

Appendix C: Species Lists

List of Woody Plant Species Found on Kirtland's Warbler Wildlife Management Area ¹

Scientific Name	Common Name
<i>Abies balsamea</i>	Balsam Fir
<i>Acer rubrum</i>	Red Maple
<i>Alnus incana</i>	Tag Alder
<i>Amelanchier</i> spp.	Serviceberry spp.
<i>Betula</i> spp.	Birch spp.
<i>Crataegus</i> spp.	Hawthorn spp.
<i>Fraxinus americana</i>	White Ash
<i>F. nigra</i>	Black Ash
<i>F. pennsylvanica</i>	Green Ash
<i>Hamamelis virginiana</i>	Witch-hazel
<i>Pinus banksiana</i>	Jack Pine
<i>Picea glauca</i>	White Spruce
<i>Pinus resinosa</i>	Red Pine
<i>P. sylvestris</i>	Scots Pine
<i>P. strobus</i>	White Pine
<i>Populus grandidentata</i>	Bigtooth Aspen
<i>P. tremuloides</i>	Trembling Aspen
<i>Prunus pennsylvanica</i>	Pin Cherry
<i>P. serotina</i>	Black Cherry
<i>P. virginiana</i>	Choke Cherry
<i>Quercus alba</i>	White Oak
<i>Q. coccinea</i>	Scarlet Oak
<i>Q. ellipsoidalis</i>	Northern Pin Oak
<i>Q. rubra</i>	Northern Red Oak
<i>Q. velutina</i>	Black Oak

1. Goebel et al. (2007)

Birds of Kirtland's Warbler Wildlife Management Area¹

Common Name	Scientific Name	Nest ²		Special Status		
		LOC1	LOC2	Region 3 Conservation Priorities	Regional Forester Sensitive	Michigan Special Animal
Alder Flycatcher	<i>Empidonax alnorum</i>	SH				
American Crow	<i>Corvus brachyrhynchos</i>	DT	SH			
American Goldfinch	<i>Carduelis tristis</i>	SH	TR			
American Redstart	<i>Setophaga ruticilla</i>	DT	SH			
American Robin	<i>Turdus migratorius</i>	DT	CT			
Barred Owl	<i>Strix varia</i>	DT	SH			
Black-billed Cuckoo ¹	<i>Coccyzus erythrophthalmus</i>	DT	SN	✓		
Black-capped Chickadee	<i>Poecile atricapillus</i>	SN				
Blue Jay	<i>Cyanocitta cristata</i>	DT	GR			
Blue-headed Vireo	<i>Vireo solitarius</i>	CT				
Brown Creeper	<i>Certhia americana</i>	CT	DT			
Brown Thrasher	<i>Toxostoma rufum</i>	SH	GR			
Brown-headed Cowbird	<i>Molothrus ater</i>	SH	GR			
Cedar Waxwing	<i>Bombycilla cedrorum</i>	DT	CT			
Chipping Sparrow	<i>Spizella passerina</i>	CT	DT			
Clay-colored Sparrow	<i>Spizella pallida</i>	DT	CT			
Common Grackle	<i>Quiscalus quiscula</i>	GR				
Common Nighthawk	<i>Chordeiles minor</i>	CL	CT			
Common Raven	<i>Corvus corax</i>	GR				
Common Yellowthroat	<i>Geothlypis trichas</i>	SH				
Eastern Bluebird	<i>Sialia sialis</i>	SN				
Eastern Kingbird	<i>Tyrannus tyrannus</i>	DT	SH			
Eastern Phoebe	<i>Sayornis phoebe</i>	BR	CL			
Eastern Towhee	<i>Pipilo erythrophthalmus</i>	GR	SH			
Eastern Wood-Pewee	<i>Contopus virens</i>	DT				
Field Sparrow ¹	<i>Spizella pusilla</i>	GR	SH	✓		
Golden-crowned Kinglet	<i>Regulus satrapa</i>	DT	SN			
Great Crested Flycatcher	<i>Myiarchus crinitus</i>	CT				

