

Appendix L



USFWS

Delmarva Fox Squirrel

Species Lists for Chincoteague and Wallops Island NWRs

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Table A: Species Reference List for CCP/EIS – Common and Scientific Names

Common Name	Scientific Name
FLORA	
American beach grass	<i>Ammophila breviligulata</i>
American holly	<i>Ilex opaca</i>
American sea rocket	<i>Cakile edentula</i>
American three-square	<i>Scirpus americanus</i>
autumn olive	<i>Elaeagnus umbellata</i>
Bacopa	<i>Bacopa monnieri</i>
Bidens, bur-marigold	<i>Bidens laevis</i>
black cherry	<i>Prunus serotina</i>
black gum	<i>Nyssa sylvatica</i>
black willow	<i>Salix nigra</i>
blackberry	<i>Rubus allegheniensis</i>
broom-sedge	<i>Andropogon virginicus</i>
carpetweed	<i>Mollugo verticillata</i>
cattails	<i>Typha angustifolia L.</i>
climbing fern	<i>Lygodium palmatum</i>
climbing hempweed	<i>Mikania scandens</i>
common chokecherry	<i>Prunus virginiana</i>
crested yellow orchid	<i>Platanthera cristata</i>
dead man's fingers	<i>Codium fragile</i>
devil's walkingstick	<i>Aralias spinosa</i>
dogwood	<i>Cornus florida</i>
dune sandbur	<i>Cenchrus tribuloides</i>
dwarf spike rush	<i>Eleocharis parvula</i>
false heather or beach-heath	<i>Hudsonia tomentosa</i>
fox grape	<i>Vitis labrusca</i>
greenbrier	<i>Smilax rotundifolia</i>
groundsel tree	<i>Baccharis halimifolia</i>
high-blueberry bush	<i>Vaccinium corymbosum</i>
horsemint	<i>Monarda punctata</i>
Indian pipe	<i>Monotropa uniflora</i>
Japanese honeysuckle	<i>Lonicera japonica</i>
Japanese sedge	<i>Carex kobomugi</i>
Japanese silkgrass	<i>Microstegium vimineum</i>
Japanese wisteria	<i>Wisteria floribunda</i>
jointweed	<i>Polygonella articulata</i>
loblolly pine	<i>Pinus taeda</i>
marsh elder	<i>Iva frutescens</i>
northern bayberry	<i>Myrica pensylvanica</i>
partridgeberry	<i>Mitchella repens</i>
Phragmites, common reed	<i>Phragmites australis</i>
poison ivy	<i>Toxicodendron radicans</i>
red cedar	<i>Juniperus virginiana</i>
red maple	<i>Acer rubrum</i>
red oak	<i>Quercus falcate</i>

rough buttonweed	<i>Diodia radula</i>
sago pondweed	<i>Potamogeton pectinatus</i>
salt marsh fleabane	<i>Pluchea odorata</i>
saltgrass	<i>Distichlis spicata</i>
saltmeadow cordgrass	<i>Spartina patens</i>
saltwort	<i>Salicornia europaea</i>
sassafras	<i>Sassafras albidum</i>
sea lavender	<i>Limonium carolinianum</i>
sea oats	<i>Uniola paniculata</i>
sea purslane	<i>Sesuvium maritimum</i>
seabeach evening primrose	<i>Oenothera humifusa</i>
seabeach orach	<i>Atriplex arenaria</i>
seabeach sandwort	<i>Honkenya peploides</i>
seaside goldenrod	<i>S. graminifolia</i>
seaside goldenrod	<i>S. tenuifolia</i>
seaside goldenrod	<i>Solidago sempervirens</i>
serviceberry	<i>Amelanchier canadensis</i>
smartweed	<i>Polygonum spp.</i>
smooth cordgrass	<i>Spartina alterniflora</i>
spicebrush	<i>Lindera benzoin</i>
spotted wintergreen	<i>Pyrol L.</i>
swamp rose	<i>Hibiscus palustris</i>
sweet gum	<i>Liquidambar styraciflua</i>
tulip poplar	<i>Liriodendron tulipifera</i>
umbrella grass	<i>Fuirena pumila</i>
water oak	<i>Quercus nigra</i>
wax myrtle	<i>Myrica cerifera</i>
white oak	<i>Quercus alba</i>
widgeon grass	<i>Ruppia maritima</i>
FUANA	
American black duck	<i>Anas rubripes</i>
American kestrel	<i>Falco sparverius</i>
American oystercatcher	<i>Haematopus palliatus</i>
American widgeon	<i>Anas americana</i>
American woodcock	<i>Scolopax minor</i>
Asian shorecrabs	<i>Hemigrapsus sanguineus</i>
Atlantic brant	<i>Branta bernicla</i>
bald eagle	<i>Haliaeetus leucocephalus</i>
beach vitex	<i>Vitex rotundifolia</i>
black skimmer	<i>Rynchops niger</i>
black vulture	<i>Coragyps atratus</i>
black-and-white warbler	<i>Mniotilta varia</i>
blackburnian warbler	<i>Dendroica fusca</i>
black-crowned night-heron	<i>Nycticorax nycticorax</i>
brown thrasher	<i>Toxostoma rufum</i>
brown-headed nuthatch	<i>Sitta pusilla</i>

