

F. AQUATIC MACROINVERTEBRATES B BILL WILLIAMS RIVER NWR - 104 species

Common Name	Sci. Name: Group Family <i>Genus species</i>	Status: E- Endangered T- Threatened S- State F- Federal	Exotic: Y/N
	Phylum: Annelida Class Oligochaeta Order Tubificida Tubificidae		
Scuds, Sideswimmers	Phylum: Arthropoda Class Crustacea Order Amphipoda Hyalellidae <i>Hyalella azteca</i>		n
Scuds, Sideswimmers	Gammaridae <i>Gammarus</i> sp.		n
Scuds, Sideswimmers	Talitridae		n
Sow Bug	Order Isopoda Onisciidae Sphaeromidae <i>Exosphaeroma</i> sp.		n
Glass Scrimp	Order Decapoda Palaemonidae <i>Palaemonetes</i> sp		y
Crawfish	Astacidae <i>Cambarus</i> sp. <i>Protocambarus clarki</i>		y y
Water Flea	Order Cladocera		n
Seed Scrimp	Order Ostracoda		n
Copepod	Order Copepoda		n
Water Mite	Class Arachnoidea Order Hydracarina		n
Springtail	Class Entognatha Order Collembola		n
Water Boatmen	Class Insecta Order Hemiptera Corixidae <i>Graptocorixa serrulata</i>		
Water Striders	Gerridae <i>Gerris</i> sp.		
	Naucoridae <i>Ambrysus</i> sp.		
	Belastomatidae <i>Abedus</i> sp		
	Gelastocoridae <i>Gelastocoris oculatus</i>		
Water Beetles	Order Coleoptera Haliplidea <i>Peltodytes</i> sp. <i>Peltodytes simplex</i>		

Water Beetles	Hydrophilidae <i>Tropisternus</i> sp. <i>Tropisternus obscurus</i> <i>Berosus</i> sp. <i>Enochrus</i> sp. = <i>Philhydrus</i> <i>Hydrochus</i> sp. <i>Hydroscapha</i> sp.
Predaceous Diving Beetles	Dytiscidae <i>Deronectes</i> sp. <i>Stictotarsus corpulentus</i> (Fall) <i>Oreodytes</i> sp. <i>Liodessus</i> sp. <i>Posthelochus productus</i> <i>Lacophilus decipens</i> <i>Copelatus</i> sp.
Giant Water Bugs	Belostomatidae <i>Belastoma</i> sp
Broad-shouldered Water Striders	Veliidae <i>Rhagovelia</i> sp.
Riffle Beetles	Elmidae <i>Zaitzevia</i> sp. <i>Microcylloepus</i> sp. <i>Optioservus</i> sp.
Water Beetles	Dryopidae <i>Helichus</i> sp.
Skiff Beetles	Hydroscaphidae <i>Hydroscapha natans</i>
Water Penny Beetles	Psephenidae <i>Helichus striatus</i> Cicindelidae
Biting Midges	Order Diptera Ceratopogonidae <i>Probezzia</i> sp.
Soldier Flies	Stratiomyiidae <i>Euparyphus</i> sp. <i>Caloparyphus</i> sp.
Midges	Chironomidae Subfamily Chironominae Subfamily Orthocladiinae Subfamily Tanypodinae
Dance Flies	Empididae <i>Hemerodromia</i> sp.
Black Flies	Simuliidae <i>Simulium</i> sp.
Crane Flies	Tipulidae <i>Hexatoma</i> sp. <i>Holorusia</i> sp. <i>Antocha</i> sp. <i>Erioptera</i> sp.
Common flies	Muscidae
Dixid midge	Dixidae <i>Dixella</i> sp.