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Common Name	Scientific Name	Nest ²		Special Status		
		LOC1	LOC2	Region 3 Conservation Priorities	Regional Forester Sensitive	Michigan Special Animal
Hairy Woodpecker	<i>Picoides villosus</i>	DT	SN			
Hermit Thrush	<i>Catharus guttatus</i>	GR	TR			
House Wren	<i>Troglodytes aedon</i>	DT	SN			
Indigo Bunting	<i>Passerina cyanea</i>	SH	TR			
Kirtland's Warbler	<i>Dendroica kirtlandii</i>	GR		✓		✓
Least Flycatcher	<i>Empidonax minimus</i>	DT	SH			
Lincoln's Sparrow	<i>Melospiza lincolnii</i>	GR				
Mourning Dove	<i>Zenaida macroura</i>	TR	GR			
Mourning Warbler	<i>Oporornis philadelphia</i>	GR				
Nashville Warbler	<i>Vermivora ruficapilla</i>	CT				
Northern Flicker	<i>Colaptes auratus</i>	GR		✓		
Ovenbird	<i>Seiurus aurocapilla</i>	SN				
Pine Warbler	<i>Dendroica pinus</i>	GR				
Red-breasted Nuthatch	<i>Sitta vireo</i>	CT				
Red-eyed Vireo	<i>Vireo olivaceus</i>	DT	SH			
Red-tailed Hawk	<i>Buteo jamaicensis</i>	CT				
Red-winged Blackbird	<i>Agelaius phoeniceus</i>	SH	DT			
Rose-breasted Grosbeak	<i>Pheucticus ludovicianus</i>	DT	CL			
Scarlet Tanager	<i>Piranga olivacea</i>	RD				
Slate-colored Junco	<i>Junco hyemalis</i>	GR	BK			
Song Sparrow	<i>Melospiza melodia</i>	DT	CT			
Spotted Sandpiper	<i>Actitis macularius</i>	GR	SH			
Tree Swallow	<i>Tachycineta bicolor</i>	CT	DT			
Turkey Vulture	<i>Cathartes aura</i>	GR				
Upland Sandpiper	<i>Bartramia longicauda</i>	SN		✓	✓	
Vesper Sparrow	<i>Poocetes gramineus</i>	CL	SN		✓	
White-breasted Nuthatch	<i>Sitta carolinensis</i>	GR				
White-throated Sparrow	<i>Zonotrichia albicollis</i>	GR				

Birds of Kirtland's Warbler Wildlife Management Area¹

Common Name	Scientific Name	Nest ²		Special Status		
		LOC1	LOC2	Region 3 Conservation Priorities	Regional Forester Sensitive	Michigan Special Animal
Wild Turkey	<i>Meleagris gallopavo</i>	DT				
Wilson's Snipe	<i>Gallinago delicata</i>	GR				
Yellow-bellied Sapsucker	<i>Sphyrapicus varius</i>	GR	SH			
Yellow-rumped Warbler	<i>Dendroica coronata</i>	DT				

1. *Birds of Kirtland's Warbler Wildlife Management Area recorded during point counts within KWWMA parcels in June and July 2006.*
2. *The 'NEST' columns provide alphabetic code for the primary (LOC1) and secondary (LOC2) nest site locations commonly utilized by the species (Ehrlich et al. 1988); the designations are as follows: BK – bank, GR – ground, BR – bridge, RD – reeds, CL – cliff, SH – shrub, CT – coniferous tree, SN – snag, DT – deciduous tree, TR – tree*