bufflehead	<i>Bucephala albeola</i>
Canada geese	<i>Branta canadensis</i>
Canada warbler	<i>Wilsonia canadensis</i>
Carolina wren	<i>Thryothorus ludovicianus</i>
cattle egret	<i>Bubulcus ibis</i>
Chinese mitten crab	<i>Eriocheir sinensis</i>
common grackle	<i>Quiscalus quiscula</i>
common terns	<i>Sterna hirundo</i>
common yellowthroat	<i>Geothlypis trichas</i>
Delmarva Peninsula fox squirrel	<i>Sciurus niger cenerus</i>
dunlin	<i>Calidris alpina</i>
eastern kingbird	<i>Tyrannus tyrannus</i>
eastern towhee	<i>Pipilo erythrophthalmus</i>
eastern wood-pewee	<i>Contopus virens</i>
eelgrass	<i>Zostera marina</i>
field sparrow	<i>Spizella pusilla</i>
Forster's tern	<i>Sterna forsteri</i>
gadwall	<i>Anas strepera</i>
glossy ibis	<i>Plegadis falinellus</i>
gray catbird	<i>Dumetella carolinensis</i>
great black-backed gull	<i>Larus marinus</i>
great crested flycatcher	<i>Myiarchus crinitus</i>
great egret	<i>Casmerodius albus</i>
great horned owl	<i>Bubo virginianus</i>
green crab	<i>Carcinus maena</i>
green heron	<i>Butorides virescens</i>
green sea turtle	<i>Chelonia mydas</i>
green-winged teal	<i>Anas crecca</i>
herring gull	<i>Larus argentatus</i>
house wren	<i>Troglodytes aedon</i>
isopods	<i>Philosa</i>
laughing gull	<i>Larus atricilla</i>
little blue heron	<i>Egretta caerulea</i>
long-finned pilot whale	<i>Glovicephala melaena</i>
Louisiana waterthrush	<i>Parkesia motacilla</i>
mallards	<i>Anas platyrhynchos</i>
mink	<i>Mustela vison</i>
mole crab	<i>Emerita talpoida</i>
monarch butterfly	<i>Danaus plexippus</i>
northern bobwhite	<i>Colinus virginianus</i>
northern flicker	<i>Colaptes auratus</i>
northern pintail	<i>Anas acuta</i>
northern shoveler	<i>Anas clypeata</i>
nutria	<i>Myocastor coypus</i>
opossum	<i>Didelphis marsupialis</i>
osprey	<i>Pandion haliaetus</i>
oystercatchers	<i>Haematopus palliatus</i>
periwinkle	<i>Littorina spp.</i>

prairie warbler	<i>Dendroica discolor</i>
raccoon	<i>Procyon lotor</i>
red fox	<i>Vulpes vulpes</i>
red knot	<i>Calidris canutus rufa</i>
red-breasted merganser	<i>Mergus serrator</i>
red-headed woodpecker	<i>Melanerpes erythrocephalus</i>
red-tailed hawk	<i>Buteo jamaicensis</i>
ring-billed gull	<i>Larus delawarensis</i>
ruddy duck	<i>Oxyura jamaicensis</i>
saltmarsh snail	<i>Melampus bidentata</i>
seabeach spurge	<i>Chamaesyce polygonifolia</i>
semipalmated sandpiper	<i>Calidris pusilla</i>
sika	<i>Cervus caballus</i>
short-billed dowitcher	<i>Limnodromus griseus</i>
snow geese	<i>Chen caerulescens</i>
snowy egret	<i>Egretta thula</i>
song sparrow	<i>Melospiza melodia</i>
southern leopard frog	<i>Rana utricularia</i>
tri-colored heron	<i>Egretta tricolor</i>
tundra swan	<i>Cygnus columbianus</i>
Virginia oyster	<i>Crassostrea virginica</i>
willet	<i>Tringa semipalmata</i>
worm-eating warbler	<i>Helmitheros vermivorus</i>
yellow-breasted chat	<i>Icteria virens</i>
yellow-rumped warbler	<i>Dendroica coronata</i>

Table B: Bird Checklist for Chincoteague and Wallops Island National Wildlife Refuges

Common Name
LOONS - GREBES
Red-throated Loon
Common Loon
Pied-billed Grebe
Horned Grebe
Red-necked Grebe
Eared Grebe
SHEARWATERS - STORM-PETRELS
Cory's Shearwater
Greater Shearwater
Sooty Shearwater
Wilson's Storm-Petrel
GANNET - PELICANS - CORMORANTS
Northern Gannet
American White Pelican
Brown Pelican
Great Cormorant
Double-crested Cormorant
BITTERNs - HERONS - IBISES
American Bittern
Least Bittern
Great Blue Heron
Great Egret
Snowy Egret
Little Blue Heron
Tricolored Heron
Cattle Egret
Green Heron
Black-crowned Night-Heron
Yellow-crowned Night-Heron
White Ibis
Glossy Ibis
SWANS - GEESE - DUCKS
Tundra Swan
Mute Swan
Greater White-Fronted Goose
Greater Snow Goose

Atlantic Brant
Canada Goose
Wood Duck
Green-winged Teal
American Black Duck
Mallard
Northern Pintail
Blue-winged Teal
Northern Shoveler
Gadwall
Eurasian Wigeon
American Wigeon
Canvasback
Redhead
Ring-necked Duck
Greater Scaup
Lesser Scaup
Common Eider
Oldsquaw
Black Scoter
Surf Scoter
White-winged Scoter
Common Goldeneye
Bufflehead
Hooded Merganser
Common Merganser
Red-breasted Merganser
Ruddy Duck
VULTURES - HAWKS - FALCONS
Black Vulture
Turkey Vulture
Osprey
Bald Eagle
Northern Harrier
Sharp-shinned Hawk
Cooper's Hawk
Red-shouldered Hawk
Red-tailed Hawk
Rough-legged Hawk
American Kestrel
Merlin
Peregrine Falcon
GROUSE - QUAIL - TURKEY
Northern Bobwhite