Small Mayflies	Order Ephemeroptera Baetidae <i>Baetis</i> sp. <i>Pseudocloeon</i> sp. <i>Acentrella</i> sp. <i>Callibaetis pictus</i>
Mayflies	Tricorythidae <i>Tricorythodes</i> sp.
Mid-boreal Mayflies	Ephemerellidae <i>Drunella</i> sp.
Stream Mayflies	Heptageniidae <i>Rhithrogena</i> sp. Caeninae <i>Tricorythodes fallax</i>
Aquatic Moth	Order Lepidoptera Pyralidae <i>Petrophila</i> sp.
Narrow-winged Damselflies Powdered Dancer Sooty Dancer	Order Odonata Suborder Zygoptera Agrionidae <i>Hetaerina</i> sp.
Familiar Bluet Western Forktail	Suborder Anisoptera Coenagrionidae <i>Argia moesta</i> . <i>Argia lugens</i> <i>Argia vivida</i> <i>Enallagma praevarum</i> <i>Enallagma civile</i> <i>Ischnura perparva</i>
Dragonflies	Cordulegasteridae <i>Cordulegaster</i> sp.
Dragonflies Blue-eyed Darner Green Darner	Gomphidae <i>Progomphus</i> sp <i>Progomphus borealis</i> <i>Erpetogomphus</i> sp. <i>Erpetogomphus compositus</i> <i>Ophiogomphus</i> sp. <i>Aeshnidae</i> <i>Aeshna multicolor</i> <i>Anax junius</i>
Common Skimmers Mexican Amberwing Blue Dasher	Libellulidae <i>Perithemis intense</i> <i>Pachydiplex longipennis</i> <i>Sympetrum illotrum</i> <i>Somatochlora</i> sp.
Broad-winged Damselflies Ruby Spot	Calopterygidae <i>Hetaerina</i> sp. <i>Hetaerina americana</i>
Caddisflies	Order Trichoptera Glossosomatidae <i>Culoptila</i> sp. <i>Protoptila</i> sp.
Snail-case Caddisflies	Helicopsychidae

Helicopsyche sp.
Cheumatopsyche sp.

Micro-Caddisflies

Hydroptilidae

Hydroptila sp
Leucotrichia sp.
Ochrotrichia sp.

Long-horned Caddisflies

Leptoceridae

Nectophyche sp.
Nectopsyche dorsalis

Net-spinning Caddisflies

Hydropsychidae

Cheumatopsyche sp.
Smicridea sp.

Spring Stonefly

Order Plecoptera

Nemouridae

Malenka sp.

Order Tricoptera

Leptoceridae

Oecetis sp

G. TERRESTRIAL ARTHROPODS - BILL WILLIAMS RIVER NWR - 157 species

Common Name	Sci. Name: Group Family <i>Genus species</i>	Status: E- Endangered T- Threatened S- State F- Federal	Exotic: Y/N
Class Arachnida			
	Order ARANEAE		
	Theraphosidae		
Desert Tarantula	<i>Aphonopelma chalodes</i>		n
	Theridiidae		
Western Widow	<i>Latrodectus mactans</i>		n
Miturgidid Spiders	Miturgidae		
	<i>Syspira</i> sp.		n
	Lycosidae		
Wolf Spiders	<i>Pardosa</i> sp.		n
	<i>Varicosa gosiuta</i>		n
	Scytodidae		
Spitting Spiders	<i>Scytodes</i> sp.		n
	Order SCORPIONIDAE		
	Iuridae		
Giant Hairy Desert Scorpion	<i>Hadrurus arizonensis</i>		n
	Buthidae		
Centeroides Scorpions	<i>Centeroides exilicauda</i>		n
	Vaejovidae		
Vajovid Scorpions	<i>Vaejovis confusus</i>		n
	Order PSEUDOSCORPIONIDAE		
	Phalangidae		
Daddy Longlegs			
	Order OPILIONES		
	Gagrellidae		
Harvestman	<i>Trachyrhinus marmoratus</i>		n
	Order UROPYGI		
	Thelyphonidae		
Vinegarone	<i>Mastigoproctus giganteus</i>		n
	Order AMBLYPYGI		
	Tarantulidae		
Tailless Whipscorpion	<i>Paraphrynus mexicanus</i>		n
	Order SOLPUGIDA		
	Eremobatidae		
Windscorpion	<i>Eremobates gracilidens</i>		n
	<i>Eremothera sculpturata</i>		n
Class Insecta (Hexapoda)			
	Order DERMATERA		
	Labiduridae		
Riparian Earwig	<i>Labidura riparia</i>		n
	Order ORTHOPTERA		
	Acrididae		
Grasshopper	<i>Schistocerca nitens</i> Scudder		n
	Tridactylidae		
Pygmy Mole Cricket	<i>Neotridactylus apicalis</i> (Say)		n
	Gryllidae		
Cricket	<i>Gryllus</i> sp.		
	Order MANTODEA		
	Mantidae		
Agile Ground Mantis	<i>Litaneutra minor</i> (Scudder)		n