Possible Mammal Species of Kirtland's Warbler Wildlife Management Area

Common Name	Scientific Name	Habitat(s) ¹	Habitat(s) ²	Special Status		
				Region 3 Conservation Priorities	Regional Forester Sensitive	Michigan Special Animal
Opossum	<i>Didelphis virginiana</i>	Deciduous woods near stream or lake, semi open country brushy fenelines, drainage ditches, and swamp borders	MDF, WDF, SUP			
Northern Short-tailed Shrew	<i>Blarina brevicauda</i>	Moist environments with extensive herbaceous cover or a thick layer of litter	WDF, MDF, WMF, WCF, SWE			
Masked Shrew	<i>Sorex cinereus</i>	Moist woodlots containing abundant plant cover, thick leaf litter, and decaying logs. Can include overgrown fields, alder thicket, cedar swamps, weedy fencerows, grassy marshes, and sphagnum bogs	MDF, WDF, PAS, GRA, HAY, SWE			
Water Shrew	<i>Sorex palustris</i>	Sluggish stream, bog or seasonal pond, but optimal habitat is small forest lined stream, with fast flowing water, and plenty of cover provided by undercut banks, jumbled rocks, downed trees, and other debris.	MDF, MMF, MCF, SHO		✓	
Pygmy Shrew	<i>Sorex hoyi</i>	Deciduous woods, coniferous forests, regenerating clear-cuts, grassy fields, swamps, bogs, and floodplains. Most live in boreal habitats with extensive ground cover.	DDF, MDF, DMF, DCF, GRA, SUP, SWE			
Star-nosed Mole	<i>Condylura cristata</i>	Wet saturated soils and frequents the borders of swamps, lakes, streams, or isolated areas of poor drainage.	WDF, WMF, WCF, SWE, OWE			
Eastern Mole	<i>Scalopus aquaticus</i>	Damp soils of forests, fields, pastures and lawns	DCF, DDF, DMF, GRA, PAS, RES			
Little Brown Bat	<i>Myotis lucifugus</i>	Buildings	RES			
Northern Bat	<i>Myotis septentrionalis</i>	Silver maples, hollow green ash, underneath loose bark of dead trees	DDF		✓	
Hoary Bat	<i>Lasiurus cinereus</i>	Any tree with dense shade, seclusion, and clear space below the roost	DDF, MDF, DMF, MMF, DCF, MCF			
Red Bat	<i>Lasiurus borealis</i>	Leafy trees (elms, maples) or in conifers	DDF, MDF, DMF, DCF, MCF			
Big Brown Bat	<i>Eptesicus fuscus</i>	Buildings	RES			
Silver-haired Bat	<i>Lasionycteris noctivagans</i>	Fond of willows, maple or ash	DDF, MDF			

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Common Name	Scientific Name	Habitat(s) ¹	Habitat(s) ²	Special Status		
				Region 3 Conservation Priorities	Regional Forester Sensitive	Michigan Special Animal
Snowshoe Hare	<i>Lepus americanus</i>	Heavily forested areas with dense understory. Thrives in coniferous and mixed woods including cedar bogs and spruce swamps.	DMF, MMF, MCF, DCF			
Woodchuck	<i>Marmota monax</i>	Rolling farmland interspersed with grassy pastures, small woodlots, and brushy fencelines	OLD, GRA, PAS, HAY			
Eastern Cottontail	<i>Sylvilagus floridanus</i>	Herbaceous vegetation abounds and potential shelter exists from brush piles, shrubby thickets, or weedy fencerows.	SUP, OLD, GRA, PAS, HAY			
Fox Squirrel	<i>Sciurus niger</i>	Deciduous trees in areas that lack a well-developed understory. Frequents woodlots, forest-field edges	DDF, MDF, OLD			
Red Squirrel	<i>Tamiasciurus hudsonicus</i>	Extensive stands of evergreen trees or mixed Coniferous/deciduous woodland	DCF, MCF, DMF, MMF			
Thirteen-lined Ground Squirrel	<i>Spermophilus tridecemlineatus</i>	Open areas with short grass	GRA			
Eastern Chipmunk	<i>Tamias striatus</i>	Open deciduous forests where stumps, logs, rocky outcrops Ultimate habitat beech maple forest	DDF, MDF			
Northern Flying Squirrel	<i>Glaucomys sabrinus</i>	Mixed forests with mature deciduous and coniferous trees. Also frequents pure stands of either type.	DMF, MMF			
Southern Flying Squirrel	<i>Glaucomys volans</i>	Open deciduous woodlots with few shrubby thickets scattered among mature trees.	DDF, MDF			
Beaver	<i>Castor canadensis</i>	Slow-moving streams or lakes bordered by young forests containing aspen, willow, or alder.	SHO			
House Mouse	<i>Mus musculus</i>	Buildings, cultivated fields, fencerows, wooded areas (around buildings)	RES, HAY			
Norway Rat	<i>Rattus norvegicus</i>	Buildings, cultivated fields.	RES, HAY			
Woodland Deer Mouse	<i>Peromyscus maniculatus gracilis</i>	Forested habitats, shrubby areas, regenerating clear-cuts, and recent burns.	SUP, DCF, MCF, DDF, MDF, DMF, MMF			
Woodland Vole	<i>Microtus pinetorum</i>	Forests of oak, maple, and beech are preferred, but present in all forest types and orchards	DCF, MCF, DDF, MDF, DMF, MMF			✓

