aechmophorus occidentalis	freshwater diver	water diver	
Short-tailed Albatross		Molluscovore:	
Diomedea albatrus		pelagic surface gleaner	
		pelagic scavenger	
		Carnivore:	
		pelagic scavenger	
Black-footed Albatross		Omnivore:	
Diomedea nigripes		pelagic scavenger	
Laysan Albatross		Molluscovore:	
Diomedea immutabilis		pelagic surface gleaner	
			Carnivore:
Northern Fulmar			pelagic scavenger
Northern Fulmar Fulmarus glacialis			
Fulmarus glacialis		Carnivore:	
		Carnivore: pelagic scavenger	
Fulmarus glacialis Cory's Shearwater		Carnivore: pelagic scavenger Piscivore:	. 0

pecies name (Sci. name AOU list)	Breeding period	Nonbreeding period	Year round
Greater Shearwater		Piscivore:	
Puffinus gravis		pelagic scavenger	
 3		Molluscovore:	
		pelagic surface gleaner	
Buller's Shearwater		Crustaceovore:	
Puffinus bulleri		pelagic surface gleaner	
- .		Molluscovore:	
		pelagic surface gleaner	
Sooty Shearwater		Carnivore:	
Puffinus griseus		pelagic scavenger	
Short-tailed Shearwater		Crustaceovore:	
Puffinus tenuirostris		pelagic scavenger	•
Manx Shearwater		Piscivore:	
Puffinus puffinus		pelagic scavenger	
Black-vented Shearwater		Piscivore:	
Puffinus opisthomelas		pelagic scavenger	
Audubon's Shearwater		Piscivore:	
Puffinus lherminieri		pelagic diver	
-		Molluscovore:	
		pelagic surface gleaner	
Vilson's Storm-Petrel		Crustaceovore:	
Oceanites oceanicus		pelagic scavenger	
ritish Storm-Petrel		Omnivore:	
Hydrobates pelagicus		pelagic forager	
ork-tailed Storm-Petrel		1 3 3	Carnivore:
Oceanodroma furcata			pelagic scavenger
each's Storm-Petrel			Carnivore:
Oceanodroma leucorhoa			pelagic scavenger
shy Storm-Petrel			Crustaceovore:
Oceanodroma homochroa			pelagic surface gleaner
Black Storm-Petrel		Carnivore:	1 3
Oceanodroma melania		pelagic scavenger	
east Storm-Petrel		Crustaceovore:	
Oceanodroma microsoma		pelagic surface gleaner	
Vhite-tailed Tropicbird		Piscivore:	
Phaethon lepturus		pelagic plunger	
Triadirion topiaras		Molluscovore:	
		pelagic plunger	
ed-billed Tropicbird		Piscivore:	
Phaethon aethereus		pelagic plunger	
		Molluscovore:	
		pelagic plunger	
lasked Booby		Piscivore:	
Sula dactylatra		coastal plunger	
		Piscivore:	
Blue-footed Booby Sula nebouxii		coastal plunger	
		Piscivore:	
rown Booby		coastal plunger	
Sula leucogaster			
Red-footed Booby		Piscivore:	
Sula sula		coastal plunger	
		Molluscovore:	
		coastal plunger	·
Northern Gannet Sula bassanus			Piscivore: coastal plunger
American White Pelican	Piscivore:	Piscivore:	
Pelecanus erythrorhynchos	freshwater surface gleaner	coastal surface gleaner	•
, ,	J	· ·	Piscivore:
Brown Pelican			r iscivoi c.

Species name (Sci. name AOU list)	Breeding period	Nonbreeding period	Year round
Great Cormorant			Piscivore:
Phalacrocorax carbo			water diver
Pouble-crested Cormorant			Piscivore:
Phalacrocorax auritus			water diver
Olivaceous Cormorant			Piscivore:
Phalacrocorax olivaceus			water diver
Brandt's Cormorant			Piscivore:
			coastal diver
Phalacrocorax penicillatus			Piscivore:
Pelagic Cormorant			coastal diver
Phalacrocorax pelagicus			Piscivore:
Red-faced Cormorant			coastal diver
Phalacrocorax urile			Crustaceovore:
			coastal diver
Anhinga			Piscivore:
Anhinga anhinga			freshwater diver
Magnificent Frigatebird		Piscivore:	
Fregata magnificens		coastal surface gleaner	
		coastal food pirate	
American Bittern			Carnivore:
Botaurus lentiginosus			water ambusher
3			Insectivore:
			water ambusher
	•		Crustaceovore:
			water ambusher
Least Bittern			Piscivore:
Isobrychus exilis			water ambusher
13001 yerras extres			Insectivore:
			water ambusher
Great Blue Heron			Piscivore:
			water ambusher
Ardea herodias			Carnivore:
Great Egret			
Casmerodius albus			water ambusher
			Crustaceovore:
			water ambusher
Snowy Egret			Crustaceovore:
Egretta thula			water ambusher
			Carnivore:
			water ambusher
Little Blue Heron			Crustaceovore:
Egretta caerulea			water ambusher
3			Piscivore:
			water ambusher
Tricolored Heron	Piscivore:	Piscivore:	
Egretta tricolor	coastal ambusher	water ambusher	
	Crustaceovore:	Crustaceovore:	
	coastal ambusher	water ambusher	
Reddish Egret	oracia annaona		Piscivore:
Egretta rufescens			water ambusher
Cattle Egret			Insectivore:
Bubulcus ibis			ground gleaner
			Crustaceovore:
Green-backed Heron			water ambusher
Butorides striatus			
			Piscivore:
			water ambusher
Black-crowned Night-Heron			Piscivore:
Nycticorax nycticorax			water ambusher
			Crustaceovore:
			water ambusher

Species name (Sci. name AOU list)	Breeding period	Nonbreeding period	Year round
Yellow-crowned Night-Heron Nycticorax violaceus White Ibis Eudocimus albus Scarlet Ibis Eudocimus ruber		Crustaceovore: mud prober Molluscovore: mud prober	Crustaceovore: water ambusher Crustaceovore: mud prober
Glossy Ibis Plegadis falcinellus		maa prooci	Crustaceovore: mud prober Insectivore:
White-faced Ibis Plegadis chihi			mud gleaner Crustaceovore: mud prober Insectivore: mud gleaner
Roseate Spoonbill <i>Ajaia ajaia</i>			Piscivore: water strainer Crustaceovore: mud strainer
Wood Stork Mycteria americana			Carnivore: water ambusher Crustaceovore: water ambusher Molluscovore: water ambusher
Greater Flamingo Phoenicopterus ruber Fulvous Whistling-Duck Dendrocygna bicolor		Omnivore: mud strainer	Granivore: ground gleaner
Black-bellied Whistling-Duck Dendrocygna autumnalis			freshwater dabbler Herbivore: freshwater dabbler Granivore: ground gleaner
Fundra Swan Cygnus columbianus Whooper Swan Cygnus cygnus Frumpeter Swan Cygnus buccinator Mute Swan Cygnus olor Pink-footed Goose Anser brachyrhynchus	Herbivore: freshwater dabbler Herbivore: freshwater dabbler Herbivore: freshwater dabbler ground grazer Herbivore: ground grazer	Herbivore: water dabbler Herbivore: coastal dabbler Herbivore: water dabbler Herbivore: water dabbler	g. outre g.cunox
Greater White-fronted Goose Anser albifrons Snow Goose Chen caerulescens Ross' Goose Chen rossii	g. cana g. uoc.	Herbivore: water grubber	Herbivore: ground grazer Herbivore: ground grazer Herbivore: ground grazer
Emperor Goose Chen canagica Brant Branta bernicla Barnacle Goose Branta leucopsis	Herbivore: ground grazer Herbivore: ground grazer Herbivore:	Herbivore: coastal dabbler Herbivore: coastal dabbler	P- 2 9- 200
Canada Goose Branta canadensis	ground grazer Herbivore: water dabbler	Herbivore: water dabbler	Herbivore: ground grazer

Species name (Sci. name AOU list)	Breeding period	Nonbreeding period	Year round
Wood Duck Aix sponsa	01	01	Granivore: ground gleaner
Green-winged Teal	Granivore:	Granivore:	freshwater surface gleaner
Anas crecca	freshwater dabbler	water dabbler	
American Black Duck Anas rubripes Mottled Duck			Omnivore: water dabbler Omnivore:
Anas fulvigula		TI. I	marsh dabbler
Mallard Anas platyrhynchos	Granivore: ground gleaner	Herbivore: ground grazer	Granivore: freshwater dabbler
Northern Pintail Anas acuta	Granivore: freshwater dabbler	Omnivore: coastal beach forager	noskwater dabbter
Blue-winged Teal Anas discors		coastal dabbler	Omnivore: freshwater dabbler
Cinnamon Teal	Omnivore:	Herbivore:	Trestanding dassier
Anas cyanoptera	freshwater dabbler	freshwater dabbler	
Northern Shoveler Anas clypeata	Omnivore: freshwater strainer	Omnivore: water strainer	
Gadwall	Herbivore:	Herbivore:	
Anas strepera	freshwater dabbler	water dabbler	
Eurasian Wigeon		Herbivore: coastal dabbler	
Anas penelope American Wigeon	Herbivore:	coastal dabbier	Herbivore:
Anas americana	ground grazer		water dabbler
Canvasback	Omnivore:	Omnivore:	
Aythya valisineria Redhead	freshwater bottom forager	water bottom forager	Herbivore:
Aythya americana			water diver
Ring-necked Duck	Omnivore:	Omnivore:	
Aythya collaris	freshwater bottom forager	water bottom forager	
Tufted Duck		Molluscovore:	
Aythya fuligula		water bottom gleaner Crustaceovore:	
		water bottom gleaner	
Greater Scaup	Omnivore:	Molluscovore:	
Aythya marila	freshwater bottom gleaner	coastal bottom gleaner	
Lesser Scaup	Crustaceovore:	Omnivore:	
Aythya affinis Common Eider	freshwater bottom gleaner	water bottom forager	Molluscovore:
Somateria mollissima			coastal bottom gleaner Crustaceovore: coastal bottom gleaner
King Eider	Molluscovore:	Molluscovore:	
Somateria spectabilis	water bottom gleaner Crustaceovore: water bottom gleaner	coastal bottom gleaner Crustaceovore: coastal bottom gleaner	
Spectacled Eider Somateria fisheri	Omnivore: water dabbler	Molluscovore: coastal bottom gleaner	
Steller's Eider	Omnivore:	Molluscovore:	
Polysticta stelleri	coastal bottom forager	coastal bottom gleaner Crustaceovore: coastal bottom gleaner	
Harlequin Duck	Insectivore:	Crustaceovore:	
Histrionicus histrionicus	riparian bottom gleaner	coastal bottom gleaner Molluscovore: coastal bottom gleaner	

Appendix I. Continued	Appendix	1. (Continu	ied.
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Species name (Sci. name AOU list)	Breeding period	Nonbreeding period	Year round
Oldsquaw Clangula hyemalis	Omnivore: water bottom forager	Crustaceovore: coastal bottom gleaner Molluscovore: coastal bottom gleaner	
Black Scoter Melanitta nigra	Omnivore: water bottom forager	Molluscovore: coastal bottom gleaner Crustaceovore: coastal bottom gleaner	
Surf Scoter Melanitta perspicillata	Omnivore: freshwater bottom forager	Molluscovore: coastal bottom forager Crustaceovore: coastal bottom gleaner	
White-winged Scoter Melanitta fusca	Molluscovore: freshwater bottom gleaner Crustaceovore: freshwater bottom gleaner	Molluscovore: coastal bottom gleaner Crustaceovore: coastal bottom gleaner	
Common Goldeneye Bucephala clangula Barrow's Goldeneye Bucephala islandica Bufflehead Bucephala albeola Hooded Merganser Lophodytes cucullatus	Omnivore: freshwater bottom forager Omnivore: freshwater bottom forager Insectivore: freshwater bottom gleaner Piscivore: freshwater diver Insectivore: freshwater bottom gleaner Crustaceovore: freshwater bottom gleaner	Omnivore: water bottom forager Omnivore: water bottom forager Omnivore: water bottom gleaner Piscivore: water diver Insectivore: water bottom gleaner Crustaceovore: water bottom gleaner	
Common Merganser Mergus merganser	mosimater Sottom Graman		Piscivore: freshwater diver
Red-breasted Merganser Mergus serrator Ruddy Duck Oxyura jamaicensis Masked Duck	Piscivore: freshwater diver Omnivore: freshwater bottom forager Herbivore:	Piscivore: coastal diver Omnivore: water bottom forager Herbivore:	
Oxyura dominica Black Vulture Coragyps atratus Turkey Vulture Cathartes aura California Condor Gymnogyps californianus Osprey Pandion haliaetus	freshwater diver	water diver	Carnivore: ground scavenger Carnivore: ground scavenger Carnivore: ground scavenger Piscivore: water foot-plunger
American Swallow-tailed Kite Elanoides forficatus	Insectivore: air hawker Carnivore: ground hawker		
Black-shouldered Kite Elanus caeruleus Snail Kite Rostrhamus sociabilis Mississippi Kite Ictinia mississippiensis Bald Eagle Haliaeetus leucocephalus			Carnivore: ground hawker Molluscovore: fresh-marsh hover-gleaner Insectivore: air hawker Piscivore: water foot-plunger Carnivore: ground scavenger