	Order BLATTARIA	
	Blattellidae	
Cockroach	<i>Blatella vaga</i> Hebard	
	Polyphagidae	
Cockroach	<i>Argemivaga bolliana</i> (Saussure)	
	Order EMBIIDINA	
	Order HEMIPTERA	
	Coreidae	
Leaf-footed bug	<i>Leptoglossus clypealis</i> Heidemann	n
	Reduviidae	
	<i>Zelus renardii</i> Kolenati	n
Assassin bug	<i>Reduvius personatus</i> L.	n
	Pentatomidae	
Predatory Stink Bug	<i>Podisus acutissimus</i>	n
	Order HOMOPTERA	
	Tibicinidae	
Cicada	<i>Diceroprocta apache</i> Davis	n
	Order NEUROPTERA	
	Myremeleontidae	
	Order COLEOPTERA	
	Carabidae	
Ground beetles	<i>Pinacodera</i> sp.	n
	Buprestidae	
Metallic Wood-boring Beetles	<i>Acmaeodera coneata</i>	
	<i>Anthaxia (Melanthaxia)</i> sp.	
	Cicindelidae	
Tiger Beetles	<i>Megacephala carolina</i>	
	Scarabaeidae	
	<i>Anomala flavilla</i> Bates	n
	<i>A. nocturnus</i> Nomura	n
	<i>Cyclocephala hirta</i> LeConte	n
	<i>C. longula</i> LeConte	n
	<i>Diplotaxis anxius</i> LeConte	n
	<i>D. knausii</i> Schaeffer	n
June Beetle	<i>Polyphylla caviifrons</i> LeConte	n
	<i>Stenosphenus debilis</i> Horn	n
	Dryopidae	
Long-toed Water beetle	<i>Posthelichus productus</i> (LeConte)	n
Click beetles	Elateridae	
	Bostrichidae	
Apple Twig Borer	<i>Amphicerus bicaudatus</i> Say	
	Coccinellidae	
Ladybird Beetle	<i>Chilocorus cacti</i> (Linnaeus)	n
Nine-spotted Ladybug Beetle	<i>Coccinella septempunctata</i> Linnaeus	n
Convergent Ladybug Beetle	<i>Hippodamia convergens</i> Guerin	n
Mealybug Destroyer	<i>Cryptolaemus montrouzieri</i>	y
	Chrysomelidae	
Leaf Beetle	<i>Plagiodera arizonae</i>	n
	Tenebrionidae	
Darkling Beetle	<i>Diapersis</i> sp.	n
	<i>Pechalium subvittatum</i> Casey	n
	<i>Eleodes armata</i>	n
	<i>Eleodes</i> sp.2	n
	<i>Zopherus</i> sp.	n
	<i>Centrioptera</i> sp.	n
	<i>Cryptoglossa verrucosa verrucosa</i>	n
	Cerambycidae	
Long-horned Beetles	<i>Oberea quadricollata</i>	n
Cottonwood Twig Borer	<i>Prionus</i> sp.	n
Giant Root Borer		
	Meloidae	
Arizona Blister Beetle	<i>Lytta auriculata</i> Horn	n