RAILS - CRANES
Yellow Rail
Black Rail
Clapper Rail
King Rail
Virginia Rail
Sora
Purple Gallinule
Common Moorhen
American Coot
PLOVERS - SANDPIPERS
Black-bellied Plover
American Golden Plover
Wilson's Plover
Semipalmated Plover
Piping Plover
Killdeer
American Oystercatcher
Black-necked Stilt
American Avocet
Greater Yellowlegs
Lesser Yellowlegs
Solitary Sandpiper
Willet
Spotted Sandpiper
Upland Sandpiper
Whimbrel
Hudsonian Godwit
Marbled Godwit
Ruddy Turnstone
Red Knot
Sanderling
Semipalmated Sandpiper
Western Sandpiper
Least Sandpiper
White-rumped Sandpiper
Baird's Sandpiper
Pectoral Sandpiper
Dunlin
Curlew Sandpiper
Stilt Sandpiper
Buff-breasted Sandpiper
Ruff
Short-billed Dowitcher
Long-billed Dowitcher
Common Snipe

American Woodcock
Wilson's Phalarope
Red-necked Phalarope
JAEGERS - GULLS - TERNS - AUKS
Laughing Gull
Black-headed Gull
Bonaparte's Gull
Ring-billed Gull
Herring Gull
Lesser Black-backed Gull
Great Black-backed Gull
Gull-billed Tern
Caspian Tern
Royal Tern
Sandwich Tern
Roseate Tern
Common Tern
Arctic Tern
Forster's Tern
Least Tern
Black Tern
Black Skimmer
DOVES - CUCKOOS - OWLS - SWIFTS - HUMMINGBIRD
Rock Dove
Mourning Dove
Black-billed Cuckoo
Yellow-billed Cuckoo
Barn Owl
Eastern Screech-Owl
Great Horned Owl
Snowy Owl
Long-eared Owl
Short-eared Owl
Common Nighthawk
Chuck-will's-widow
Chimney Swift
Ruby-throated Hummingbird
Belted Kingfisher
WOODPECKERS - FLYCATCHERS
Red-headed Woodpecker
Red-bellied Woodpecker
Yellow-bellied Sapsucker

Downy Woodpecker
Hairy Woodpecker
Northern Flicker
Pileated Woodpecker
Olive-sided Flycatcher
Eastern Wood-Pewee
Yellow-bellied Flycatcher
Acadian Flycatcher
Willow Flycatcher
Least Flycatcher
Eastern Phoebe
Great Crested Flycatcher
Western Kingbird
Eastern Kingbird
LARKS - SWALLOWS - JAYS - CROWS
Horned Lark
Purple Martin
Tree Swallow
Northern Rough-winged Swallow
Bank Swallow
Barn Swallow
Blue Jay
American Crow
Fish Crow
TITMICE - NUTHATCHES - WRENS
Carolina Chickadee
Tufted Titmouse
Red-breasted Nuthatch
White-breasted Nuthatch
Brown-headed Nuthatch
Brown Creeper
Carolina Wren
House Wren
Winter Wren
Sedge Wren
Marsh Wren
KINGLETS - THRUSHES - THRASHERS
Golden-crowned Kinglet
Ruby-crowned Kinglet
Blue-gray Gnatcatcher
Eastern Bluebird
Veery
Bicknell's Thrush

Swainson's Thrush
Hermit Thrush
Wood Thrush
American Robin
Gray Catbird
Northern Mockingbird
Brown Thrasher
WAXWINGS - SHRIKES - STARLING
American Pipit
Cedar Waxwing
European Starling
VIREOS - WOOD WARBLERS
White-eyed Vireo
Solitary Vireo
Yellow-throated Vireo
Warbling Vireo
Philadelphia Vireo
Red-eyed Vireo
Blue-winged Warbler
Golden-winged Warbler
Tennessee Warbler
Orange-crowned Warbler
Nashville Warbler
Northern Parula
Yellow Warbler
Chestnut-sided Warbler
Magnolia Warbler
Cape May Warbler
Black-throated Blue Warbler
Yellow-rumped Warbler
Black-throated Green Warbler
Blackburnian Warbler
Yellow-throated Warbler
Pine Warbler
Prairie Warbler
Palm Warbler
Bay-breasted Warbler
Blackpoll Warbler
Cerulean Warbler
Black-and-white Warbler
American Redstart
Prothonotary Warbler
Worm-eating Warbler
Swainson's Warbler
Ovenbird

Northern Waterthrush
Louisiana Waterthrush
Kentucky Warbler
Connecticut Warbler
Common Yellowthroat
Hooded Warbler
Wilson's Warbler
Canada Warbler
Yellow-breasted Chat
TANAGERS - SPARROWS
Summer Tanager
Scarlet Tanager
Northern Cardinal
Rose-breasted Grosbeak
Blue Grosbeak
Indigo Bunting
Dickcissel
Eastern Towhee
American Tree Sparrow
Chipping Sparrow
Clay-colored Sparrow
Field Sparrow
Vesper Sparrow
Lark Sparrow
Savannah Sparrow
Grasshopper Sparrow
Henslow's Sparrow
Saltmarsh Sharp-tailed Sparrow
Nelson's Sharp-tailed Sparrow
Seaside Sparrow
Fox Sparrow
Song Sparrow
Lincoln's Sparrow
Swamp Sparrow
White-throated Sparrow
White-crowned Sparrow
Dark-eyed Junco
Lapland Longspur
Snow Bunting
BLACKBIRDS - FINCHES
Bobolink
Red-winged Blackbird
Eastern Meadowlark
Yellow-headed Blackbird
Rusty Blackbird