Appendix I.	Continued.
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Species name (Sci. name AOU list)	Breeding period	Nonbreeding period	Year round
White-tailed Eagle			Piscivore:
Haliaeetus albicilla			water foot-plunger
			Carnivore:
			air hawker
Northern Harrier			Carnivore:
Circus cyaneus			ground hawker
Sharp-shinned Hawk			Carnivore:
Accipiter striatus			air hawker
0 111 1			ground hawker
Cooper's Hawk			Carnivore:
Accipiter cooperii			air hawker
NII			ground hawker
Northern Goshawk			Carnivore:
Accipiter gentilis			air hawker
Common Black-Hawk			ground hawker Carnivore:
Buteogallus anthracinus Harris' Hawk			ground hawker Carnivore:
Parabuteo unicinctus			
Gray Hawk	Carnivore:		ground hawker
Buteo nitidus	ground hawker		
Dates mitals	Insectivore:		
	air hawker		
Red-shouldered Hawk	all llawkei		Carnivore:
Buteo lineatus			ground hawker
Broad-winged Hawk			Carnivore:
Buteo platypterus			ground hawker
Short-tailed Hawk			Carnivore:
Buteo brachyurus			ground hawker
Swainson's Hawk			Carnivore:
Buteo swainsoni			ground hawker
			Insectivore:
		•	air hawker
White-tailed Hawk			Carnivore:
Buteo albicaudatus			ground hawker
Zone-tailed Hawk			Carnivore:
Buteo albonotatus			ground hawker
Red-tailed Hawk			Carnivore:
Buteo jamaicensis			ground hawker
Ferruginous Hawk			Carnivore:
Buteo regalis			ground hawker
Rough-legged Hawk			Carnivore:
Buteo lagopus			ground hawker
Golden Eagle		Carnivore:	Carnivore:
Aquila chrysaetos		ground scavenger	ground hawker
Crested Caracara		-	Carnivore:
Polyborus plancus			ground scavenger
American Kestrel	Insectivore:		Carnivore:
Falco sparverius	air hawker		ground hawker
Merlin			Carnivore:
Falco columbarius			air hawker
Aplomado Falcon	Carnivore:		
Falco femoralis	ground hawker		
	Insectivore:		
	air hawker		
Peregrine Falcon			Carnivore:
Falco peregrinus			air hawker
Gyrfalcon			Carnivore:
Falco rusticolus			air hawker

Species name (Sci. name AOU list)	Breeding period	Nonbreeding period	Year round
Prairie Falcon Falco mexicanus			Carnivore: air hawker ground hawker
Plain Chachalaca Ortalis vetula			Frugivore: ground gleaner Herbivore: upper-canopy forager
Gray Partridge	Omnivore:	Granivore:	apper canopy forager
Perdix perdix Chukar	ground forager	ground gleaner	Herbivore:
Alectoris chukar			ground forager
Ring-necked Pheasant	Omnivore:	Herbivore:	ground for ager
Phasianus colchicus	ground forager	ground forager	
Spruce Grouse	Omnivore:	Herbivore:	
Dendragapus canadensis	ground forager	upper-canopy forager	
Blue Grouse	Omnivore:	Herbivore:	
Dendragapus obscurus	ground forager	upper-canopy forager	
Willow Ptarmigan	Herbivore:	Herbivore:	
Lagopus lagopus	ground forager	lower-canopy forager	
Rock Ptarmigan	Herbivore:	Herbivore:	
Lagopus mutus	ground forager	lower-canopy forager	
White-tailed Ptarmigan	Herbivore:	Herbivore:	
Lagopus leucurus	ground forager	lower-canopy forager	
Ruffed Grouse	Omnivore:	Herbivore:	
Bonasa umbellus	ground forager	upper-canopy forager	
Sage Grouse			Herbivore:
Centrocercus urophasianus			ground forager
Greater Prairie-Chicken	Omnivore:	Herbivore:	
Tympanuchus cupido	ground forager	ground forager	
Lesser Prairie-Chicken	Omnivore:	Herbivore:	
Tympanuchus pallidicinctus	ground forager	ground forager	
Sharp-tailed Grouse	Omnivore:	Herbivore:	
Tympanuchus phasianellus	ground forager	upper-canopy forager	
Wild Turkey	Omnivore:	Herbivore:	
Meleagris gallopavo	ground forager	ground forager Herbivore:	
Montezuma Quail	Omnivore:		
Cyrtonyx montezumae	ground forager	ground grubber	Omnivore:
Northern Bobwhite			ground forager
Colinus virginianus Scaled Quail			Omnivore:
Callipepla squamata			ground forager
			Herbivore:
Gambel's Quail			ground forager
Callipepla gambelii	.	Herbivore:	ground torage.
California Quail	Granivore:	ground forager	
Callipepla californica	ground gleaner	9	
Mountain Quail	Herbivore:	Granivore:	
Oreortyx pictus	ground forager	ground gleaner	
Yellow Rail	Omnivore:	Omnivore:	
Coturnicops noveboracensis	fresh-marsh forager	marsh forager	
Black Rail	Insectivore:	Crustaceovore:	
Laterallus jamaicensis	marsh gleaner Crustaceovore: marsh gleaner	salt-marsh gleaner	
Clanner Rail	_	Omnivore:	
Clapper Rail	Crustaceovore: salt-marsh gleaner	salt-marsh forager	
Rallus longirostris	Molluscovore: salt-marsh gleaner	sait-mai sii tot agei	

Appendix I.	Continued.
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(Sci. name AOU list)	Breeding period	Nonbreeding period	Year round
King Rail Rallus elegans	Crustaceovore:	Omnivore:	
Ratius etegans	marsh prober Insectivore:	salt-marsh prober	
Vineinia Dail	marsh prober	Omnivore:	
Virginia Rail	Insectivore:		
Rallus limicola	marsh prober	marsh forager	
	Molluscovore:		
,	marsh prober	_	
Sora	Omnivore:	Omnivore:	
Porzana carolina	fresh-marsh forager	marsh forager	
Purple Gallinule			Omnivore:
Porphyrula martinica			fresh-marsh forager
Common Moorhen			Omnivore:
Gallinula chloropus			fresh-marsh forager
American Goot	Omnivore:	Herbivore:	
Fulica americana	freshwater dabbler	water dabbler	
	freshwater diver	water diver	
Limpkin	in the state of th	17 44761	Molluscovore:
Aramus guarauna			
andhill Crane			fresh-marsh gleaner
Grus canadensis			Omnivore:
Gras canadensis			fresh-marsh forager
VII C		o .	ground forager
Vhooping Crane	Omnivore:	Omnivore:	Omnivore:
Grus americana	fresh-marsh forager	marsh forager	ground forager
llack-bellied Plover	Crustaceovore:	Crustaceovore:	
Pluvialis squatarola	shoreline gleaner	coastal beach gleaner	
	Insectivore:	Molluscovore:	
	shoreline gleaner	coastal beach gleaner	
	Vermivore:	Insectivore:	
	shoreline gleaner	coastal beach gleaner	
	J	Vermivore:	
		coastal beach gleaner	
Lesser Golden-Plover	Insectivore:	3	
Pluvialis dominica	ground gleaner		
nowy Plover	Crustaceovore:	Crustaceovore:	
Charadrius alexandrinus	shoreline gleaner	coastal beach gleaner	
Charachius alexanarinus			
Charaarius diexanarinus	· ·	v ermiyore:	
Charactus dexallatinus	Ü	Vermivore:	
Vilson's Ployer	v	coastal beach gleaner	Insectivore
Vilson's Plover	Ü		Insectivore:
	Ü		coastal beach gleaner
Vilson's Plover	Ü		coastal beach gleaner Crustaceovore:
Vilson's Plover Charadrius wilsonia			coastal beach gleaner
Vilson's Plover Charadrius wilsonia ommon Ringed Plover	Omnivore:		coastal beach gleaner Crustaceovore:
Vilson's Plover Charadrius wilsonia ommon Ringed Plover Charadrius hiaticula	Omnivore: coastal beach forager	coastal beach gleaner	coastal beach gleaner Crustaceovore: coastal beach gleaner
Vilson's Plover Charadrius wilsonia common Ringed Plover Charadrius hiaticula emipalmated Plover	Omnivore: coastal beach forager Molluscovore:	coastal beach gleaner Molluscovore:	coastal beach gleaner Crustaceovore: coastal beach gleaner Vermivore:
Vilson's Plover Charadrius wilsonia common Ringed Plover Charadrius hiaticula	Omnivore: coastal beach forager Molluscovore: shoreline gleaner	coastal beach gleaner Molluscovore: coastal beach gleaner	coastal beach gleaner Crustaceovore: coastal beach gleaner
Vilson's Plover Charadrius wilsonia common Ringed Plover Charadrius hiaticula emipalmated Plover	Omnivore: coastal beach forager Molluscovore: shoreline gleaner Crustaceovore:	coastal beach gleaner Molluscovore: coastal beach gleaner Crustaceovore:	coastal beach gleaner Crustaceovore: coastal beach gleaner Vermivore:
Vilson's Plover Charadrius wilsonia common Ringed Plover Charadrius hiaticula emipalmated Plover	Omnivore: coastal beach forager Molluscovore: shoreline gleaner Crustaceovore: shoreline gleaner	coastal beach gleaner Molluscovore: coastal beach gleaner Crustaceovore: coastal beach gleaner	coastal beach gleaner Crustaceovore: coastal beach gleaner Vermivore:
Vilson's Plover Charadrius wilsonia common Ringed Plover Charadrius hiaticula emipalmated Plover	Omnivore: coastal beach forager Molluscovore: shoreline gleaner Crustaceovore: shoreline gleaner Insectivore:	coastal beach gleaner Molluscovore: coastal beach gleaner Crustaceovore: coastal beach gleaner Insectivore:	coastal beach gleaner Crustaceovore: coastal beach gleaner Vermivore:
Vilson's Plover Charadrius wilsonia ommon Ringed Plover Charadrius hiaticula emipalmated Plover Charadrius semipalmatus	Omnivore: coastal beach forager Molluscovore: shoreline gleaner Crustaceovore: shoreline gleaner	coastal beach gleaner Molluscovore: coastal beach gleaner Crustaceovore: coastal beach gleaner	coastal beach gleaner Crustaceovore: coastal beach gleaner Vermivore:
Vilson's Plover Charadrius wilsonia common Ringed Plover Charadrius hiaticula emipalmated Plover Charadrius semipalmatus	Omnivore: coastal beach forager Molluscovore: shoreline gleaner Crustaceovore: shoreline gleaner Insectivore: shoreline gleaner Insectivore:	Molluscovore: coastal beach gleaner coastal beach gleaner Crustaceovore: coastal beach gleaner Insectivore: coastal beach gleaner Insectivore: coastal beach gleaner Insectivore:	coastal beach gleaner Crustaceovore: coastal beach gleaner Vermivore:
Vilson's Plover Charadrius wilsonia common Ringed Plover Charadrius hiaticula emipalmated Plover Charadrius semipalmatus	Omnivore: coastal beach forager Molluscovore: shoreline gleaner Crustaceovore: shoreline gleaner Insectivore: shoreline gleaner	Molluscovore: coastal beach gleaner Crustaceovore: coastal beach gleaner Insectivore: coastal beach gleaner	coastal beach gleaner Crustaceovore: coastal beach gleaner Vermivore:
Vilson's Plover Charadrius wilsonia ommon Ringed Plover Charadrius hiaticula emipalmated Plover Charadrius semipalmatus	Omnivore: coastal beach forager Molluscovore: shoreline gleaner Crustaceovore: shoreline gleaner Insectivore: shoreline gleaner Insectivore:	Molluscovore: coastal beach gleaner coastal beach gleaner Crustaceovore: coastal beach gleaner Insectivore: coastal beach gleaner Insectivore: coastal beach gleaner Insectivore:	coastal beach gleaner Crustaceovore: coastal beach gleaner Vermivore:
Vilson's Plover Charadrius wilsonia ommon Ringed Plover Charadrius hiaticula emipalmated Plover Charadrius semipalmatus	Omnivore: coastal beach forager Molluscovore: shoreline gleaner Crustaceovore: shoreline gleaner Insectivore: shoreline gleaner Insectivore: shoreline gleaner Crustaceovore:	Molluscovore: coastal beach gleaner Crustaceovore: coastal beach gleaner Crustaceovore: coastal beach gleaner Insectivore: coastal beach gleaner Insectivore: coastal beach gleaner Insectivore: coastal beach gleaner	coastal beach gleaner Crustaceovore: coastal beach gleaner Vermivore:
Vilson's Plover Charadrius wilsonia common Ringed Plover Charadrius hiaticula emipalmated Plover Charadrius semipalmatus iping Plover Charadrius melodus	Omnivore: coastal beach forager Molluscovore: shoreline gleaner Crustaceovore: shoreline gleaner Insectivore: shoreline gleaner Insectivore: shoreline gleaner Insectivore: shoreline gleaner	Molluscovore: coastal beach gleaner Crustaceovore: coastal beach gleaner Crustaceovore: coastal beach gleaner Insectivore: coastal beach gleaner Insectivore: coastal beach gleaner Crustaceovore:	coastal beach gleaner Crustaceovore: coastal beach gleaner Vermivore:
Vilson's Plover Charadrius wilsonia Common Ringed Plover Charadrius hiaticula emipalmated Plover Charadrius semipalmatus tiping Plover Charadrius melodus	Omnivore: coastal beach forager Molluscovore: shoreline gleaner Crustaceovore: shoreline gleaner Insectivore: shoreline gleaner Insectivore: shoreline gleaner Crustaceovore: shoreline gleaner Crustaceovore: shoreline gleaner Insectivore:	Molluscovore: coastal beach gleaner Crustaceovore: coastal beach gleaner Crustaceovore: coastal beach gleaner Insectivore: coastal beach gleaner Insectivore: coastal beach gleaner Crustaceovore: coastal beach gleaner Crustaceovore: coastal beach gleaner Insectivore:	coastal beach gleaner Crustaceovore: coastal beach gleaner Vermivore:
Vilson's Plover Charadrius wilsonia common Ringed Plover Charadrius hiaticula emipalmated Plover Charadrius semipalmatus iping Plover Charadrius melodus	Omnivore: coastal beach forager Molluscovore: shoreline gleaner Crustaceovore: shoreline gleaner Insectivore: shoreline gleaner Insectivore: shoreline gleaner Crustaceovore: shoreline gleaner Crustaceovore: shoreline gleaner	Molluscovore: coastal beach gleaner Crustaceovore: coastal beach gleaner Crustaceovore: coastal beach gleaner Insectivore: coastal beach gleaner Insectivore: coastal beach gleaner Crustaceovore: coastal beach gleaner Crustaceovore: coastal beach gleaner	coastal beach gleaner Crustaceovore: coastal beach gleaner Vermivore:

Appendix I. C	ontinued.
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Appendix I. Continued.			
Species name			
(Sci. name AOU list)	Breeding period	Nonbreeding period	Year round
Eurasian Dotterel Charadrius morinellus	Insectivore: coastal beach gleaner		
American Oystercatcher Haematopus palliatus			Molluscovore: coastal beach prober
American Black Oystercatcher			Molluscovore:
Haematopus bachmani			coastal rock gleaner
Black-necked Stilt Himantopus mexicanus			Insectivore:
American Avocet			freshwater gleaner Omnivore:
Recurvirostra americana	_		marsh forager
Northern Jacana Jacana spinosa	Insectivore:		
Greater Yellowlegs	fresh-marsh gleaner		Piscivore:
Tringa melanoleuca			water ambusher
			Insectivore:
Lesser Yellowlegs			water surface gleaner Insectivore:
Tringa flavipes			water surface gleaner
			Crustaceovore:
Wood Sandpiper	Insectivore:		water surface gleaner
Tringa glareola	freshwater gleaner		
Solitary Sandpiper	Insectivore:	Insectivore:	Crustaceovore:
<i>Tringa solitaria</i> Willet	freshwater gleaner Insectivore:	water surface gleaner Insectivore:	freshwater gleaner
Catoptrophorus	shoreline prober	coastal beach prober	
semipalmatus	Crustaceovore:	Crustaceovore:	
Wandering Tattler	shoreline prober Insectivore:	coastal beach prober Insectivore:	
Heteroscelus incanus	freshwater shoreline gleaner	coastal beach gleaner	
Spotted Sandpiper			Insectivore:
Actitis macularia Upland Sandpiper	Insectivore:		shoreline gleaner
Bartramia longicauda	ground gleaner		
Eskimo Curlew	Insectivore:		
Numenius borealis Whimbrel	ground gleaner Omnivore:	Crustaceovore:	
Numenius phaeopus	shoreline forager	coastal beach prober	
		Molluscovore: coastal beach prober	
Bristle-thighed Curlew	Omnivore:	coastat beach prober	
Numenius tahitiensis	shoreline forager		
Long-billed Curlew Numenius americanus	Omnivore: ground forager	Insectivore: shoreline gleaner	
ivamentus americanus	ground totager	Crustaceovore:	
		shoreline prober	
Hudsonian Godwit Limosa haemastica	Omnivore: shoreline prober		
Bar-tailed Godwit	Insectivore:		
Limosa lapponica	shoreline prober		
	Molluscovore: shoreline prober		
	Crustaceovore:		
	shoreline prober		
•	Vermivore: coastal beach prober		
Marbled Godwit	Insectivore:	Crustaceovore:	
Limosa fedoa	shoreline prober	coastal beach prober	

Species name (Sci. name AOU list)	Breeding period	Nonbreeding period	Year round
	Molluscovore: shoreline prober	Molluscovore: coastal beach prober Vermivore: coastal beach prober	
Ruddy Turnstone Arenaria interpres	Omnivore: coastal beach forager	Crustaceovore: coastal rock gleaner Molluscovore: coastal rock gleaner	
Black Turnstone Arenaria melanocephala			Molluscovore: coastal rock gleaner Crustaceovore: coastal rock gleaner coastal beach gleaner
Surfbird <i>Aphriza virgata</i>	Insectivore: ground gleaner	Molluscovore: coastal rock gleaner Crustaceovore: coastal rock gleaner	
Red Knot Calidris canutus	Crustaceovore: freshwater shoreline gleaner Insectivore: freshwater shoreline gleaner	Molluscovore: coastal beach gleaner Crustaceovore: coastal beach gleaner	
Sanderling Calidris alba	Insectivore: freshwater shoreline gleaner Crustaceovore: freshwater shoreline gleaner	Crustaceovore: coastal beach prober Molluscovore: coastal beach prober	
Semipalmated Sandpiper Calidris pusilla	Insectivore: shoreline gleaner Crustaceovore: shoreline gleaner	·	
Western Sandpiper Calidris mauri	Insectivore: shoreline gleaner Crustaceovore: shoreline gleaner	Insectivore: coastal beach gleaner Molluscovore: coastal beach gleaner Vermivore: coastal beach gleaner	
Rufous-necked Stint Calidris ruficollis	Insectivore: shoreline gleaner Crustaceovore: shoreline gleaner		
Least Sandpiper Calidris minutilla	Insectivore: freshwater shoreline gleaner Crustaceovore: freshwater shoreline gleaner Vermivore: freshwater shoreline gleaner	Insectivore: shoreline gleaner Crustaceovore: shoreline gleaner Vermivore: shoreline gleaner	
White-rumped Sandpiper Calidris fuscicollis	Insectivore: mud gleaner Crustaceovore: mud prober Vermivore: ground prober	Silvi omic greanes	
Baird's Sandpiper Calidris bairdii	Insectivore: mud gleaner Crustaceovore: mud gleaner		
Pectoral Sandpiper	Insectivore:		

Pectoral Sandpiper Calidris melanotos Insectivore: ground gleaner

Appendix I.	Continued.

Appendix I. Continued.			
Species name (Sci. name AOU list)	Breeding period	Nonbreeding period	Year round
Purple Sandpiper Calidris maritima	Omnivore: shoreline forager	Insectivore: coastal rock gleaner Crustaceovore: coastal rock gleaner	
Rock Sandpiper Calidris ptilocnemis	Insectivore: ground gleaner Crustaceovore: shoreline gleaner	Molluscovore: coastal rock gleaner Crustaceovore: coastal rock gleaner Insectivore: coastal rock gleaner	
Dunlin Calidris alpina	Insectivore: mud gleaner Molluscovore: mud prober Crustaceovore: mud prober Vermivore:	Molluscovore: coastal beach prober Crustaceovore: coastal beach prober Vermivore: coastal beach gleaner Insectivore:	
Curlew Sandpiper Calidris ferruginea Stilt Sandpiper Calidris himantopus	ground prober Insectivore: ground gleaner Vermivore: shoreline prober Insectivore: shoreline gleaner Crustaceovore: shoreline prober Molluscovore: shoreline prober	coastal beach gleaner	
Buff-breasted Sandpiper Tryngites subruficollis Short-billed Dowitcher Limnodromus griseus	Insectivore: ground gleaner Omnivore: mud prober	Insectivore: coastal beach gleaner Vermivore: coastal beach prober	
Long-billed Dowitcher Limnodromus scolopaceus Common Snipe Gallinago gallinago American Woodcock Scolopax minor	Insectivore: ground gleaner Vermivore: ground prober	Insectivore: coastal beach gleaner	Omnivore: mud forager Vermivore: ground prober
Wilson's Phalarope Phalaropus tricolor Red-necked Phalarope Phalaropus lobatus Red Phalarope Phalarope Phalaropus fulicaria	Insectivore: freshwater shoreline gleaner Insectivore: water surface gleaner Insectivore: water surface gleaner Crustaceovore: water surface gleaner		
Pomarine Jaeger Stercorarius pomarinus	Carnivore: coastal scavenger air hawker ground hawker	Carnivore: pelagic scavenger pelagic food pirate	
Parasitic Jaeger Stercorarius parasiticus	Carnivore: coastal food pirate ground scavenger	Carnivore: pelagic food pirate	
Long-tailed Jaeger Stercorarius longicaudus	Carnivore: air hawker ground hawker		

Species name (Sci. name AOU list)	Breeding period	Nonbreeding period	Year round
Great Skua Catharacta skua	Carnivore: coastal food pirate coastal scavenger ground hawker	Carnivore: pelagic scavenger	
South Polar Skua		Carnivore:	
Catharacta maccormicki Laughing Gull Larus atricilla	Carnivore: coastal beach scavenger	pelagic scavenger Piscivore: coastal surface gleaner coastal food pirate	
Franklin's Gull Larus pipixcan	Insectivore: air hawker	coustai rood pirate	
Little Gull Larus minutus	Insectivore: freshwater surface gleaner	_	
Common Black-headed Gull Larus ridbundus		Insectivore: air hawker Carnivore: coastal beach scavenger Vermivore: mud gleaner	
Bonaparte's Gull Larus philadelphia	Insectivore: air hawker ground gleaner	Carnivore: coastal beach scavenger coastal surface gleaner	
Heermann's Gull Larus heermanni	ground greater	Piscivore: pelagic surface gleaner coastal surface gleaner Carnivore: coastal beach scavenger	
Mew Gull Larus canus	Carnivore: shoreline gleaner Insectivore: ground gleaner	Carnivore: coastal beach scavenger	
Ring-billed Gull Larus delawarensis	Insectivore: ground gleaner Carnivore: ground hawker	Carnivore: coastal beach scavenger	
California Gull Larus californicus	Insectivore: ground gleaner Carnivore: ground hawker	Carnivore: coastal beach scavenger	
Herring Gull Larus argentatus Thayer's Gull Larus thayeri	Omnivore: shoreline scavenger Carnivore: coastal beach scavenger	Carnivore: shoreline scavenger Carnivore: shoreline scavenger	
Iceland Gull Larus glaucoides Lesser Black-backed Gull Larus fuscus		Carnivore: coastal beach scavenger Carnivore: shoreline scavenger	Carnivore: coastal scavenger
Yellow-footed Gull Larus livens Western Gull Larus occidentalis		Carnivore: coastal beach scavenger	Carnivore: coastal beach scavenger
Glaucous-winged Gull Larus glaucescens		Carnivore: coastal beach scavenger	
Glaucous Gull Larus hyperboreus Great Black-backed Gull Larus marinus Black-legged Kittiwake Rissa tridactyla	Carnivore: air hawker	John John John John John John John John	Carnivore: coastal scavenger Carnivore: coastal beach scavenger Piscivore: pelagic diver

