

Appendix A

Appendix A1: Fish Species of the Upper Middle Mainstem Subbasin

Fish species listed below are known to or thought to occur within the Columbia Upper Middle (Duke Engineering 2001). Status refers to listing as threatened or endangered: FE=federal endangered; FT=federal threatened; FSC=federal species of concern, FEL=Federal Emergency Listing, WC=Washington candidate. Asterisks indicate the species is non-native (introduced) to the Columbia Upper Middle.

Family	Common Name/Status	Scientific Name
Acipenseridae	White sturgeon	<i>Acipenser transmontanus</i>
Salmonidae	Chinook salmon/FE,WC	<i>Oncorhynchus tshawytscha</i>
	Sockeye salmon	<i>Oncorhynchus nerka</i>
	Kokanee*	<i>Oncorhynchus nerka</i>
	Rainbow trout	<i>Oncorhynchus mykiss</i>
	Steelhead/FE,WC	<i>Oncorhynchus mykiss</i>
	Cutthroat trout	<i>Oncorhynchus clarki</i>
	Brown trout*	<i>Salmo trutta</i>
	Brook trout*	<i>Salvelinus fontinalis</i>
	Bull trout/FT,WC	<i>Salvelinus confluentus</i>
Percidae	Mountain whitefish	<i>Prosopium williamsoni</i>
	Walleye*	<i>Stizostedion vitreum</i>
	Yellow perch*	<i>Perca flavescens</i>
Centrarcidae	Largemouth bass*	<i>Micropterus salmoides</i>
	Smallmouth bass*	<i>Micropterus dolomieu</i>
	Black crappie*	<i>Pomoxis nigromaculatus</i>
	Bluegill*	<i>Lepomis macrochirus</i>
	Pumpkinseed*	<i>Lepomis gibbosus</i>
Gadidae	Burbot	<i>Lota lota</i>
Ictaluridae	Channel catfish	<i>Ictalurus punctatus</i>
	Black bullhead	<i>Ictalurus melas</i>
Catostomidae	Largescale sucker	<i>Catostomus macrocheilus</i>
	Bridgelip sucker	<i>Catostomus columbianus</i>
	Longnose sucker	<i>Catostomus catostomus</i>
	Mountain sucker/WC	<i>Catostomus platyrhynchus</i>
Cyprinidae	Carp	<i>Cyprinus carpio</i>
	Northern pikeminnow	<i>Ptychocheilus oregonensis</i>
	Redside shiner	<i>Richardsonius balteatus</i>
	Chiselmouth	<i>Acrocheilus alutaceus</i>
	Peamouth	<i>Mylocheilus caurinus</i>
	Tench	<i>Tinca tinca</i>
	Longose dace	<i>Rhinichthys cataractae</i>
	Speckled dace	<i>Rhinichthys osculus</i>
Percopsidae	Sand roller	<i>Percopsis transmontana</i>
Cottidae	Prickly sculpin	<i>Cottus asper</i>

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Gasterosteidae	Torrent sculpin	<i>Cottus rhotheus</i>
	Threespine stickleback	<i>Gasterosteus aculeatus</i>
Petromyzontidae	Pacific lamprey/FSC	<i>Entosphenus tridentatus</i>

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Appendix A2: Wildlife of the Upper Middle Mainstem Subbasin