	<i>Zonitis punctipennis punctipennis</i> LeConte	n
Leaf Beetles	Chrysomelidae	
	<i>Plagiodera</i> sp.	n
	<i>Plagiodera arizonae</i>	n
	<i>Cryptocephalus binotatus</i>	n
Weevils	Curculionidae	
	<i>Ophyrastes</i> sp.	n
	Order DIPTERA	
Mosquitos	Culicidae	
	<i>Culosea inornata</i>	
	<i>Culex quinquefasciatus</i>	
	Chaoborinae	
	<i>Chaoborus</i> sp.	n
Horse flies	Tabanidae	
	<i>Tabanus</i> sp.	n
	<i>Silvius</i> sp.	n
Mydas flies	Mydidae	
	<i>Opomydas limbatus</i> Williston	n
	<i>Pseudonomoneura californica</i> (Hardy)	n
	<i>Mydas ventralis</i>	
Robber flies	Asilidae	
	<i>Eccritosisia zamon</i> (Townsend)	n
	<i>Efferia</i> spp.	
March Flies	Bibionidae	
	<i>Bibiodes halteralis</i> Coquillett	n
	Order LEPIDOPTERA	
	Danaidae	
Monarch	<i>Danaus plexippus</i>	n
Queen	<i>Danaus gilippus</i>	n
	Nymphalidae	
Painted Lady	<i>Vanessa (Cynthia) cardui</i>	n
Mourning Cloak	<i>Nymphalis antiopa</i>	n
Viceroy	<i>Limenitis (Basilarchia) archippus</i>	
Common Buckeye	<i>Jumonia coenia</i>	n
Red Admiral	<i>Vanessa atalanta</i>	n
Red Spotted Purple	<i>Limenitis arthemis</i>	n
Variiegated Fritillary	<i>Euptoieta claudia</i>	n
	Papilionidae	
Black Swallowtail	<i>Papilio polyxenes</i>	n
Zelicaon (Anise) Swallowtail	<i>Papilio zelicaon</i>	n
	Pieridae	
Checkered White	<i>Pontia protodice</i>	n
Orange (Alfalfa) Sulphur	<i>Colias eurytheme</i>	n
Cloudless Sulphur	<i>Phoebis sennae</i>	n
Sleepy Orange (Nicippe Yellow)	<i>Eureme nicippe</i>	n
Dainty Sulphur	<i>Nathalis iole</i>	n
	Libytheidae	
Snout Butterfly	<i>Libytheana carinenta</i>	n
	Riodinidae	
Fatal Metalmark	<i>Calephelis nemesis</i>	n
Wright=s Metalmark	<i>Calephelis wrighti</i>	n
(? Arizona Metalmark	<i>Calephelis arizonensis</i>)	
Palmer=s Metalmark	<i>Apodemia palmeri</i>	
n	Mormon Metalmark	<i>Apodemia mormo</i>
n		
Mexican Metalmark	<i>Apodemia duryi</i>	n
	Lycaenidae	
Marine Blue	<i>Leptotes marina</i>	n
Pygmy Blue	<i>Brephidium exilis</i>	n
Cerannus Blue	<i>Hemiargus ceraunus</i>	
n		
Reakirt=s Blue	<i>Hemiargus isola</i>	n
Great Purple Hairstreak	<i>Atlides halesus</i>	n