Species name (Sci. name AOU list)	Breeding period	Nonbreeding period	Year round
Red-legged Kittiwake			Piscivore:
Rissa brevirostris			pelagic diver
Sabine's Gull	Insectivore:		
Xema sabini	freshwater surface gleaner		
Ivory Gull	Carnivore:	Carnivore:	
Pagophila eburnea	ground hawker	pealgic scavenger	
Gull-billed Tern	_		Insectivore:
Sterna nilotica			water surface gleaner
Caspian Tern	Piscivore:	Piscivore:	0
Sterna caspia	water plunger	coastal plunger	
Royal Tern	F8	F9	Piscivore:
Sterna maxima			coastal plunger
Elegant Tern	Piscivore:		coastat pranger
Sterna elegans			
Sandwich Tern	coastal plunger		Piscivore:
Sterna sandvicensis	D: :		coastal plunger
Roseate Tern	Piscivore:		
Sterna dougallii	coastal plunger	· ·	
Common Tern	Piscivore:	Piscivore:	
Sterna hirundo	water plunger	coastal plunger	
Arctic Tern	Piscivore:		
Sterna paradisaea	water plunger		
Aleutian Tern	Piscivore:		
Sterna aleutica	coastal plunger		
Forster's Tern			Insectivore:
Sterna forsteri			water surface gleaner
330.112.30.000.0			Piscivore:
			water plunger
Least Tern	Piscivore:		water plunger
Sterna antillarum	_		
	water plunger		
Sooty Tern	Piscivore:		
Sterna fuscata	coastal plunger		
Black Tern	Insectivore:		
Chlidonias niger	freshwater surface gleaner		
	air hawker		
Brown Noddy	Piscivore:		
Anous stolidus	pelagic surface gleaner		
Black Skimmer			Piscivore:
Rynchops niger			water skimmer
, , ,			Crustaceovore:
			water skimmer
Dovekie	Crustaceovore:	Crustaceovore:	
Alle alle	coastal diver	pelagic diver	
Common Murre	Piscivore:	Piscivore:	
Uria aalge	coastal diver		
Oria aaige		pelagic diver	
	Crustaceovore:	Crustaceovore:	
Phiale hills J. M	coastal diver	pelagic diver	
Thick-billed Murre	Piscivore:	Piscivore:	
Uria lomvia	coastal diver	pelagic diver	
	Crustaceovore:	Crustaceovore:	
	coastal surface gleaner	pelagic surface gleaner	
Razorbill	Piscivore:	Piscivore:	
	coastal surface gleaner	pelagic surface gleaner	
Alca torda	~	Crustaceovore:	
Alca torda	Crustaceovore:		
Alca torda	Crustaceovore: coastal surface gleaner	pelagic surface gleaner	
Alca torda		pelagic surface gleaner Molluscovore:	
Alca torda	coastal surface gleaner	Molluscovore:	
Alca torda Black Guillemot	coastal surface gleaner Molluscovore:		

Appendix I.	Continued.
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Species name			
(Sci. name AOU list)	Breeding period	Nonbreeding period	Year round
	Piscivore:	Piscivore:	
	coastal diver	pelagic diver	
Pigeon Guillemot	Piscivore:	Piscivore:	
Cepphus columba	coastal diver	pelagic diver	
coppilat totalion	Crustaceovore:	Crustaceovore:	
	coastal diver	pelagic diver	
	coastal diver	Molluscovore:	
		pelagic diver	
Marbled Murrelet	Piscivore:	Piscivore:	
	coastal diver		
Brachyramphus marmoratus	-	pelagic diver	
Kittlitz's Murrelet	Crustaceovore:		
Brachyramphus brevirostris	coastal diver	~	
Xantus' Murrelet	Crustaceovore:	Crustaceovore:	
Synthliboramphus	coastal diver	pelagic diver	
hypoleucus	_		
Ancient Murrelet	Crustaceovore:	Crustaceovore:	
Synthliboramphus antiquus	coastal diver	pelagic diver	
Cassin's Auklet	Crustaceovore:	Crustaceovore:	
Ptychoramphus aleuticus	coastal diver	pelagic diver	
Parakeet Auklet	Crustaceovore:	Crustaceovore:	
Cyclorrhynchus psittacula	coastal diver	pelagic diver	
Least Auklet	Crustaceovore:	Crustaceovore:	
Aethia pusilla	coastal diver	pelagic diver	
Whiskered Auklet	Crustaceovore:	Crustaceovore:	
Aethia pygmaea	coastal diver	pelagic diver	
Crested Auklet	Crustaceovore:	Crustaceovore:	
Aethia cristatella	coastal diver	pelagic diver	
Rhinocerus Auklet	Crustaceovore:	Crustaceovore:	
Cerorhinca monocerata	coastal diver		
Cerominea monocerata		pelagic diver Piscivore:	
	Piscivore:	-	
T t I D C	coastal diver	pelagic diver	
Tufted Puffin	Piscivore:	Piscivore:	
Fratercula cirrhata	coastal diver	pelagic diver	
Atlantic Puffin	Piscivore:	Piscivore:	
Fratercula arctica	coastal diver	pelagic diver	
Horned Puffin	Piscivore:	Piscivore:	
Fratercula corniculata	coastal diver	pelagic diver	
Rock Dove			Omnivore:
Columba livia			ground forager
White-crowned Pigeon			Frugivore:
Columba leucocephala			upper-canopy gleaner
Red-billed Pigeon			Frugivore:
Columba flavirostris			upper-canopy gleaner
Band-tailed Pigeon	Frugivore:	Frugivore:	11 ····· ·F/ 0
Columba fasciata	lower-canopy gleaner	upper-canopy gleaner	
White-winged Dove	ion or campy greater	abber armob) Premier	Granivore:
Zenaida asiatica			ground gleaner
Mourning Dove			Granivore:
Zenaida macroura			
nca Dove			ground gleaner Granivore:
nca Dove Columbina inca			
			ground gleaner
Common Ground-Dove			Granivore:
Columbina passerina			ground gleaner
White-tipped Dove			Granivore:
Leptotila verreauxi			ground gleaner
Black-billed Cuckoo	Insectivore:		
Coccyzus erythropthalmus	lower-canopy gleaner		
Yellow-billed Cuckoo	Insectivore:		

Appendix i. Continued	Appendix	1.	Continue	d.
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Species name (Sci. name AOU list)	Breeding period	Nonbreeding period	Year round
Mangrove Cuckoo	Insectivore:		
Coccyzus minor	lower-canopy gleaner		
Greater Roadrunner			Insectivore:
Geococcyx californianus			ground gleaner
			Carnivore:
			ground chaser
Smooth-billed Ani			Insectivore:
Crotophaga ani			ground gleaner
Groove-billed Ani			Insectivore:
Crotophaga sulcirostris			ground gleaner
Common Barn-Owl			Carnivore:
Tyto alba			ground hawker
Flammulated Owl			Insectivore:
Otus flammeolus			ground hawker
Eastern Screech-Owl	Insectivore:		Carnivore:
Otus asio	ground hawker		ground hawker
Western Screech-Owl	Insectivore:		Carnivore:
Otus kennicottii	ground hawker		ground hawker
Whiskered Screech-Owl	3		Insectivore:
Otus trichopsis			ground hawker
Great Horned Owl			Carnivore:
Bubo virginianus			ground hawker
Snowy Owl			Carnivore:
Nyctea scandiaca			ground hawker
Northern Hawk-Owl			Carnivore:
Surnia ulula			ground hawker
Northern Pygmy-Owl	Insectivore:		Carnivore:
Glaucidium gnoma	ground hawker		ground hawker
Ferruginous Pygmy-Owl	3		Carnivore:
Glaucidium brasilianum			ground hawker
Elf Owl	Insectivore:		, and the second
Micrathene whitneyi	ground hawker air hawker		
Burrowing Owl			Carnivore:
Athene cunicularia			ground hawker
			Insectivore:
			air hawker
Spotted Owl			Carnivore:
Strix occidentalis			ground hawker
Barred Owl			Carnivore:
Strix varia			ground hawker
Great Gray Owl			Carnivore:
Strix nebulosa			ground hawker
Long-eared Owl			Carnivore:
Asio otus			ground hawker
Short-eared Owl			Carnivore:
Asio flammeus			ground hawker
Boreal Owl			Carnivore:
Aegolius funereus			ground hawker
Northern Saw-whet Owl			Carnivore:
Aegolius acadicus			ground hawker
Lesser Nighthawk	Insectivore:		
Chordeiles acutipennis	air screener		
Common Nighthawk	Insectivore:		
Chordeiles minor	air screener		
Antillean Nighthawk	Insectivore:		
Chordeiles gundlachii	air screener		Tongation
Common Pauraque			Insectivore:
Nyctidromus albicollis			air screener

Common Poorwill	Species name (Sci. name AOU list)	Breeding period	Nonbreeding period	Year round
Chuck-will's-widow Caprimulgus carolinensis Buff-collared Nightjar Caprimulgus radjuanyi Whip-poor-will Caprimulgus vociperus Black Swift Chaetura pelagica Vaux's Swift Chaetura pelagica Vaux's Swift Chaetura vauxi White-bracted Swift Aeronautes saxatalis Broad-billed Hummingbird Cynanthus latirestrs White-caroll Hummingbird Amazitia yacutamensi Violet-crowned Hummingbird Amazitia yacutamensi Violet-crowned Hummingbird Amazitia yacutamensi Violet-trowned Hummingbird Calubirons lucifors Blue-throated Hummingbird Amazitia yacutamensi Violet-trowned Hummingbird Calubirons lucifors Blue-throated Hummingbird Arania's Hummingbird Calubirons lucifors Black-chinned Hummingbird Archilochus claesandri Anna's Hummingbird Calubirons lucifor Black-chinned Hummingbird Archilochus claesandri Anna's Hummingbird Calpipe anna Costa's Hummingbird Calpipe costae Calliope Hummingbird Selaphorus platycercus Roral hover-gleaner Omnivore: Goral h				
Lange Lang	4			
Buff-collared Nightjar Caprimulgus raidguoyi Whip-poor-will Caprimulgus woriferus Black Swift Chetura pelagica Vaux's Swift Chetura pelagica Vaux's Swift Chetura cauxi White-hroated Hummingbird Cymanthus lativostris White-crowned Hummingbird Amazilia yucatanensis Violet-crowned Hummingbird Amazilia yucatanensis Violet-crowned Hummingbird Caprimulgus leueotis Blue-throated Hummingbird Amazilia yucatanensis Violet-crowned Hummingbird Caprimulgus Lampornis clemenciae Magnificent Hummingbird Caluthorax lucifer Ruby-throated Hummingbird Caluthorax lucifer Ruby-throated Hummingbird Architochus colubris Black-chinned Hummingbird Architochus colubris Black-chinned Hummingbird Calypte costae Calliope Hummingbird Calypte costae Calliope Hummingbird Selasphorus platycercus Rufous Hummingbird Selasphorus platycercus Roral hover-gleaner Omnivore: Ro	Chuck-will's-widow			Insectivore:
Amazilia violiceps Black Swift Cheatura pelagica Cheatura otaxi Cheatura o				air screener
Insectivore: air screener	Buff-collared Nightjar	Insectivore:		
Back Swift	Caprimulgus ridgwayi	air screener		
Black Swift Cypseloides niger Chimney Swift Chaetura pelagica Vaux's Swift Chaetura vauxi White-chrouded Swift Aeronautes saxatalis Broad-billed Hummingbird Cypanthus lativostris White-cared Hummingbird Amazilia youcatanensis Violet-crowned Hummingbird Amazilia youcatanensis Violet-crowned Hummingbird Calophorax lucifer Blue-throated Hummingbird Archilochus colubris Black-chinned Hummingbird Archil	Whip-poor-will			Insectivore:
Cypseloides riger Chimney Swift Chaetura pelagica Vaux's Swift Chaetura vauxi White-chroated Swift Aeronautes saxalalis Broad-billed Hummingbird Cynanthus lativostris White-cared Hummingbird Mylocharis leucotis Buff-bellied Hummingbird Amazilia yucatanensis Violet-crowned Hummingbird Amazilia violiceps Blue-throated Hummingbird Arabinos sucjer Ruby-throated Hummingbird Archilochus colubris Black-chimned Hummingbird Archilochus solubris Black-chimned Hummingbird Archilochus solubris Black-chimned Hummingbird Archilochus solubris Black-chimned Hummingbird Archilochus solvandri Anna's Hummingbird Calypte anna Comivore: Gloral hover-gleaner Omnivore: floral hover-gleaner Omnivore: floral hover-gleaner Omnivore: floral hover-gleaner Omnivore: floral hover-gleaner Omnivore: floral hover-gleaner	Caprimulgus vociferus			air screener
Chimrey Swift Chaetura pelagica Vaux's Swift Chaetura pelagica Vaux's Swift Chaetura pelagica Vaux's Swift Chaetura pelagica Vante-chaeta Swift Aeronautes saxatalis Broad-billed Hummingbird Cynanthus latirostris Buff-bellied Hummingbird Amazilia youtanensis Violet-crowned Hummingbird Amazilia youtanensis Violet-crowned Hummingbird Amazilia youtanensis Violet-trowned Hummingbird Amazilia youtanensis Violet-trowned Hummingbird Lampornis clemenciae Magnificent Hummingbird Eugenes fulgens Blue-throated Hummingbird Calothoras lucifer Eugenes fulgens Black-chinned Hummingbird Archilochus locubaris Black-chinned Hummingbird Archilochus alexandri Anna's Hummingbird Calypte anna Calypte anna Calypte anna Califope Broad-tailed Hummingbird Selasphorus platycercus Rufous Hummingbird Selasphorus platycercus Rufous Hummingbird Selasphorus rufous Rufous Hummingbird Rufoure-gleaner Omnivore: Roral hover-gleaner Omnivor	Black Swift	Insectivore:		
Chaetura pelagica air screener Vaux's Swift Chaetura vauxi White-throated Swift Aeronautes saxatalis Broad-billed Hummingbird Cynanthus latirostris floral hover-gleaner Omnivore: floral hover-gleaner Omni	Cypseloides niger	air screener		
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Ceryle alcyon water plunger Green Kingfisher Piscivore:		air sallyer		
Ceryle alcyon water plunger Green Kingfisher Piscivore:	Belted Kingfisher			Piscivore:
Green Kingfisher Piscivore:				water plunger
	•			Piscivore:
Chioroceryle americana iresnwater plunger	Chloroceryle americana			freshwater plunger
Insectivore:	. 🗸			
air sallier				air sallier