Boat-tailed Grackle
Common Grackle
Brown-headed Cowbird
Orchard Oriole
Baltimore
Purple Finch
House Finch
Red Crossbill
Common Redpoll
Pine Siskin
American Goldfinch
Evening Grosbeak

Table C: Mammals – Working Species List Chincoteague and Wallops Island National Wildlife Refuges (USFWS refuge staff, National Parks Conservation Association 2007, USFWS 1992a and 1993a, USFWS 2007d)

Common Name	Scientific Name
TERRESTRIAL MAMMALS	
White-tailed Deer	<i>Odocoileus Virginianus</i>
* Sika Elk	<i>Cervus Caballus</i>
* Wild Ponies	<i>Equus Caballus</i>
* Delmarva Peninsula Fox Squirrel	<i>Sciurus Niger Cenerus</i>
* [Eastern Gray Squirrel]	[<i>Sciurus carolinensis</i>]
Muskrat	<i>Ondatra Zibethicus</i>
* Virginia Opossum	<i>Didelphis Virginiana</i>
Raccoon	<i>Procyon Lotor</i>
Red Fox	<i>Vulpes Vulpes</i>
River Otter	<i>Lutra Canadensis</i>
Eastern Cottontail	<i>Sylvilagus Floridanus</i>
Least Shrew	<i>Cryptotis parva</i>
Little Brown Bat	<i>Myotis Lucifugus</i>
Silver-haired Bat	<i>Lasionycteris Noctivagans</i>
Red Bat	<i>Lasiurus Borealis</i>
[Hoary Bat]	[<i>Lasiurus cinereus</i>]
Meadow Jumping Mouse	<i>Zapus Hudsonius</i>
* White-footed Mouse	<i>Peromyscus Leucopus</i>
[Deer Mouse]	[<i>Peromyscus maniculatus</i>]
House Mouse	<i>Mus Musculus</i>
* Meadow Vole	<i>Microtus Pennsylvanicus</i>
Rice Rat	<i>Oryzomys Palustris</i>
* Norway Rat	<i>Rattus norvegicus</i>
* Feral Cat	<i>Felis catus</i>
MARINE MAMMALS	
[West Indian Manatee]	[<i>Trichechus manatus</i>]
Gray Seal	<i>Halichoerus Gryphus</i>
Harbor Seal	<i>Phoca Vitulina</i>
Hooded Seal	<i>Cystophora Cristata</i>
Atlantic Harbor Porpoise	<i>Phocoena Phocoena</i>
Risso's Dolphin	<i>Grampus Griseus</i>
Bottlenose Dolphin	<i>Tursiops Truncatus</i>
Spotted Dolphin	<i>Stenella Plagiodon</i>
Rough-toothed Dolphin	<i>Steno Bredanensis</i>
Common Dolphin	<i>Delphinus Delphis</i>

Atlantic White-sided Dolphin	<i>Lagenorhynchus Acutus</i>
Long Finned Pilot Whale	<i>Globicephala melas</i>
True's Beaked Whale	<i>Mesoplodon Mirus</i>
Goosebeak Whale	<i>Ziphius Cavirostris</i>
Pygmy Sperm Whale	<i>Kogia Breviceps</i>
Sperm Whale	<i>Physeter catodon (=macrocephalus)</i>
Melon-headed Whale	<i>Peponocephala Electra</i>
Long-finned Pilot Whale	<i>Globicephala Melaena</i>
[Humpback Whale]	<i>[Megaptera Novaeangliae]</i>
Minke Whale	<i>Balaenoptera Acutorostrata</i>
Fin Back Whale	<i>Balaenoptera Physalus</i>
Sei Whale	<i>Balaenoptera Borealis</i>
Blue Whale	<i>Balaenoptera Musculus</i>
Northern Right (Black) Whale	<i>Balaena Glacialis</i>

Note – Species shown in brackets [] need confirmation

* Indicates a non-native species

Table D: Reptiles and Amphibians – Working Species List Chincoteague and Wallops Island National Wildlife Refuges (USFWS refuge staff, National Parks Conservation Association 2007, USFWS 1992a and 1993a, USFWS 2007d)

Species	Scientific Name
TOADS AND FROGS	
Fowler's toad	<i>Bufo woodhousii fowleri</i>
Green tree frog	<i>Hyla cinerea</i>
Bullfrog	<i>Rana catesbeiana</i>
New Jersey Chorus frog	<i>Pseudacris triseriata kalmi</i>
Green frog	<i>Rana clamitans melanota</i>
Southern Leopard frog	<i>Rana sphenoccephala</i>
[Gray tree frogs]	<i>[Hyla versicolor]</i>
SALAMANDERS	
Red back Salamander	<i>Plethodon cinereus</i>
SNAKES	
Northern Black racer	<i>Coluber constrictor constrictor</i>
Black rat snake	<i>Elaphe obseleta obseleta</i>
Eastern Hognose snake	<i>Heterodon platirhinos</i>
Rough Green Snake	<i>Opheodrys aestivus</i>
Northern Brown snake	<i>Storeria dekayi dekayi</i>
Northern Water snake	<i>Nerodia sipedon sipedon</i>
[Ringneck snake]	<i>[Diadophis punctatus]</i>
TURTLES	
Spotted Turtle	<i>Clemmys guttata</i>
Eastern Box turtle	<i>Terrapene carolina carolina</i>
Eastern Mud turtle	<i>Kinosternon subrubrum subrubrum</i>
Northern Diamondback Terrapin	<i>Malaclemys terrapin terrapin</i>
Eastern Painted turtle	<i>Chrysemys picta picta</i>
Red-bellied turtle	<i>Pseudemys rubriventris</i>
Common Snapping turtle	<i>Chelydra serpentina serpentina</i>
SEA TURTLES	
Loggerhead sea turtle	<i>Caretta caretta</i>
Atlantic Green turtle	<i>Chelonia mydas mydas</i>
Atlantic Ridley turtle	<i>Leidochelys Kempi</i>
Leatherback sea turtle	<i>Dermochelys coriacea</i>
Atlantic Hawksbill sea turtle	<i>Eretmochelys imbricata</i>
LIZARDS	
[Northern fence Lizard]	<i>[Sceloporus undulatus hyacinthinus]</i>
Five-lined skink	<i>Eumeces fasciatus</i>