Possible Mammal Species of Kirtland's Warbler Wildlife Management Area

Common Name	Scientific Name	Habitat(s) ¹	Habitat(s) ²	Special Status		
				Region 3 Conservation Priorities	Regional Forester Sensitive	Michigan Special Animal
Red-backed Vole	<i>Clethrionomys gapperi</i>	Coniferous forests are preferred, deciduous or mixed coniferous/deciduous woods acceptable with standing water nearby.	MDF,MMF, MCF, SWE, SHO			
White-footed Mouse	<i>Peromyscus leucopus</i>	Deciduous woodlands, where herbaceous cover is moderate and rocks and logs are abundant.	DDF, MDF			
Meadow Vole	<i>Microtus pennsylvanicus</i>	Moist, grassy fields and also frequents marshes and bog thick with greases, sedges and rushes.	SWE, OLD, OWE			
Muskrat	<i>Ondatra zibethicus</i>	Slow-moving streams, lakes, ponds, and especially marshes.	OWA, OWE			
Southern Bog Lemming	<i>Synaptomys cooperi</i>	Old fields, clear-cuts, shrubby locations, and upland woods. Frequents wet forested sites dominated by spruce, cedar, or tamarack, as well as more open sphagnum bogs.	MDF, WDF, MMF, WMF, MC, WCF, ORA, SUP, SWE			
Woodland Jumping Mouse	<i>Napaeozapus insignis</i>	Cool moist forests, with spruce-fir and hemlock hardwood associations but also in pure deciduous stands. Must be littered with rocks, logs, and stumps coated with a lush growth of ferns, grasses, and other.	MDF, MMF, MCF			
Meadow Jumping Mouse	<i>Zapus hudsonius</i>	Variety of habitats. Fallow fields, woodland edges, shrubby thickets. Abundant in moist sites containing lush growth of grasses and forbs (damp meadows, streamside vegetation, and marsh borders)	SWE, GRA, PAS, SHO			
Porcupine	<i>Erethizon dorsatum</i>	Deciduous and coniferous woodlands of stands containing pine and hemlock.	DDF, MDF, DMF, MMF, DCF, MCF			
Coyote	<i>Canis latrans</i>	Prairies, brushy area, wooded edges	DDF, MDF, DMF, MMF, DCF, MCF, PAS, GRA, HAY			
Gray Fox	<i>Urocyon cinereoargenteus</i>	In wooded swamps and in bottomland forests where woodlands and farmlands are mixed	DDF, MDF, DMF, MMF, DCF, WCF			
Red Fox	<i>Vulpes vulpes</i>	Open country with reliable cover nearby, frequents forest-field edges, brushy fencelines and wooded borders of streams or lakes.	DDF, OLD, PAS, HAY			