pecies name (Sci. name AOU list)	Breeding period	Nonbreeding period	Year round
ewis' Woodpecker	9 F		Insectivore:
Melanerpes lewis			air sallyer
			Granivore:
			upper-canopy gleaner
led-headed Woodpecker	Insectivore:	Frugivore:	Insectivore:
Melanerpes erythrocephalus corn Woodpecker	air sallier	lower-canopy gleaner	bark gleaner Frugivore:
Melanerpes formicivorus			upper-canopy gleaner
2.200a.201 pou joi milotoor as			Insectivore:
			bark gleaner
ila Woodpecker			Insectivore:
Melanerpes uropygialis			bark gleaner
			Frugivore:
11 6			upper-canopy gleaner
olden-fronted Woodpecker			Insectivore:
Melanerpes aurifrons			bark gleaner Omnivore:
			ground forager
ed-bellied Woodpecker			Insectivore:
Melanerpes carolinus			bark gleaner
•			Omnivore:
			ground forager
ellow-bellied Sapsucker		Insectivore:	Omnivore:
Sphyrapicus varius		bark gleaner	bark excavator
ed-breasted Sapsucker Sphyrapicus ruber		Insectivore: bark gleaner	Omnivore: bark excavator
/illiamson's Sapsucker	Omnivore:	Insectivore:	Dark CACAVATOR
Sphyrapicus thyroideus	bark excavator	bark gleaner	
adder-backed Woodpecker		garan garanta	Insectivore:
Picoides scalaris			bark gleaner
			Frugivore:
			lower-canopy gleaner
uttall's Woodpecker			Insectivore:
Picoides nuttallii			bark gleaner Frugivore:
			lower-canopy gleaner
owny Woodpecker			Insectivore:
Picoides pubescens			bark gleaner
·			Frugivore:
			lower-canopy gleaner
airy Woodpecker			Insectivore:
Picoides villosus			bark gleaner
			Frugivore: lower-canopy gleaner
rickland's Woodpecker			Insectivore:
Picoides stricklandi			bark gleaner
			Frugivore:
			upper-canopy gleaner
ed-cockaded Woodpecker		Granivore:	Insectivore:
Picoides borealis		upper-canopy gleaner	bark gleaner Insectivore:
hite-headed Woodpecker Picoides albolarvatus		Granivore: upper-canopy gleaner	bark scaler
hree-toed Woodpecker		apper-carropy greatier	Insectivore:
Picoides tridactylus			bark scaler
lack-backed Woodpecker			Insectivore:
			bark scaler
Picoides arcticus			
orthern Flicker Colaptes auratus	Insectivore: ground gleaner	Omnivore: ground forager	

ADDUCTURE COMMUNIC	Appendix	1. (Contini	ued.
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(Sci. name AOU list)	Breeding period	Nonbreeding period	Year round
Pileated Woodpecker Dryocopus pileatus		Omnivore: lower-canopy forager	Insectivore: bark excavator
vory-billed Woodpecker Campephilus principalis			Insectivore: bark scaler Frugivore:
Northern Beardless-			upper-canopy gleaner Insectivore:
Tyrannulet Camptostoma imberbe			upper-canopy gleaner
Olive-sided Flycatcher	Insectivore:		
Contopus borealis	air sallier		
Greater Pewee	Insectivore:		
Contopus pertinax	air sallier		
Vestern Wood-Pewee Contopus sordidulus	Insectivore: air sallier		
Eastern Wood-Pewee	Insectivore:		
Contopus virens	air sallier		
Yellow-bellied Flycatcher	Insectivore:		
Empidonax flaviventris	air sallier		
Acadian Flycatcher	Insectivore:		
Empidonax virescens Alder Flycatcher	air sallier		
Empidonax alnorum	Insectivore: air sallier		
Villow Flycatcher	Insectivore:		
Empidonax traillii	air sallier		
Least Flycatcher	Insectivore:		
Empidonax minimus	air sallier		_
Hammond's Flycatcher			Insectivore:
Empidonax hammondii	To and com-		air sallier
Dusky Flycatcher Empidonax oberholseri	Insectivore: air sallier		
Gray Flycatcher	an Same		Insectivore:
Empidonax wrightii			air sallier
Vestern Flycatcher	Insectivore:		
Empidonax difficilis	air sallier		
Buff-breasted Flycatcher	Insectivore:		
Empidonax fulvifrons Black Phoebe	air sallier	F'	Inneral's
Sayornis phoebe		Frugivore: lower-canopy gleaner	Insectivore: air sallier
Say's Phoebe		lower-canopy greater	Insectivore:
Sayornis saya			air sallier
Vermilion Flycatcher			Insectivore:
Pryocephalus rubinus			air sallier
Dusky-capped Flycatcher	Insectivore:		
Myiarchus tuberculifer	air sallier		
Ash-throated Flycatcher Myiarchus cinerascens			Insectivore: lower-canopy gleaner
			air sallier
Great Crested Flycatcher Myiarchus crinitus		Frugivore: lower-canopy gleaner	Insectivore: air sallier
Brown-crested Flycatcher	Insectivore:	£, 0	
Myiarchus tyrannulus	air sallier		
Great Kiskadee			Insectivore:
Pitangus sulphuratus			air sallier
			Piscivore:
			freshwater plunger
ulphur-bellied Flycatcher	Insectivore:		iresitwater pranger

Species name (Sci. name AOU list)	Breeding period	Nonbreeding period	Year round
Tropical Kingbird	Insectivore:		_
Tyrannus melancholicus	air sallier		
Couch's Kingbird			Insectivore:
Tyrannus couchii			air sallier
Cassin's Kingbird		Frugivore:	Insectivore:
Tyrannus vociferans		lower-canopy gleaner	air sallier
Thick-billed Kingbird	Insectivore:	1, 0	
Tyrannus crassirostris	air sallier		
Western Kingbird			Insectivore:
Tyrannus verticalis			air sallier
Eastern Kingbird	Insectivore:		
Тутаппиs tyrannus	air sallier		
Gray Kingbird	Insectivore:		
Tyrannus dominicensis	air sallier		
1 yrannas aominiconsis	Frugivore:		
Science-tailed Elucataban	lower-canopy gleaner		Insectivore:
Scissor-tailed Flycatcher			air sallier
Tyrannus forficatus Rose-throated Becard	Ingostino		an same
	Insectivore:		
Pachyramphus aglaiae	air sallyer		
	Frugivore:		
	lower-canopy gleaner	•	
Eurasian Skylark	Omnivore:	Granivore:	
Alauda arvensis	ground forager	ground gleaner	
Horned Lark	Omnivore:	Granivore:	
Eremophila alpestris	ground gleaner	ground gleaner	
Purple Martin	Insectivore		
Progne subis	air screener		
Tree Swallow		Frugivore:	Insectivore:
Tachycineta bicolor		lower-canopy gleaner	air screener
Violet-green Swallow		•••	Insectivore:
Tachycineta thalassina			air screener
Northern Rough-winged			Insectivore:
Swallow			air screener
Stelaidonterux serribennis			
Stelgidopteryx serripennis Bank Swallow	Insectivore:		
Bank Swallow	Insectivore:		
Bank Swallow <i>Riparia riparia</i>	air screener		
Bank Šwallow <i>Riparia riparia</i> Cliff Swallow	air screener Insectivore:		
Bank Šwallow Riparia riparia Cliff Swallow Hirundo pyrrhonota	air screener Insectivore: air screener		
Bank Šwallow Riparia riparia Cliff Swallow Hirundo pyrrhonota Cave Swallow	air screener Insectivore: air screener Insectivore:		
Bank Šwallow Riparia riparia Cliff Swallow Hirundo pyrrhonota Cave Swallow Hirundo fulva	air screener Insectivore: air screener Insectivore: air screener		
Bank Swallow Riparia riparia Cliff Swallow Hirundo pyrrhonota Cave Swallow Hirundo fulva Barn Swallow	air screener Insectivore: air screener Insectivore: air screener Insectivore:		
Bank Swallow Riparia riparia Cliff Swallow Hirundo pyrrhonota Cave Swallow Hirundo fulva Barn Swallow Hirundo rustica	air screener Insectivore: air screener Insectivore: air screener		Omnivore
Bank Swallow Riparia riparia Cliff Swallow Hirundo pyrrhonota Cave Swallow Hirundo fulva Barn Swallow Hirundo rustica Gray Jay	air screener Insectivore: air screener Insectivore: air screener Insectivore:		Omnivore:
Bank Swallow Riparia riparia Cliff Swallow Hirundo pyrrhonota Cave Swallow Hirundo fulva Barn Swallow Hirundo rustica Gray Jay Perisoreus canadensis	air screener Insectivore: air screener Insectivore: air screener Insectivore:		upper-canopy forager
Bank Swallow Riparia riparia Cliff Swallow Hirundo pyrrhonota Cave Swallow Hirundo fulva Barn Swallow Hirundo rustica Gray Jay Perisoreus canadensis Steller's Jay	air screener Insectivore: air screener Insectivore: air screener Insectivore:		upper-canopy forager Omnivore:
Bank Swallow Riparia riparia Cliff Swallow Hirundo pyrrhonota Cave Swallow Hirundo fulva Barn Swallow Hirundo rustica Gray Jay Perisoreus canadensis	air screener Insectivore: air screener Insectivore: air screener Insectivore:		upper-canopy forager Omnivore: ground forager
Bank Swallow Riparia riparia Cliff Swallow Hirundo pyrrhonota Cave Swallow Hirundo fulva Barn Swallow Hirundo rustica Gray Jay Perisoreus canadensis Steller's Jay Cyanocitta stelleri	air screener Insectivore: air screener Insectivore: air screener Insectivore:		upper-canopy forager Omnivore: ground forager lower-canopy forager
Bank Swallow Riparia riparia Cliff Swallow Hirundo pyrrhonota Cave Swallow Hirundo fulva Barn Swallow Hirundo rustica Gray Jay Perisoreus canadensis Steller's Jay Cyanocitta stelleri	air screener Insectivore: air screener Insectivore: air screener Insectivore:		upper-canopy forager Omnivore: ground forager lower-canopy forager Omnivore:
Bank Swallow Riparia riparia Cliff Swallow Hirundo pyrrhonota Cave Swallow Hirundo fulva Barn Swallow Hirundo rustica Gray Jay Perisoreus canadensis Steller's Jay Cyanocitta stelleri	air screener Insectivore: air screener Insectivore: air screener Insectivore:		upper-canopy forager Omnivore: ground forager lower-canopy forager Omnivore: ground forager
Bank Swallow Riparia riparia Cliff Swallow Hirundo pyrrhonota Cave Swallow Hirundo fulva Barn Swallow Hirundo rustica Gray Jay Perisoreus canadensis Steller's Jay Cyanocitta stelleri	air screener Insectivore: air screener Insectivore: air screener Insectivore:		upper-canopy forager Omnivore: ground forager lower-canopy forager Omnivore: ground forager upper-canopy forager
Bank Swallow Riparia riparia Cliff Swallow Hirundo pyrrhonota Cave Swallow Hirundo fulva Barn Swallow Hirundo rustica Gray Jay Perisoreus canadensis Steller's Jay Cyanocitta stelleri Blue Jay Cyanocitta cristata	air screener Insectivore: air screener Insectivore: air screener Insectivore:		upper-canopy forager Omnivore: ground forager lower-canopy forager Omnivore: ground forager upper-canopy forager Omnivore:
Bank Swallow Riparia riparia Cliff Swallow Hirundo pyrrhonota Cave Swallow Hirundo fulva Barn Swallow Hirundo rustica Gray Jay Perisoreus canadensis Steller's Jay Cyanocitta stelleri Blue Jay Cyanocitta cristata	air screener Insectivore: air screener Insectivore: air screener Insectivore:		upper-canopy forager Omnivore: ground forager lower-canopy forager Omnivore: ground forager upper-canopy forager
Bank Swallow Riparia riparia Cliff Swallow Hirundo pyrrhonota Cave Swallow Hirundo fulva Barn Swallow Hirundo rustica Gray Jay Perisoreus canadensis Steller's Jay Cyanocitta stelleri Blue Jay Cyanocitta cristata Green Jay Cyanocorax yncas	air screener Insectivore: air screener Insectivore: air screener Insectivore:		upper-canopy forager Omnivore: ground forager lower-canopy forager Omnivore: ground forager upper-canopy forager Omnivore:
Bank Swallow Riparia riparia Cliff Swallow Hirundo pyrrhonota Cave Swallow Hirundo fulva Barn Swallow Hirundo rustica Gray Jay Perisoreus canadensis Steller's Jay Cyanocitta stelleri Blue Jay Cyanocitta cristata Green Jay Cyanocorax yncas Brown Jay	air screener Insectivore: air screener Insectivore: air screener Insectivore:		upper-canopy forager Omnivore: ground forager lower-canopy forager Omnivore: ground forager upper-canopy forager Omnivore: ground forager
Bank Swallow Riparia riparia Cliff Swallow Hirundo pyrrhonota Cave Swallow Hirundo fulva Barn Swallow Hirundo rustica Gray Jay Perisoreus canadensis Steller's Jay Cyanocitta stelleri Blue Jay Cyanocitta cristata Green Jay Cyanocorax yncas Brown Jay Cyanocorax morio	air screener Insectivore: air screener Insectivore: air screener Insectivore:		upper-canopy forager Omnivore: ground forager lower-canopy forager Omnivore: ground forager upper-canopy forager Omnivore: ground forager Omnivore: ground forager
Bank Swallow Riparia riparia Cliff Swallow Hirundo pyrrhonota Cave Swallow Hirundo fulva Barn Swallow Hirundo rustica Gray Jay Perisoreus canadensis Steller's Jay Cyanocitta stelleri Blue Jay Cyanocitta cristata Green Jay Cyanocorax yncas Brown Jay Cyanocorax morio Scrub Jay	air screener Insectivore: air screener Insectivore: air screener Insectivore:		upper-canopy forager Omnivore: ground forager lower-canopy forager Omnivore: ground forager upper-canopy forager Omnivore: ground forager Omnivore: ground forager
Bank Swallow Riparia riparia Cliff Swallow Hirundo pyrrhonota Cave Swallow Hirundo fulva Barn Swallow Hirundo rustica Gray Jay Perisoreus canadensis Steller's Jay Cyanocitta stelleri Blue Jay Cyanocitta cristata Green Jay Cyanocorax yncas Brown Jay	air screener Insectivore: air screener Insectivore: air screener Insectivore:		upper-canopy forager Omnivore: ground forager lower-canopy forager Omnivore: ground forager upper-canopy forager Omnivore: ground forager Omnivore: ground forager Omnivore: ground forager