Note – Species shown in brackets [] need confirmation

Amphibians and Reptiles Occurring on Chincoteague and Wallops Island NWR¹ (USFWS refuge staff)

Common Name	Scientific Name	Most Recent Documented Occurrence	Habitats and Habits
TURTLES			
Spotted turtle	<i>Clemmys guttata</i>	Toadvine 2000	Freshwater ponds, ditches & impoundments. Shrub, maritime forest & freshwater marshes. Omnivorous.
Eastern box turtle	<i>Terraepene carolina</i>	Toadvine 2000	Terrestrial in maritime forest, shrub, and dunegrass communities. Sometimes enter water. Omnivorous.
Eastern mud turtle	<i>Kinosternon subrubrum subrubrum</i>	Toadvine 2000	Freshwater ponds & impoundments; brackish pools & marshes. Seldom bask. Omnivorous.
Diamondback terrapin	<i>Malaclemys terrapin terrapin</i>	Toadvine 2000	Salt marsh, fresh marsh, creeks, ponds. Found on all barrier islands, where it lays eggs. Eats mollusks, crabs, marine worms, salt marsh plants.
Eastern painted turtle	<i>Chrysemys picta picta</i>	Toadvine 2000	Freshwater ponds & impoundments. Frequently bask on logs. Shrub & woodlands. Omnivorous.
Red-bellied turtle	<i>Pseudemys rubriventris</i>	Toadvine 2000	Freshwater ponds & impoundments. Shrub, woodland & fresh marshes. Primarily herbivorous.
Common snapping turtle	<i>Chelydra serpentina serpentina</i>	Toadvine 2000	Freshwater ponds & impoundments; brackish marshes. Occasionally bask, but mostly rest on bottom. Omnivorous
Loggerhead sea turtle	<i>Caretta caretta</i>	Most recent documented nest in 2012	Nests on barrier island beaches between high tide and dune line
SNAKES			
Northern black racer	<i>Coluber constrictor constrictor</i>	Toadvine 2000	Mostly in open dunegrass, shrub, or woodland community. Primarily feeds on rodents and frogs. Most abundant snake on Assateague
Eastern hognose snake	<i>Heterodon platirhinos</i>	Toadvine 2000	Found in sandy areas with sparse vegetation. Eats toads (mainly Fowler's on Assateague).
Black rat snake	<i>Elaphe obselea obselea</i>	Toadvine 2000	Hardwood forest or shrub/forest interface. Excellent climber; found in tree cavities. Eats small mammals & birds.

Rough green snake	<i>Opheodrys aestivus</i>	Toadvine 2000	Inhabit shrubs & low trees in all habitats on Assateague. Eats spiders and insects.
Northern brown snake	<i>Storeria dekayi dekayi</i>	Mitchell et al. 1993	Completely terrestrial; shrub and woodland habitats. Often under logs & stumps. Eats earthworms & insects.
Northern water snake	<i>Nerodia sipedon</i>	Toadvine 2000	In freshwater ponds & impoundments, or basking on logs on the water's edge. Eats amphibians and fish.
FROGS & TOADS			
Fowler's toad	<i>Bufo woodhousii fowleri</i>	Toadvine 2000; Anuran call counts 2003-2005 WINWR: Hranitz 2010	Inhabits all habitats on Assateague except open beach. Tolerates brackish water. Eats insects Fowler's Toads are a prey item to many species.
Green tree frog	<i>Hyla cinerea</i>	Toadvine 2000; Anuran call counts 2003-2005 WINWR: Hranitz 2010	Salt marsh & freshwater habitats; shrubs & woodland. Often found on tree branches. Eats insects & invertebrates.
Cope's gray tree frog	<i>Hyla chrysocelis</i>	WINWR: Hranitz 2010	In or near mixed deciduous-coniferous forests w/ ditches for breeding. Arboreal. Not on barrier islands.
Bullfrog	<i>Rana catesbeiana</i>	Toadvine 2000; Anuran call counts 2003-2005	Freshwater ponds and impoundments. Requires permanent water for breeding Feeds on small invertebrates.
Southern leopard frog	<i>Rana sphenoccephala</i>	Toadvine 2000; Anuran call counts 2003-2005	Inhabits most habitats on Assateague except open beach. Feeds on insects.
New Jersey chorus frog	<i>Pseudacris triseriata kalmi</i>	Lee 1972	Found only in NJ & Delmarva peninsula. 1 location record on Assateague (near lighthouse) in 1970s.
Green frog	<i>Rana clamitans melanota</i>	Conant et al. 1990 Wallops Island NWR: Hranitz 2010	Permanent bodies of freshwater, including impoundments. Not recorded on Assateague since 1990s.
SALAMANDERS			
Red-back salamander	<i>Plethodon cinereus</i>	Toadvine 2000; 2008 Refuge survey	Terrestrial in woodlands. Hides under debris such as fallen logs, and leaf litter. Feeds on small insects.