Gray Hairstreak	<i>Strymon melinus</i>	<i>n</i>	
Leda Hairstreak	<i>Ministrymon leda</i>	<i>n</i>	
	Hesperiidae		
Common Checkered Skipper	<i>Pyrgus communis</i> (Grote)	<i>n</i>	
Small Checkered Skipper	<i>Pyrgus scriptura</i>	<i>n</i>	
MacNiell=s Sootywing Skipper	<i>Hesperopsis graciellae</i> (MacNiell)	<i>n</i>	
Funereal Duskywing	<i>Erynnis funeralis</i>	<i>n</i>	
Streamlined Duskywing	<i>Erynnis zarucco</i>	<i>n</i>	
Northern White-Skipper	<i>Heliopetes ericetorum</i>	<i>n</i>	
Orange Skipperling	<i>Copaedes aurantiacus</i>	<i>n</i>	
Fiery Skipper	<i>Hylephila phyleus</i>	<i>n</i>	
Euphala Skipper	<i>Lerodea eufala</i>	<i>n</i>	
	Noctuidae		
(willow defoliation 1999)	Unk g. sp.	<i>n</i>	
Black Witch	<i>Ascalapha odorata</i>	<i>n</i>	
	Cossidae		
Carpenter Moth	<i>Prionoxystus robiniae</i>		
	Sphingidae		
Big Popular Sphinx	<i>Pachysphinx modesta</i> Harris	<i>n</i>	
White-lined Sphinx	<i>Hyles lineata</i> (Fabricius)	<i>n</i>	
Tobacco Hornworm Moth	<i>Manduca sexta</i>	<i>n</i>	
	Order HYMENOPTERA		
	Formicidae		
Harvester Ant	<i>Pogonomyrmex californicus</i>	<i>n</i>	
Native Fire Ant	<i>Solenopsis aurea</i>	<i>n</i>	
	Apidae		
European Honey Bee	<i>Apis mellifera</i>	<i>y</i>	
	Anthophoridae		
Large Carpenter Bee	<i>Xylocopa varipuncta</i> Patton	<i>n</i>	
	<i>Anthophora</i> sp.	<i>n</i>	
	<i>Diadasia</i> sp.	<i>n</i>	
Pallid Digger Bee	<i>Centris pallida</i>	<i>n</i>	
	Bethylidae		
Bethylid	<i>Epyris myrmecophilus</i> Brues	<i>n</i>	
	Chrysididae		
Cuckoo Wasp	<i>Parnopes concinnus</i>	<i>n</i>	
Pteromalid Wasp			
	Pteromalidae		
	Ichneumonidae		
Ichneumonid wasps	<i>Compsocryptus apicalis</i> Townes	<i>n</i>	
	<i>Melanichneumon</i> sp.	<i>n</i>	
	<i>Netalia</i> sp.	<i>n</i>	
	Sphecidae		
Sphecid wasps	<i>Ammophila aberti</i> Haldeman	<i>n</i>	
Thread-wasted wasp	<i>Ammophila</i> sp.	<i>n</i>	
	<i>Bembecinus quinquespinosus</i>	<i>n</i>	
	<i>Bembix melanaspis</i>	<i>n</i>	
Sand Wasp	<i>Chalybion californicum</i>	<i>n</i>	
	<i>Liris argentata</i> (Beauvois)	<i>n</i>	
	<i>Liris muspa</i> (Pate)	<i>n</i>	
	<i>Liris beata</i> (Cameron)	<i>n</i>	
	<i>Microbembex aurata</i>	<i>n</i>	
	<i>Microbombex nigrifrons</i>	<i>n</i>	
	<i>Moniaecera</i> sp.	<i>n</i>	
	<i>Philanthus gibbosus</i>	<i>n</i>	
	<i>Prionx foxi</i>	<i>n</i>	
Black and yellow Mud Dauber	<i>Sceliphron caementarium</i>	<i>n</i>	
	<i>Trypoxylon</i> sp.	<i>n</i>	
	Halictidae		
Green Metallic Bee	<i>Dialictus</i> sp.	<i>n</i>	
	<i>Agapostemon</i> sp.	<i>n</i>	
	Tiphiidae		
Five-banded Tiphiid Wasp	<i>Myzinum quinquecinctum</i> (Fabricius)	<i>n</i>	
	<i>Myzinum</i> spp.	<i>n</i>	
	<i>Colocistis brevis</i>	<i>n</i>	

	<i>Colocistis castanea</i>	<i>n</i>	
	<i>Paratiphia</i> sp.	<i>n</i>	
	<i>Tiphia</i> sp.	<i>n</i>	
	Mutillidae		
Thistledown Velvet Ant	<i>Dasymutilla gloriosa</i>	<i>n</i>	
Red Velvet Ant	<i>Dasymutilla magnifica</i>	<i>n</i>	
Velvet Ant	<i>Dasymutilla satanas</i>		<i>n</i>
	<i>Dasymutilla</i> sp.4	<i>n</i>	
	<i>Chyphotes</i> spp.	<i>n</i>	
	<i>Photopsis</i> sp	<i>n</i>	
	Pompilidae		
Spider Wasp	<i>Ageniella joannae</i> (Wasbauer)	<i>n</i>	
	<i>Agenioideus birkmanni</i> (Banks)	<i>n</i>	
	<i>Anoplius fulgidus</i>	<i>n</i>	
	<i>Aporinellus fasciatus</i> (Smith)	<i>n</i>	
	<i>Aporinellus taeniatus taeniatus</i> (Kohl)	<i>n</i>	
	<i>Aporinellus medianus</i> Banks	<i>n</i>	
	<i>Pepsis pallidolimbata</i>	<i>n</i>	
	<i>Pepsis thisbe</i>	<i>n</i>	
	<i>Pompilus parvulus</i> Banks	<i>n</i>	
	Scoliidae		
Scarab Hunter Wasp	<i>Campsomeris tolteca</i> (Saussure)		<i>n</i>
	Megachilidae		
Mason Bee	<i>Osmia</i> sp.	<i>n</i>	
	Formicidae		
Rough Harvester Ant	<i>Pogonomyrmex rugosus</i> Emery	<i>n</i>	
	Vespidae		
Paper wasp	<i>Polistes</i> sp.	<i>n</i>	
	<i>Pterocheilus pimorum</i>	<i>n</i>	