Appendix I. Continued.			
Species name	n '' ' ' I	NTL	V
(Sci. name AOU list)	Breeding period	Nonbreeding period	Year round
Pinyon Jay			Omnivore:
Gymnorhinus			upper-canopy forager
cyanocephalus Clark's Nutcracker			ground forager Omnivore:
Nucifraga columbiana			upper-canopy forager
Tvaciji aga cotambiana			ground forager
Black-billed Magpie	Insectivore:	Omnivore:	3
Pica pica	ground gleaner	ground forager	
Yellow-billed Magpie	Insectivore:	Omnivore:	
Pica nuttallis	ground gleaner	ground forager	•
American Crow			Omnivore:
Corvus brachyrhynchos Northwestern Crow			ground forager Omnivore:
Corvus caurinus			coastal beach scavenger
Fish Crow			Omnivore:
Corvus ossifragus			shoreline scavenger
Chihuahuan Raven			Omnivore:
Corvus cryptoleucus			ground forager
Common Raven			Omnivore:
Corvus corax			ground scavenger
Black-capped Chickadee	Insectivore:	Omnivore:	
Parus atricapillus	lower-canopy gleaner	lower-canopy forager	
Carolina Chickadee Parus carolinensis	Insectivore:	Omnivore:	
Mexican Chickadee	lower-canopy gleaner	lower-canopy forager	
Parus sclateri	Insectivore: lower-canopy gleaner	Omnivore: lower-canopy forager	
Mountain Chickadee	Insectivore:	Omnivore:	
Parus gambeli	lower-canopy gleaner	lower-canopy forager	
Siberian Tit	Insectivore:	Omnivore:	
Parus cinctus	lower-canopy gleaner	lower-canopy forager	
Boreal Chickadee	Insectivore:	Omnivore:	
Parus hudsonicus	lower-canopy gleaner	lower-canopy forager	
Chestnut-backed Chickadee	Insectivore:	Omnivore:	
Parus rufescens	lower-canopy gleaner	lower-canopy forager	
Bridled Titmouse Parus wollweberi	Insectivore:	Omnivore:	
Plain Titmouse	lower-canopy gleaner	lower-canopy forager	Omnivore:
Parus inornatus			lower-canopy forager
Tufted Titmouse	Insectivore:	Omnivore:	lower-canopy for ager
Parus bicolor	lower-canopy gleaner	lower-canopy forager	
Verdin	Insectivore:	Omnivore:	
_ Auriparus flaviceps	lower-canopy gleaner	lower-canopy forager	
Bushtit	Insectivore:	Omnivore:	
Psaltriparus minimus	lower-canopy gleaner	lower-canopy forager	*
Red-breasted Nuthatch Sitta canadensis		Granivore:	Insectivore:
White-breasted Nuthatch		upper-canopy gleaner Granivore:	bark gleaner
Sitta carolinensis		upper-canopy gleaner	Insectivore: bark gleaner
Pygmy Nuthatch		apper canopy greaties	Insectivore:
Sitta pygmaea			bark gleaner
			Omnivore:
			upper-canopy forager
Brown-headed Nuthatch		Granivore:	Insectivore:
Sitta pusilla		upper-canopy gleaner	bark gleaner
Brown Creeper			Insectivore:
Certhia americana Cactus Wren			bark gleaner
Campylorhynchus			Omnivore: lower-canopy forager
brunneicapillus			ground forager
			D- oming totalog

Species name (Sci. name AOU list)	Breeding period	Nonbreeding period	Year round
Rock Wren Salpinctes obsoletus Canyon Wren Catherpes mexicanus Carolina Wren Thryothorus ludovicianus Bewick's Wren Thryomanes bewickii House Wren Troglodytes aedon Winter Wren Troglodytes troglodytes Sedge Wren Cistothorus platensis Marsh Wren Cistothorus palustris American Dipper Cinclus mexicanus Arctic Warbler	Insectivore:		Insectivore: ground gleaner Insectivore: ground gleaner Insectivore: lower-canopy gleaner Insectivore: ground gleaner Insectivore: lower-canopy gleaner Insectivore: lower-canopy gleaner Insectivore: ground gleaner Insectivore: ground gleaner Insectivore: ground gleaner Insectivore: marsh gleaner Insectivore: riparian bottom gleaner
Phylloscopus borealis Golden-crowned Kinglet Regulus satrapa Ruby-crowned Kinglet Regulus calendula Blue-gray Gnatcatcher Polioptila caerulea Black-tailed Gnatcatcher Polioptila melanura Black-capped Gnatcatcher Polioptila nigricens Bluethroat	upper-canopy gleaner Insectivore:		Insectivore: lower-canopy gleaner Insectivore: lower-canopy gleaner Insectivore: upper-canopy gleaner Insectivore: lower-canopy gleaner Insectivore: lower-canopy gleaner
Luscinia svecica Northern Wheatear Oenanthe oenanthe Eastern Bluebird Sialia sialia	ground gleaner Insectivore: ground gleaner Insectivore: ground gleaner	Omnivore: ground forager lower-canopy forager	
Western Bluebird Sialia mexicana Mountain Bluebird Sialia currocoides Townsend's Solitaire Myadestes townsendi	Frugivore: lower-canopy gleaner Insectivore: ground gleaner	Omnivore: lower-canopy forager Omnivore: lower-canopy forager	Insectivore: ground gleaner Insectivore: air sallyer Omnivore: ground forager
Veery Catharus fuscescens	Omnivore: ground forager lower-canopy forager		
Gray-cheeked Thrush Catharus minimus	Omnivore: ground forager lower-canopy forager		
Swainson's Thrush Catharus ustulatus	Omnivore: ground forager lower-canopy forager		
Hermit Thrush Catharus guttatus	Insectivore: ground gleaner	Omnivore: ground forager lower-canopy forager	

Species name (Sci. name AOU list)	Breeding period	Nonbreeding period	Year round
Wood Thrush Hylocichla mustelina Fieldfare	Omnivore: ground forager Insectivore:		
Turdus pilaris American Robin Turdus migratorius	ground gleaner Vermivore: ground gleaner	Omnivore: ground forager	Omnivore: lower-canopy forager
Varied Thrush Ixoreus naevius	Insectivore: ground gleaner	Omnivore: ground forager	., 0
Wrentit <i>Chamaea fasciata</i> Gray Catbird		Frugivore: lower-canopy gleaner	Insectivore: bark gleaner Omnivore:
Dumetella carolinensis			ground forager lower-canopy forager
Northern Mockingbird Mimus polyglottos	Omnivore: ground forager	Frugivore: lower-canopy gleaner	iowal valiop) iorage.
Sage Thrasher Oreoscoptes montanus	Insectivore: ground gleaner	Omnivore: ground forager lower-canopy forager	
Brown Thrasher Toxostoma rufum		lower-campy torager	Omnivore: ground forager
Long-billed Thrasher Toxostoma longirostre			lower-canopy forager Omnivore: ground forager lower-canopy forager
Bendire's Thrasher Toxostoma bendirei			Omnivore: ground forager lower-canopy forager
Curve-billed Thrasher Toxostoma curvirostre California Thrasher	Omnivore: ground forager	Frugivore: lower-canopy gleaner	Omnívore:
Toxostoma redivivum Crissal Thrasher Toxostoma dorsale			ground forager Omnivore: ground forager
Le Conte's Thrasher Toxostoma lecontei			lower-canopy forager Insectivore: ground gleaner
Yellow Wagtail Motacilla flava	Insectivore: ground gleaner		ground gleaner
White Wagtail <i>Motacilla alba</i>	Insectivore: ground gleaner		
Red-throated Pipit Anthus cervinus	Insectivore: ground gleaner		
Water Pipit Anthus spinoletta	Insectivore: ground gleaner	Omnivore: ground forager	
Sprague's Pipit Anthus spragueii	Insectivore: ground gleaner	Omnivore: ground forager	T. invest
Bohemian Waxwing Bombycilla garrulus	Insectivore: air sallyer	Frugivore: lower-canopy gleaner	Frugivore: upper-canopy gleaner Insectivore:
Cedar Waxwing Bombycilla cedrorum			air sallyer Frugivore: upper-canopy gleaner
Phainopepla <i>Phainopepla nitens</i>			Frugivore: lower-canopy gleaner
Northern Shrike Lanius excubitor		•	Carnivore: ground hawker
Loggerhead Shrike Lanius ludovicianus			Carnivore: ground hawker