Table E: Aquatic Species – Working List Chincoteague and Wallops Island National Wildlife Refuges (USFWS refuge staff, National Parks Conservation Association 2007, USFWS 1992a and 1993a, USFWS 2007d)

Species	Scientific Name
MOLLUSKS AND CRUSTACEANS	
Atlantic bay scallop	<i>Aequipecten irradians</i>
Quahogs (hard shell clam)	<i>Mercenaria mercenaria</i>
Virginia Oyster	<i>Crassostrea virginica</i>
Ribbed mussel	<i>Guekensia demissa</i>
Blue crab	<i>Callinectes sapidus</i>
Ghost crab	<i>Ocypode quadrata</i>
Horseshoe crab	<i>Limulus polyphemus</i>
Fiddler Crab	<i>Uca</i> spp.
Mud Snail	<i>Nassarius</i> spp.
FINFISH (IMPOUNDMENTS)	
Sheepshead minnow	<i>Cyprinodon variegatus</i>
Rainwater killifish	<i>Luncania parva</i>
Striped killifish	<i>Fundulus majalis</i>
Mummichog	<i>Fundulus heteroclitus</i>
Banded killifish	<i>Fundulus diaphanous</i>
Tidewater silverside	<i>Menidia beryllina</i>
Threespine stickel-back	<i>Gasterosteus aculeatus</i>
Fourspine stickel-back	<i>Apeltes quadracus</i>
White perch	<i>Morone americana</i>
Yellow perch	<i>Perca flavescens</i>
American eel	<i>Anguilla rostrata</i>
FINFISH (MARINE WATERS)	
Black drum	<i>Pogonias cromis</i>
Red drum or channel bass	<i>Sciaenops ocellatus</i>
Bluefish	<i>Pomatomus saltatrix</i>
Winter flounder	<i>Pseudopleuronectes americanus</i>
Summer flounder	<i>Paralichthys dentatus</i>
Menhaden	<i>Brevoortia tyrannus</i>
Spot	<i>Leiostomus xanthurus</i>
Atlantic croaker	<i>Micropogonias undulates</i>
Weakfish	<i>Cynoscion regalis</i>
Mullet	<i>Mugil</i> spp.
Spotted sea trout	<i>Cynoscion nebulosus</i>
Puffer	<i>Sphoeroides maculatus</i>
Rockfish	<i>Sebastes</i> spp.
Spotfin killifish,	<i>Fundulus luciae</i>

King fish	<i>Scomberomorus commerson</i>
Sand tiger shark	<i>Odontaspis taurus</i>
Bay anchovy	<i>Anchoa mitchilli</i>
Atlantic silverside	<i>Menidia menidia</i>

Table F: Threatened and Endangered Fauna and Flora in the Chincoteague and Wallops Island NWR's vicinity (Maryland Department of Natural Resources 2005 and n.d.a, Virginia Department of Conservation and Recreation n.d.)

Scientific Name	Common Name	MD Status	VA Status	Federal Status
FAUNA				
BIRDS				
<i>Charadrius melodus</i>	Piping Plover	Endangered	Threatened	Threatened
<i>Charadrius wilsonia</i>	Wilson's Plover	Endangered	Endangered	
<i>Falco peregrinus</i>	Peregrine Falcon		Threatened	
<i>Gelochelidon nilotica</i>	Gull-billed Tern	Endangered	Threatened	
<i>Haliaeetus leucocephalus</i>	Bald Eagle	Threatened	Threatened	
<i>Sterna antillarum</i>	Least Tern	Threatened	Special Concern	
MAMMALS				
<i>Balaena Glacialis</i>	Northern Right (Black) Whale	Endangered	Endangered	Endangered
<i>Balaenoptera Borealis</i>	Sei Whale	Endangered	Endangered	Endangered
<i>Balaenoptera Musculus</i>	Blue Whale	Endangered	Endangered	Endangered
<i>Balaenoptera Physalus</i>	Fin Back Whale	Endangered	Endangered	Endangered
<i>Megaptera Novaeangliae</i>	Humpback Whale	Endangered	Endangered	Endangered
<i>Physeter catodon</i> (= <i>macrocephalus</i>)	Sperm Whale	Endangered	Endangered	Endangered
<i>Sciurus niger cinereus</i>	Delmarva Fox Squirrel	Endangered	Endangered	Endangered
<i>Trichechus manatus</i>	West Indian Manatee		Endangered	Endangered
REPTILES				
<i>Caretta caretta</i>	Loggerhead Sea Turtle	Threatened	Threatened	Threatened
<i>Chelonia mydas</i>	Atlantic Green Turtle	Threatened	Threatened	Threatened
<i>Dermochelys coriacea</i>	Atlantic Leatherback Turtle	Endangered	Endangered	Endangered
<i>Eretmochelys imbricate</i>	Atlantic Hawksbill	Endangered	Endangered	Endangered
<i>Lepidochelys kempii</i>	Atlantic Ridley Turtle	Endangered	Endangered	Endangered
INSECTS				
<i>[Cicindela dorsalis dorsalis]</i>	[Northeastern Beach Tiger Beetle]		Threatened	Threatened
<i>Cicindela dorsalis media</i>	White Tiger Beetle	Endangered		
<i>Cicindela lepida</i>	Little White (Ghost) Tiger Beetle	Endangered		
FLORA				

Vascular Plants				
<i>Amaranthus pumilus</i>	Seabeach Amaranth	Endangered	Threatened	Threatened
<i>Carex silicea</i>	Sea-beach Sedge	Endangered		
<i>Gymnopogon brevifolius</i>	Broad-leaved Beardgrass	Endangered		
<i>Polygonum glaucum</i>	Seaside Knotweed	Endangered		
<i>Prunus maritime</i>	Beach Plum	Endangered		
<i>Scleria verticillata</i>	Whorled Nutrush	Endangered		