Possible Mammal Species of Kirtland's Warbler Wildlife Management Area

Common Name	Scientific Name	Habitat(s) ¹	Habitat(s) ²	Special Status		
				Region 3 Conservation Priorities	Regional Forester Sensitive	Michigan Special Animal
Black Bear	<i>Ursus americanus</i>	Dense coniferous or deciduous woods having a thick understory.	DDF, MDF, DMF, MMF, DCF, MCF		✓	
Raccoon	<i>Procyon lotor</i>	In or near wooded areas, often near a stream or pond. More abundant in hardwood stands than coniferous	DDF, MDF, DMF, MMF			
Mink	<i>Mustela vison</i>	Streams, ponds, lakes with at least some brushy or rocky cover.	OWA, SWA			
Short-tailed Weasel	<i>Mustela erminea</i>	Open forests, riparian woodlands, and shrubby fencerows.				
Long-tailed Weasel	<i>Mustela frenata</i>	Forest-field edges, brushy fencelines, and wooded areas with shrubby cover	DDF, MDF, OLD, PAS, SHO			
Least Weasel	<i>Mustela nivalis</i>	Open forest, riparian edges, pastures, old fields and occasionally mature forests	OLD, DDF, DMF, DCF, PAS			
Striped Skunk	<i>Mephitis mephitis</i>	Mix of forests, fields, and wooded ravines.	HAY, PAS, DDF, MDF, DMF, MMF, DCF, DMF			
River Otter	<i>Lutra canadensis</i>	Clean, moderately deep streams, ponds, lakes.	OWA		✓	
Badger	<i>Taxidea taxus</i>	Grasslands, open fields, and pastures.	GRA, PAS, HAY		✓	
Marten	<i>Martes americana</i>	Closed coniferous woodlands underlain by a lush growth of shrubs and forbs and appears less in mixed stands.	DCF, MCF		✓	
Bobcat	<i>Lynx rufus</i>	Lies in coniferous and mixed deciduous/coniferous woods. Readily occupies wooded swamps close to riparian forest	DMF, MMF, DCF, MCF		✓	
White-tailed Deer	<i>Odocoileus virginianus</i>	Open forest environments interspersed with meadows, woodland clearings or farmland.				
Elk	<i>Cervus elaphus</i>	Open forest that includes meadows and woodland clearings				

1. Habitat information obtained from: Kurta (2001).

2. Habitat Definitions (Brewer et al. 1991): DDF= Dry Deciduous Forest or Savanna; MDF= Mesic Deciduous Forest; WDF= Wet Deciduous Forest; DMF= Dry Mixed Forest or Savanna; MMF= Mesic Mixed Forest; WMF= Wet Mixed Forest; DCF= Dry Coniferous Forest; MCF= Mesic Coniferous Forest; WCF= Wet Coniferous Forest; SUP= Shrub Uplands; SWE= Shrub Wetland; OLD= Old Field; GRA= Grassland; PAS= Pasture; HAY= Hayfield; OWE= Open Wetland; SHO= Shoreland; OWA= Open Water

Possible Herptofaunal Species of Kirtland's Warbler WMA Based on Distribution Patterns in Michigan

Common Name	Scientific Name	Habitat(s) ¹	Special Status		
			Region 3 Conservation Priorities	Regional Forester Sensitive	Michigan Special Animal
Northern Water Snake	<i>Nerodia sipedon sipedon</i>	Ephemeral wetlands, forests, agricultural areas			
Northern Red-bellied Snake	<i>Storeria occipitomaculata occipitomaculata</i>	Permanent wetlands, rivers and streams, forests, grasslands and savannas, agricultural areas, urban areas			
Butler's Garter Snake	<i>Thamnophis butleri</i>	Open grasslands and prairies			
Eastern Garter Snake	<i>Thamnophis sirtalis sirtalis</i>	Ephemeral wetlands, permanent wetlands, rivers and streams, forests, grasslands and savannas, caves and springs, agricultural areas, urban areas			
Northern Ribbon Snake	<i>Thamnophis sauritus</i>	Riparian areas, streams, ponds, bogs and swamps			
Northern Brown Snake	<i>Storeria dekayi</i>	Bogs, swamps, marshes, moist woodlands and hillsides			
Eastern Hognose Snake	<i>Heterodon platyrhinos</i>	Sandy areas			
Northern Ringneck Snake	<i>Diadophis punctatus edwardsi</i>	Rivers and streams, forests, grasslands and savannas			
Eastern Smooth Green Snake	<i>Ophedrys vernalis</i>	Forests, grasslands and savannas			
Eastern Milk Snake	<i>Lampropeltis triangulum</i>	Fields, riverbottoms, rocky hillsides, woodlands			
Eastern Massasauga	<i>Sistrurus catenatus</i>	Wet prairies, bogs, swamps	✓	✓	✓
Snapping Turtle	<i>Chelydra serpentina</i>	Ephemeral wetlands, permanent wetlands, rivers and streams, grasslands and savannas, agricultural areas			
Wood Turtle	<i>Clemmys insculpta</i>	Rivers and streams, forests, agricultural areas		✓	✓
Spotted Turtle	<i>Clemmys guttata</i>	Shallow water bodies, marshy meadows, bogs, and swamps		✓	✓
Blanding's Turtle	<i>Emydoidea blandingii</i>	Ephemeral wetlands, permanent wetlands, rivers and streams, grasslands and savannas, agricultural areas		✓	✓