Species name (Sci. name AOU list)	Breeding period	Nonbreeding period	Year round
European Starling			Omnivore:
Sturnus vulgaris			ground forager
Crested Myna			Omnivore:
Acridotheres cristatellus			ground forager
White-eyed Vireo	Insectivore:	Omnivore:	
Vireo griseus	lower-canopy gleaner	lower-canopy forager	
Bell's Vireo	Insectivore:		
Vireo bellii	lower-canopy gleaner		
Black-capped Vireo	Insectivore:		
Vireo atricapillus	lower-canopy gleaner		
Gray Vireo	Insectivore:		
Vireo vicinior	lower-canopy gleaner		
Solitary Vireo	Insectivore:	Omnivore:	
Vireo solitarius	lower-canopy gleaner	lower-canopy forager	
Yellow-throated Vireo	Insectivore:		
Vireo flavifrons	upper-canopy gleaner		
Hutton's Vireo	11 170		Insectivore:
Vireo huttoni			lower-canopy gleaner
Warbling Vireo	Insectivore:		1,0
Vireo gilvus	upper-canopy gleaner		
Philadelphia Vireo	Insectivore:		
Vireo philadelphicus	upper-canopy gleaner		
Red-eyed Vireo	Insectivore:		
Vireo olivaceus	upper-canopy gleaner		
Black-whiskered Vireo	Omnivore:		
Vireo altilopuus	upper-canopy forager		
Bachman's Warbler	Insectivore:		
Vermivora bachmanii	upper-canopy gleaner		
Blue-winged Warbler	Insectivore:		
Vermivora pinus	lower-canopy gleaner		
Golden-winged Warbler	Insectivore:		
Vermivora chrysoptera			
Tennessee Warbler	upper-canopy gleaner Insectivore:		
Vermivora peregrina			
Orange-crowned Warbler	upper-canopy gleaner Insectivore:	Omnivore:	
Vermivora celata			
Nashville Warbler	lower-canopy gleaner	lower-canopy forager	Insectivore:
Vermivora ruficapilla Virginia's Warbler	Ingestivore		lower-canopy gleaner
Virginia's Warbler	Insectivore:		
Vermivora virginiae	lower-canopy gleaner		
Colima Warbler	Insectivore:		
Vermivora crissalis	lower-canopy gleaner		
Lucy's Warbler	Insectivore:		
Vermivora luciae	lower-canopy gleaner		
Northern Parula	Insectivore:		
Parula americana	upper-canopy gleaner		Taranti
Tropical Parula			Insectivore:
Parula pitiayumi	T		upper-canopy gleaner
Yellow Warbler	Insectivore:		
Dendroica petechia	lower-canopy gleaner		
Chestnut-sided Warbler	Insectivore:		
Dendroica pensylvanica	lower-canopy gleaner	0	
Magnolia Warbler	Insectivore:	Omnivore:	
Dendroica magnolia	lower-canopy gleaner	lower-canopy forager	
Cape May Warbler	Insectivore:	Omnivore:	
Dendroica tigrina	upper-canopy gleaner	upper-canopy forager	
Black-throated Blue Warbler	Insectivore:	Omnivore:	
Dendroica caerulescens	lower-canopy gleaner	lower-canopy forager	

Species name (Sci. name AOU list)	Breeding period	Nonbreeding period	Year round
Yellow-rumped Warbler	Insectivore:	Omnivore:	
Dendroica coronata	lower-canopy gleaner	lower-canopy forager	
Black-throated Gray Warbler	- · · · ·		Insectivore:
Dendroica nigrescens			lower-canopy gleaner
Townsend's Warbler			Insectivore:
Dendroica townsendi			upper-canopy gleaner
Hermit Warbler	Omnivore:		
Dendroica occidentalis	upper-canopy forager		
Black-throated Green Warbler			Insectivore:
Dendroica virens			upper-canopy gleaner
Golden-cheeked Warbler	Insectivore:		
Dendroica chrysoparia	lower-canopy gleaner		
Blackburnian Warbler	Insectivore:		
Dendroica fusca	upper-canopy gleaner		T
Yellow-throated Warbler			Insectivore:
Dendroica dominica	••		upper-canopy gleaner bark gleaner
Grace's Warbler	Insectivore:		
Dendroica graciae	upper-canopy gleaner		
Pine Warbler	Insectivore:	Omnivore:	
Dendroica pinus	bark gleaner	lower-canopy forager ground forager	
Kirtland's Warbler	Insectivore:		
Dendroica kirtlandii	lower-canopy gleaner		•
Prairie Warbler	<i>2</i>		Insectivore:
Dendroica discolor	.		lower-canopy gleaner
Palm Warbler	Insectivore:	Omnivore:	
Dendroica palmarum	ground gleaner	ground forager	
Bay-breasted Warbler	Insectivore:		
Dendroica castanea	upper-canopy gleaner		
Blackpoll Warbler Dendroica striata	Insectivore:		
Cerulean Warbler	upper-canopy gleaner Insectivore:		
Dendroica cerulea	upper-canopy gleaner		
Black-and-white Warbler	apper-canopy greatier		Insectivore:
Mniotilta varia			bark gleaner
American Redstart	Insectivore:		our it grounds
Setophaga ruticilla	lower-canopy gleaner air sallier		
Prothonotary Warbler	Insectivore:		
Protonotaria citrea	lower-canopy gleaner bark gleaner		
Worm-eating Warbler	Insectivore:		
Helmitheros vermivorus	ground gleaner		
Swainson's Warbler	Insectivore:		
Limnothlypis swainsonii	lower-canopy gleaner		
Ovenbird	Molluscovore:	Omnivore:	
Seiurus aurocapillus	ground gleaner	ground forager	
	Insectivore: ground gleaner		
Northern Waterthrush Seiurus noveboracensis	3		Insectivore: freshwater shoreline gleane
Louisiana Waterthrush	Insectivore:		
Seiurus motacilla	freshwater shoreline gleaner		
Kentucky Warbler	Insectivore:		
Oporornis formosus	ground gleaner		
Connecticut Warbler	Insectivore:		
Oporornis agilis	ground gleaner		

Species name (Sci. name AOU list)	Breeding period	Nonbreeding period	Year round
Mourning Warbler	Insectivore:		
Oporornis philadelphia	ground gleaner		
MacGillivray's Warbler	Insectivore:		
Oporornis tolmiei	lower-canopy gleaner		
Common Yellowthroat	176		Insectivore:
Geothlypis trichas			lower-canopy gleaner
Gray-crowned Yellowthroat			Insectivore:
Geothlypis poliocephala			ground gleaner
Hooded Warbler	Insectivore:		-
Wilsonia citrina	lower-canopy gleaner air sallier		
Wilson's Warbler	Insectivore:		
Wilsonia pusilla	lower-canopy gleaner air sallier		
Canada Warbler	Insectivore:		
Wilsonia canadensis	lower-canopy gleaner		
Red-faced Warbler	Insectivore:		
Cardellina rubrifrons	upper-canopy gleaner		
Painted Redstart	Insectivore:	•	
Myioborus pictus	air sallier ground gleaner bark gleaner		
Yellow-breasted Chat	Omnivore:		
Icteria virens	· lower-canopy forager		
Olive Warbler	Insectivore:		
Peucedramus taeniatus	lower-canopy gleaner		
Hepatic Tanager	Insectivore:		
Piranga flava	upper-canopy gleaner		
ummer Tanager	Insectivore:		
Piranga rubra	upper-canopy gleaner		
carlet Tanager	Insectivore:		
Piranga olivacea	upper-canopy gleaner		
Nestern Tanager Piranga ludoviciana	Omnivore:		
i iranga tudootetana	upper-canopy forager Insectivore:		
	air sallier		
Northern Cardinal			Omnivore:
Cardinalis cardinalis			ground forager
Pyrrhuloxia		•	Omnivore:
Cardinalis sinuatus			ground forager
Rose-breasted Grosbeak	Omnivore:		•
Pheucticus ludovicianus	upper-canopy forager		
lack-headed Grosbeak	Omnivore:		
Pheucticus melanocephalus	upper-canopy forager		
Blue Grosbeak	Omnivore:		
Guiraca caerulea	ground forager		
Lazuli Bunting			Omnivore:
Passerina amoena			lower-canopy forager
ndigo Bunting Passerina cyanea			Omnivore:
Varied Bunting	Omnivore:		lower-canopy forager
Passerina versicolor	lower-canopy forager		
ainted Bunting	lower-canopy torager		Omnivore:
Passerina ciris			lower-canopy forager
Pickcissel	Omnivore:	Granivore:	
Spiza americana	ground forager	ground gleaner	
Dlive Sparrow			Omnivore:
Arremonops rufivirgatus			ground forager