Table G: Potential Resources of Concern Table. Chincoteague & Wallops Island NWRs, Jan 2011
(USFWS refuge staff)

Species	Seasons on Refuge ¹	Federal T&E for VA ²	State T&E ³
WATERBIRDS			
American bittern	YR		
Black skimmer	B		
Black tern	M		
Black-headed gull	M		
Black-crowned night heron	YR		
Caspian tern	M		
Clapper rail	B		
Common tern	B/YR		
Forster's tern	B		
Glossy ibis	YR		
Green heron	B		
Gull-billed tern	B		T
Herring gull	YR		
Horned grebe	W/M		
Least bittern	B		
Least tern	B		
Little blue heron	YR		
Northern gannet	M		
Red-throated loon	W/M		
Roseate tern	M	E	E
Royal tern	YR		
Snowy egret	YR		
Sora	M		
Tricolored heron	YR		
Virginia rail	B/YR		
Yellow rail	M		
Yellow-crowned night heron	YR		
WATERFOWL			
American black duck	B/YR		
American wigeon	W/M		
Atlantic brant	W/M		
Black scoter	W/M		
Blue-winged teal	B/YR		
Bufflehead	W/M		
Canada goose – Atlantic Population			
Canada goose – North Atlantic			
Canvasback	W/M		

Common eider	W/M		
Common goldeneye	W/M		
Gadwall	N/YR		
Greater scaup	W/M		
Greater snow goose	W/M		
Green-winged teal	W/M		
Hooded merganser	W/M		
Lesser scaup	W/M		
Long-tailed duck	W/M		
Mallard	B/YR		
Northern pintail	W/M		
Red-breasted merganser	W/M		
Redhead	W/M		
Ruddy duck	W/M		
Surf scoter	W/M		
Tundra swan – Eastern	W/M		
White-winged scoter	W/M		
Wood duck – Eastern	B/YR		
SHOREBIRDS			
American avocet	M		
American golden plover	M		
American oystercatcher	B/YR		
American woodcock	B/YR		
Baird's sandpiper	M		
Black-bellied plover	YR		
Buff-breasted sandpiper	M		
Dunlin	M/W		
Greater yellowlegs	YR		
Hudsonian godwit	M		
Killdeer	B/YR		
Least sandpiper	YR		
Lesser yellowlegs	YR		
Long-billed dowitcher	M/W		
Marbled godwit	M		
Pectoral sandpiper	M		
Piping Plover	B/M	T	T
Red knot	M	C	
Red-necked phalarope	M		
Ruddy turnstone	M/W		
Sanderling	M/W		
Semipalmated plover	M		
Semipalmated sandpiper	M		
Short-billed dowitcher	M/W		
Solitary sandpiper	M		
Spotted sandpiper	M		
Stilt sandpiper	M		
Upland sandpiper	M		T

Western sandpiper	M/W		
Whimbrel	M/W		
White-rumped sandpiper	M		
Willet	B/YR		
Wilson's phalarope	M		
Wilson's plover	B/M		E
Wilson's snipe	YR		
LANDBIRDS			
Bald eagle	YR/B		T
Baltimore oriole	M		
Barn owl	YR		
Black-and-white warbler	M		
Blue-winged warbler	M		
Broad-winged hawk	M		
Brown creeper	W/M		
Brown thrasher	B/YR		
Brown-headed nuthatch	B/YR		
Canada warbler	M		
Chimney swift	B		
Chuck-will's-widow	B		
Eastern kingbird	B		
Eastern meadowlark	B		
Eastern towhee	B/YR		
Eastern wood-pewee	B		
Field sparrow	B/YR		
Grasshopper sparrow	B		
Gray catbird	B/YR		
Great crested flycatcher	B		
Ipswich savannah sparrow	W		
Louisiana waterthrush	M		
Marsh wren			
Nelson's sparrow	W		
Northern bobwhite	B/YR		
Northern flicker	B/YR		
Northern harrier	B/YR		
Northern parula	M		
Northern rough-winged swallow	M		
Northern saw-whet owl	W		
Ovenbird	B		
Peregrine falcon	YR		T
Prairie warbler	B		
Red crossbill	W		
Red-headed woodpecker	B/M		
Rose-breasted grosbeak	M		
Rusty blackbird	W		

Saltmarsh sparrow	B/YR		
Scarlet tanager	M		
Seaside Sparrow	B/YR		
Sedge wren	W/M		
Short-eared owl	W		
Willow flycatcher	M		
Wood thrush	M		
Worm-eating warbler	M		
Yellow warbler	B		
Yellow-billed cuckoo	B		
Yellow-breasted chat	B/YR		
Yellow-throated vireo	M		
MAMMALS			
Delmarva fox squirrel	YR	E	E
AMPHIBIANS			
Eastern spadefoot toad			
Eastern tiger salamander			E
New Jersey chorus frog			
REPTILES			
Eastern box turtle	YR		
Eastern hognose snake	YR		
Green sea turtle		T	
Hawksbill sea turtle		E	
Kemp's ridley sea turtle		E	
Leatherback sea turtle		E	E
Loggerhead sea turtle	B	T	T
Northern diamondback terrapin	YR		
Spotted turtle	YR		
FISH			
Alewife			
American eel			
American shad			
INVERTEBRATES			
Monarch butterfly	M/B		
PLANTS			
Brown-fruited rush	YR		
Few-flowered beakrush	YR		
Seabeach amaranth	YR	T	

Southern bladderwort	YR		
Ten-angle pipewort	YR		
White beakrush	YR		
White-topped fleabane	YR		

1 Seasons on the Refuge: B = Breeding; M = Migrant; W = Winter; YR = Year-Round

2 USFWS: Threatened and Endangered Species System (TESS). Report for the Commonwealth of Virginia.

T = threatened; E = endangered

3 Virginia Comprehensive Wildlife Conservation Strategy. 2005. Data from the Excel file developed by the Federal Aid office of USFWS, Hadley, MA. Sept. 2006

E = endangered; T = threatened

Does not include state listed plants.