Possible Herptofaunal Species of Kirtland's Warbler WMA Based on Distribution Patterns in Michigan

Common Name	Scientific Name	Habitat(s) ¹	Special Status		
			Region 3 Conservation Priorities	Regional Forester Sensitive	Michigan Special Animal
Painted Turtle	<i>Chrysemys picta</i>	Ephemeral wetlands, permanent wetlands, rivers and streams, grasslands and savannas, agricultural areas			
Eastern Spiny Softshell	<i>Trionyx spiniferus</i>	Rivers and lakes with sand or mud bars			
Chorus Frog	<i>Pseudacris triseriata</i>	Permanent wetlands, grasslands and savannas			✓
Northern Spring Peeper	<i>Pseudacris crucifer crucifer</i>	Permanent wetlands, forests, grasslands and savannas			
Eastern Gray Treefrog	<i>Hyla versicolor</i>	Ephemeral wetlands, permanent wetlands, forests			
Cope's Gray Treefrog	<i>Hyla chrysoscelis</i>	Ephemeral wetlands, permanent wetlands, forests			
Blanchard's Cricket Frog	<i>Acris crepitans</i>	Riparian grasslands, swamps, boggy meadows		✓	✓
Green Frog	<i>Rana clamitans melanota</i>	Ephemeral wetlands, permanent wetlands, forests, grasslands and savannas			
Bull Frog	<i>Rana catesbeiana</i>	Lakes, ponds, bogs, and slow moving streams			
Northern Leopard Frog	<i>Rana pipiens</i>	Ephemeral wetlands, permanent wetlands, forests, grasslands and savannas			
Pickerel Frog	<i>Rana palustris</i>	Riparian grasslands, bogs, and rocky ravines			
Wood Frog	<i>Rana sylvatica</i>	Permanent wetlands, forests			
Eastern American Toad	<i>Bufo americanus americanus</i>	Ephemeral wetlands, permanent wetlands, rivers and streams, forests, grasslands and savannas, caves and springs, agricultural areas, urban areas			
Fowler's Toad	<i>Bufo woodhousei</i>	Sandy areas, and shorelines			
Mudpuppy	<i>Necturus maculosus maculosus</i>	Ephemeral wetlands, agricultural areas			

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Common Name	Scientific Name	Habitat(s) ¹	Special Status		
			Region 3 Conservation Priorities	Regional Forester Sensitive	Michigan Special Animal
Blue Spotted Salamander	<i>Ambystoma laterale</i>	Ephemeral wetlands, permanent wetlands, forests, grasslands and savannas			
Spotted Salamander	<i>Ambystoma maculatum</i>	Ephemeral wetlands, permanent wetlands, forests			
Eastern Tiger Salamander	<i>Ambystoma tigrinum tigrinum</i>	Ephemeral wetlands, permanent wetlands, forests, grasslands and savannas, agricultural areas			
Eastern Newt	<i>Notophthalmus viridescens</i>	Ephemeral wetlands, permanent wetlands, forests			
Red-backed Salamander	<i>Plethodon cinereus</i>	Forests			
Four-toed Salamander	<i>Hemidactylium scutatum</i>	Ephemeral wetlands, permanent wetlands, forests		✓	

1. Habitat information obtained from: Conant (1975).