Rufous-sided Towhee Pipilo erythrophthalmus Brown Towhee Pipilo fuscus Abert's Towhee Pipilo aberti White-collared Seedeater Sporophila torqueola Bachman's Sparrow Aimophila aestivalis Botteri's Sparrow Aimophila castinii Rufous-winged Sparrow Aimophila cassinii Rufous-winged Sparrow Aimophila cassinii Rufous-winged Sparrow Aimophila caspalis Rufous-crowned Sparrow Aimophila ruficeps Chipping Sparrow Spizella passerina Clay-colored Sparrow Spizella patied Brewer's Sparrow Spizella patied Brewer's Sparrow Spizella patied Black-chinned Sparrow Spizella parsor Spizella parsor Comnivore: Granivore: Gr		Breeding period	Nonbreeding period	Year round
Rufous-sided Towhee Pipilo erythrophthalmus Brown Towhee Pipilo fuscus Abert's Towhee Pipilo aberti White-collared Seedeater Sporophila torqueola Bachman's Sparrow Aimophila aestivalis Botteri's Sparrow Aimophila castinii Rufous-winged Sparrow Aimophila cassinii Rufous-winged Sparrow Aimophila cassinii Rufous-winged Sparrow Aimophila caspalis Rufous-crowned Sparrow Aimophila ruficeps Chipping Sparrow Spizella passerina Clay-colored Sparrow Spizella patied Brewer's Sparrow Spizella patied Brewer's Sparrow Spizella patied Black-chinned Sparrow Spizella parsor Spizella parsor Comnivore: Granivore: Gr	en-tailed Towhee			Omnivore:
Rufous-sided Towhee Pipilo erythrophthalmus Brown Towhee Pipilo fuscus Abert's Towhee Pipilo aberti White-collared Seedeater Sporophila torqueola Bachman's Sparrow Aimophila aestivalis Botteri's Sparrow Aimophila castinii Rufous-winged Sparrow Aimophila cassinii Rufous-winged Sparrow Aimophila cassinii Rufous-winged Sparrow Aimophila caspalis Rufous-crowned Sparrow Aimophila ruficeps Chipping Sparrow Spizella passerina Clay-colored Sparrow Spizella patied Brewer's Sparrow Spizella patied Brewer's Sparrow Spizella patied Black-chinned Sparrow Spizella parsor Spizella parsor Comnivore: Granivore: Gr	ipilo chlorurus			ground forager
Brown Towhee Pipilo fuscus Abert's Towhee Pipilo aberti White-collared Sedeater Sporophila torqueola Bachman's Sparrow Aimophila castivalis Botteri's Sparrow Aimophila castivalis Botteri's Sparrow Aimophila castivali Rufous-winged Sparrow Aimophila castini Rufous-crowned Sparrow Aimophila castivali Sparrow Aimophila castivali Rufous-crowned Sparrow Aimophila carpalis Clay-colored Sparrow Spizella passerina Clay-colored Sparrow Spizella passerina Clay-colored Sparrow Spizella preweri Spizella breweri Spizella breweri Spizella prow Spizela pr	ous-sided Towhee			
Srown Towhee Pipilo fuscus Abert's Towhee Pipilo aberti White-collared Seedeater Sporophila torqueola Sachman's Sparrow Aimophila eastivalis Botteri's Sparrow Aimophila cassinii Gufous-crowned Sparrow Aimophila cassinii Cufous-crowned Sparrow Aimophila ruficeps Chipping Sparrow Spizella passerina Clay-colored Sparrow Spizella passerina Sprewer's Sparrow Spizella passerina Sprewer's Sparrow Spizella preweri Spizella preweri Spizella preweri Spizella preweri Spizella production Spize	ipilo erythrophthalmus			ground forager
Aber's Towhee Pipilo aberti White-collared Seedeater Sporophila torqueola Bachman's Sparrow Aimophila aestivalis Gassin's Sparrow Aimophila cassinii Cassin's Sparrow Comnivore: Cassin's Sparrow Comnivore: Comnivore: Cassin's Sparrow Comnivore: Comni				
Pipilo aberti White-collared Seedeater Sporophila torqueola Bachman's Sparrow Aimophila aestivalis Solteri's Sparrow Aimophila cassini Sulfous-winged Sparrow Aimophila cassinii Sufous-crowned Sparrow Aimophila ruficeps Chipping Sparrow Spizella passerina Clay-colored Sparrow Spizella passinia Srewer's Sparrow Spizella pround forager Clay-colored Sparrow Spizella forager Spizella pround forager Cranivore: Spizella pround forager Cran	ipilo fuscus			ground forager
White-collared Seedeater Sporophila torqueela Sachman's Sparrow Aimophila aestivalis Sotteri's Sparrow Aimophila cassinii Cassin's Sparrow Aimophila carpalis Caufous-crowned Sparrow Aimophila ruficeps Chipping Sparrow Comnivore: Cassin's Sparrow Comnivore: Com	rt's Towhee			Omnivore:
Sporophila torqueola Sachman's Sparrow Aimophila eastivalis Botteri's Sparrow Aimophila cassivali Botteri's Sparrow Aimophila cassinii Rufous-winged Sparrow Aimophila carpalis Aimophila cassinii Rufous-crowned Sparrow Aimophila ruficeps Rufous-crowned Sparrow Aimophila ruficeps Chipping Sparrow Characteri's Sparrow Spizella pallida Characteri's Sparrow Spizella pallida Characteri's Sparrow Spizella parsilla Slack-chinned Sparrow Spizella pusilla Slack-chinned Sparrow Omnivore: Granivore: G	ipilo aberti			ground forager
Bachman's Sparrow Aimophila aestivalis Soluteri's Sparrow Aimophila botterii Cassin's Sparrow Aimophila cassiniii Gufous-winged Sparrow Aimophila cassiniii Gufous-winged Sparrow Aimophila cassiniii Gufous-winged Sparrow Aimophila carpalis Cufous-crowned Sparrow Aimophila ruficeps Chipping Sparrow Chipping Sparrow Chay-colored Sparrow Spizella passerina Clay-colored Sparrow Spizella pallida Comnivore: Chay-colored Sparrow Spizella puslila Chipping Sparrow Chay-colored Sparrow Comnivore: Cranivore: Granivore: Gran	ite-collared Seedeater			Granivore:
Aimophila aestivalis Solteri's Sparrow Omnivore: Aimophila cassinii Cassin's Sparrow Aimophila carpalis Cassin's Sparrow Aimophila carpalis Cassin's Sparrow Aimophila carpalis Cassin's Sparrow Cassin's Sparrow Cassin's Sparrow Cassin's Cassinii Cassin's Sparrow Cassin's Sparrow Cassin's Cassinii Cassin's Sparrow Cassin's Sparrow Cassin's Cass	borophila torqueola			ground gleaner
Sotteri's Sparrow Aimophila botterii Aimophila cassinii Rufous-winged Sparrow Aimophila carpalis Rufous-crowned Sparrow Aimophila ruficeps Chipping Sparrow Spizella pallida Spizella prewer's Sparrow Spizella pusilla Black-chinned Sparrow Spizella atrogularis Chondestes gramineus Chipoecetes gramineus Chipoecetes gramineus Chipoecetes gramineus Chipoecetes gramineus Chark Bunting Chomivore: Chondestes grammacus Chark Bunting Chark Bunting Comnivore: Comnivore	nman's Sparrow			Omnivore:
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Aimophila ruficeps Chipping Sparrow Omnivore: Spizella passerina Granivore: Spizella pallida Granivore: Spizella pallida Granivore: Spizella breweri Spizella pullida Granivore: Spizella pullida Granivore: Spizella breweri Granivore: Spizella breweri Granivore: Spizella pullida Granivore: Spizella pullida Granivore: Spizella breweri Granivore: Spizella pusilla Granivore: Spizella pusilla Granivore: Spizella pusilla Granivore: Spizella atrogularis Granivore: Granivore: Granivore: Foocectes gramineus Granivore: Gra		air sallyer		
Chipping Sparrow Spizella passerina Granivore: Spizella passerina Granivore: Spizella pallida Iower-canopy forager ground forager Granivore: Spizella pallida Iower-canopy forager ground forager Granivore: Spizella breweri Granivore: Spizella pusilla Granivore: Granivore: Spizella atrogularis Granivore: Granivo		Omnivore:		
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ground forager Brewer's Sparrow Spizella breweri Spizella breweri Spizella pround gleaner Granivore: Spizella pusilla Black-chinned Sparrow Spizella atrogularis Vesper Sparrow Omnivore: Granivore: Spizella atrogularis Ground forager Granivore: Grani				
Brewer's Sparrow Spizella breweri Spizella breweri Spizella breweri Spizella breweri Spizella pusilla Spizella atrogularis Spizella pusilla Spizella Spizella pusilla Spizella S	przella pallida			
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ground forager Granivore: Spizella pusilla Granivore: Spizella pusilla Granivore: Spizella atrogularis Granivore: Spizella atrogularis Granivore: Spizella atrogularis Granivore: Granivor				
Field Sparrow Omnivore: Granivore: Spizella pusilla ground forager ground gleaner Black-chinned Sparrow Omnivore: Granivore: Spizella atrogularis ground forager ground gleaner Vesper Sparrow Omnivore: Granivore: Pooecetes gramineus ground forager ground gleaner Lark Sparrow Omnivore: Granivore: Chondestes grammacus ground forager ground gleaner Black-throated Sparrow Insectivore: Granivore: Amphispiza bilineata lower-canopy gleaner ground gleaner Give-striped Sparrow Omnivore: Granivore: Amphispiza quinquestriata ground forager ground gleaner ark Bunting Granivore: Granivore: Calamospiza melanocorys avannah Sparrow Omnivore: Granivore:	nzella breweri	ground gleaner		
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Cark Sparrow Omnivore: Granivore: Chondestes grammacus ground forager ground gleaner Black-throated Sparrow Insectivore: Granivore: Amphispiza bilineata lower-canopy gleaner ground gleaner ground forager Tive-striped Sparrow Omnivore: Granivore: Amphispiza quinquestriata ground forager ground gleaner Lark Bunting Omnivore: Calamospiza melanocorys avannah Sparrow Omnivore: Granivore:				
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Black-throated Sparrow Insectivore: Granivore: Amphispiza bilineata lower-canopy gleaner ground gleaner ground gleaner ground forager live-striped Sparrow Omnivore: Granivore: Amphispiza quinquestriata ground forager ground gleaner ark Bunting Omnivore: Calamospiza melanocorys ground forage avannah Sparrow Omnivore: Granivore:				
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Calamospiza melanocorys ground forag avannah Sparrow Omnivore: Granivore:		ground forager	ground gleaner	_
avannah Sparrow Omnivore: Granivore:				
	•			ground forager
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9, = 0	sserculus sandwichensis	ground forager	ground gleaner	
aird's Sparrow Insectivore: Granivore:		Insectivore:	Granivore:	
Ammodramus bairdii ground gleaner ground gleaner	nmodramus bairdii	ground gleaner	ground gleaner	
rasshopper Sparrow Omnivore:	shopper Sparrow			Omnivore:
				ground forager
Ienslow's Sparrow Omnivore:	slow's Sparrow			-
				ground forager
e Conte's Sparrow Omnivore:				
	. -			ground forager
harp-tailed Sparrow Omnivore:				
Ammodramus caudacutus ground forag	nmodramus caudacutus			ground forager

Species name (Sci. name AOU list)	Breeding period	Nonbreeding period	Year round
Seaside Sparrow Ammodramus maritimus			Crustaceovore: salt-marsh gleaner Molluscovore: salt-marsh gleaner Insectivore: salt-marsh gleaner
Fox Sparrow	Omnivore:	Granivore	G
Passserella iliaca	ground forager	ground gleaner	
Song Sparrow	Omnivore:	Granivore:	
Melospiza melodia	lower-canopy forager ground forager	ground gleaner	
Lincoln's Sparrow	Omnivore:	Granivore:	
Melospiza lincolnii	ground forager	ground gleaner	
Swamp Sparrow	Omnivore:	Granivore:	
Melospiza georgiana	ground forager	ground gleaner Granivore:	
White-throated Sparrow Zonotrichia albicollis	Omnivore: ground forager	ground gleaner	
Golden-crowned Sparrow	Omnivore:	Granivore:	
Zonotrichia atricapilla	ground forager	ground gleaner	
White-crowned Sparrow	Omnivore:	Granivore:	
Zonotrichia leucophrys	ground forager	ground gleaner	
Harris' Sparrow	Omnivore:	Granivore:	
Zonotrichia querula	ground forager	ground gleaner	
Dark-eyed Junco	Omnivore:	Granivore:	
Junco hyemalis	ground forager	ground gleaner	0 :
Yellow-eyed Junco			Omnivore:
Junco phaeonotus	Omnivore:	Granivore:	ground forager
McCown's Longspur Calcarius mccownii	ground forager	ground gleaner	
Lapland Longspur	Omnivore:	Granivore:	
Calcarius lapponicus	ground forager	ground gleaner	
Smith's Longspur	8		Omnivore:
Calcarius pictus			ground forager
Chestnut-collared Longspur	Omnivore:	Granivore:	
Calcarius ornatus	ground forager	ground gleaner	
Snow Bunting	Omnivore:	Granivore:	
Plectrophenax nivalis	ground forager	ground gleaner Granivore:	
McKay's Bunting Plectrophenax hyperboreus	Omnivore: ground forager	ground gleaner	
Bobolink	Omnivore:	ground gleaner	
Dolichonyx oryzivorus	ground forager		
Red-winged Blackbird	Omnivore:	Granivore:	
Agelaius phoeniceus	ground forager	ground gleaner	
Tricolored Blackbird			Omnivore:
Agelaius tricolar	T		ground forager
Eastern Meadowlark	Insectivore:	Omnivore:	
Sturnella magna Western Meadowlark	ground gleaner Insectivore:	ground forager Omnivore:	
Western Meadowlark Sturnella neglecta	ground gleaner	ground forager	
Yellow-headed Blackbird	Broama Sicanci	ground for agor	Omnivore:
Xanthocephalus			ground forager
xanthocephalus			2
Rusty Blackbird	Insectivore:	Omnivore:	
Euphagus carolinus	ground gleaner	ground forager	
Brewer's Blackbird			Omnivore:
Euphagus cyanocephalus			ground forager
Great-tailed Grackle Quiscalus mexicanus			Omnivore: ground forager

Species name (Sci. name AOU list)	Breeding period	Nonbreeding period	Year round
Boat-tailed Grackle			Omnivore:
Quiscalus major			ground forager
Sommon Grackle			Omnivore:
Quiscalus quiscula			ground forager
ronzed Cowbird	Omnivore:	Granivore:	8
Molothrus aeneus	ground forager	ground gleaner	
rown-headed Cowbird	Omnivore:	Granivore:	
Molothrus ater	ground forager	ground gleaner	
rchard Oriole	Insectivore:	8	
Icterus spurius	upper-canopy gleaner		
ooded Oriole	Omnivore:		
Icterus cucullatus	lower-canopy forager		
tamira Oriole	17 3		Omnivore:
Icterus gularis			upper-canopy forager
udubon's Oriole			Omnivore:
Icterus graduacauda			lower-canopy forager
orthern Oriole	Omnivore:		1, 0
Icterus galbula	upper-canopy forager		
ott's Oriole	Omnivore:		
Icterus parisorum	lower-canopy forager		
osy Finch	Omnivore:	Granivore:	
Leucosticte arctoa	ground forager	ground gleaner	
	Insectivore:		
	air sallyer		
ne Grosbeak	Omnivore:	Granivore:	
Pinicola enucleator	upper-canopy forager	upper-canopy gleaner	
		ground gleaner	
ırple Finch	Granivore:	Granivore:	
Carpodacus purpureus	upper-canopy gleaner	ground gleaner	
	Frugivore:		
	upper-canopy gleaner		
assin's Finch	Omnivore:	Granivore:	
Carpodacus cassinii	ground forager	upper-canopy gleaner	
		ground gleaner	
ouse Finch	Frugivore:		Granivore:
Carpodacus mexicanus	ground gleaner		ground gleaner
ed Crossbill	Omnivore:	Granivore:	
Loxia curvirostra	upper-canopy forager	upper-canopy gleaner	
hite-winged Crossbill	Omnivore:	Granivore:	
Loxia leucoptera	upper-canopy forager	upper-canopy gleaner	
mmon Redpoll	Omnivore:	Granivore:	
Carduelis flammea	ground forager	ground gleaner	
70 1 11	lower-canopy forager	~ .	
oary Redpoll	Omnivore:	Granivore:	
Carduelis hornemanni	ground forager	ground gleaner	
0.11	lower-canopy forager		
ne Siskin	Omnivore:	Granivore:	
Carduelis pinus	upper-canopy forager	upper-canopy gleaner	
0.110	ground forager	ground gleaner	
sser Goldfinch			Granivore:
Carduelis psaltria			ground gleaner
			lower-canopy gleaner
wrence's Goldfinch			Granivore:
Carduelis lawrencei			ground gleaner
	_	_	lower-canopy gleaner
nerican Goldfinch	Omnivore:	Granivore:	
Carduelis tristis	lower-canopy forager	lower-canopy gleaner	
	ground forager	ground gleaner	

Appendix I. Continued.			
Species name (Sci. name AOU list)	Breeding period	Nonbreeding period	Year round
Evening Grosbeak Coccothraustes vespertinus	Omnivore: upper-canopy forager	Granivore: upper-canopy gleaner ground gleaner	
House Sparrow Passer domesticus Eurasian Tree Sparrow Passer montanus			Granivore: ground gleaner Granivore: ground gleaner

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