Table H: Fish Species Collected from Refuge Fish Surveys (USFWS 1997 and Mangold and Eyler 2006)

Common Name	Scientific Name	1996 Survey	2005/06 Survey
Alewife*	<i>Alosa pseudoharengus</i>	X	
American eel*	<i>Anguillia rostrata</i>	X	X
Atlantic menhaden	<i>Brevoortia tyrannus</i>	X	X
Atlantic needlefish	<i>Stronglura manna</i>	X	X
Atlantic silverside	<i>Menidia menidia</i>	X	X
Bay anchovy	<i>Anchoa mitchilli</i>	X	X
Black drum	<i>Pogonias cromis</i>	X	
Black seabass	<i>Centropristis stiata</i>	X	X
Bluefish	<i>Pomatomus saltatrix</i>	X	
Green goby	<i>Microgobius thalassinus</i>		X
Inland silverside	<i>Minidia beryllina</i>		X
Marsh killifish	<i>Fundulus confluentus</i>	X	
Ladyfish	<i>Elops saurus</i>	X	
Mosquitofish	<i>Gambusia affinis</i>		X
Mummichog	<i>Fundulus heteroclitus</i>	X	X
Northern puffer	<i>Sphoeroides maculatus</i>	X	
Northern kingfish	<i>Menticirrhus saxatilis</i>	X	X
Oyster toadfish	<i>Opsanus tau</i>	X	X
Permit	<i>Chilomycterus schoepfi</i>	X	
Pigfish	<i>Orthopristis chrysoptera</i>	X	X
Rainwater killifish	<i>Lucania parva</i>	X	X
Reef butterflyfish	<i>Cheatodon sedentarius</i>		X
Sheepshead minnow	<i>Cyprinodon variegatus</i>	X	X
Silver jenny	<i>Eucinostomus gula</i>	X	
Silver perch	<i>Bairdiella chrysoura</i>	X	X
Skilletfish	<i>Gobiesox strumosus</i>	X	
Small mouth flounder	<i>Etropus cyclosquamus</i>	X	
Spiny butterfly ray	<i>Gymnura altavela</i>	X	
Spot	<i>Leiostomus xanthurus</i>	X	X
Striped Anchovy	<i>Anchoa hepsetus</i>	X	
Striped blenny	<i>Meiacanthus glammistes</i>	X	X
Striped burrfish	<i>Chilomycterus schoepfi</i>	X	X
Striped killifish	<i>Fundulus majalis</i>	X	X
Striped mullet	<i>Mugil cephalus</i>	X	
Summer flounder	<i>Paralichthys dentatus</i>	X	
Tautog	<i>Tautoga onitis</i>	X	
Weakfish	<i>Cynoscion regalis</i>	X	
White mullet	<i>Mugil curema</i>	X	X
White perch	<i>Morone Americana</i>	X	X
Winter flounder	<i>Pleuronectes americanus</i>	X	

X in column indicates the species was encountered during that survey

* Alewife & American Eel are State Conservation Priorities and Federal Trust Species

Table I: Top Twenty Most Abundant Bird Species: Chincoteague NWR Landbird Surveys Listed in relative order of abundance (USFWS refuge staff, Chincoteague NWR 1996, Ailes and Ailes 2007, Roberts 2008)

Order of Abundance	BBS Route 1996-2006 Myrtle Shrub	BBS Route 1996-2006 Loblolly Forest	Mist Net Study 1999-2007 All Sites
1	Common yellowthroat*	House wren***	Yellow-rumped warbler
2	Eastern towhee**	Eastern wood-peewee	#Gray catbird*
3	#Field sparrow***	Pine warbler	Common yellowthroat*
4	#Northern bobwhite**	#Eastern towhee**	White-throated sparrow
5	Song sparrow***	Northern cardinal*	Song sparrow***
6	Red-winged blackbird**	#Gray catbird*	House wren***
7	Yellow warbler	#Northern bobwhite**	Northern cardinal*
8	Yellow-breasted chat***	American robin	Swamp sparrow
9	#Gray catbird*	Carolina wren***	Common grackle*
10	Boat-tailed grackle	#Great-crested flycatcher	Carolina wren***
11	Eastern kingbird	Common grackle*	Golden-crowned kinglet
12	Common grackle*	American crow	#Field sparrow***
13	#Brown thrasher**	Common yellowthroat*	Western palm warbler
14	Brown-headed cowbird**	Red-winged blackbird**	Slate-colored junco
15	Eastern meadowlark	Brown-headed cowbird**	Yellow-breasted chat***
16	Yellow-billed cuckoo	#Brown thrasher**	Ruby-crowned kinglet
17	Fish Crow	Mourning dove	American redstart
18	Northern cardinal*	#Yellow-shafted flicker	White-eyed vireo
19	#Prairie warbler	#Brown-headed nuthatch	Magnolia warbler
20	Tree Swallow	Ovenbird	Carolina chickadee

#Listed as a Bird of Conservation Concern in BCR 30 (New England/Mid-Atlantic Coast)

*Top 20 most abundant on all three studies

**Top 20 most abundant on two BBS routes

***Top 20 most abundant on one BBS route and Robert's Mist Net Study (Roberts 2009)