Birds

Common Loon	<i>Gavia immer</i>
Pied-billed Grebe	<i>Podilymbus podiceps</i>
Red-necked Grebe	<i>Podiceps grisegena</i>
Western Grebe	<i>Aechmophorus occidentalis</i>
Eared Grebe	<i>Podiceps nigricollis</i>
Clark's Grebe	<i>Aechmophorus clarkii</i>
Double-crested Cormorant	<i>Phalacrocorax auritus</i>
American Bittern	<i>Botaurus lentiginosus</i>
Great Blue Heron	<i>Ardea herodias</i>
Great Egret	<i>Ardea alba</i>
Black-crowned Night-heron	<i>Nycticorax nycticorax</i>
Turkey Vulture	<i>Cathartes aura</i>
Canada Goose	<i>Branta canadensis</i>
Tundra Swan	<i>Cygnus columbianus</i>
Wood Duck	<i>Aix sponsa</i>
Gadwall	<i>Anas strepera</i>
American Wigeon	<i>Anas americana</i>
Mallard	<i>Anas platyrhynchos</i>
Blue-winged Teal	<i>Anas discors</i>
Cinnamon Teal	<i>Anas cyanoptera</i>
Northern Shoveler	<i>Anas clypeata</i>
Northern Pintail	<i>Anas acuta</i>
Green-winged Teal	<i>Anas crecca</i>
Canvasback	<i>Aythya valisineria</i>
Redhead	<i>Aythya americana</i>
Ring-necked Duck	<i>Aythya collaris</i>
Greater Scaup	<i>Aythya marila</i>
Harlequin Duck	<i>Histrionicus histrionicus</i>
Barrow's Goldeneye	<i>Bucephala islandica</i>
Hooded Merganser	<i>Lophodytes cucullatus</i>
Common Merganser	<i>Mergus merganser</i>
Ruddy Duck	<i>Oxyura jamaicensis</i>
Osprey	<i>Pandion haliaetus</i>
Northern Harrier	<i>Circus cyaneus</i>
Sharp-shinned Hawk	<i>Accipiter striatus</i>
Cooper's Hawk	<i>Accipiter cooperii</i>
Northern Goshawk WC	<i>Accipiter gentilis</i>
Swainson's Hawk	<i>Buteo swainsoni</i>
Red-tailed Hawk	<i>Buteo jamaicensis</i>
Ferruginous Hawk WT	<i>Buteo regalis</i>
Rough-legged Hawk	<i>Buteo lagopus</i>
Golden Eagle WC	<i>Aquila chrysaetos</i>
American Kestrel	<i>Falco sparverius</i>

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Gyr Falcon	<i>Falco rusticolus</i>
Prairie Falcon	<i>Falco mexicanus</i>
Chukar	<i>Alectoris chukar</i>
Gray Partridge	<i>Perdix perdix</i>
Ring-necked Pheasant	<i>Phasianus colchicus</i>
Ruffed Grouse	<i>Bonasa umbellus</i>
Sage Grouse WT	<i>Centrocercus urophasianus</i>
Spruce Grouse	<i>Falcapennis canadensis</i>
White-tailed Ptarmigan	<i>Lagopus leucurus</i>
Blue Grouse	<i>Dendragapus obscurus</i>
Sharp-tailed Grouse WT	<i>Tympanuchus phasianellus</i>
Wild Turkey	<i>Meleagris gallopavo</i>
California Quail	<i>Callipepla californica</i>
Virginia Rail	<i>Rallus limicola</i>
Sora	<i>Porzana carolina</i>
American Coot	<i>Fulica americana</i>
Killdeer	<i>Charadrius vociferus</i>
Black-necked Stilt	<i>Himantopus mexicanus</i>
American Avocet	<i>Recurvirostra americana</i>
Greater Yellowlegs	<i>Tringa melanoleuca</i>
Lesser Yellowlegs	<i>Tringa flavipes</i>
Solitary Sandpiper	<i>Tringa solitaria</i>
Spotted Sandpiper	<i>Actitis macularia</i>
Long-billed Curlew	<i>Numenius americanus</i>
Semipalmated Sandpiper	<i>Calidris pusilla</i>
Western Sandpiper	<i>Calidris mauri</i>
Least Sandpiper	<i>Calidris minutilla</i>
Baird's Sandpiper	<i>Calidris bairdii</i>
Pectoral Sandpiper	<i>Calidris melanotos</i>
Stilt Sandpiper	<i>Calidris himantopus</i>
Long-billed Dowitcher	<i>Limnodromus scolopaceus</i>
Common Snipe	<i>Gallinago gallinago</i>
Wilson's Phalarope	<i>Phalaropus tricolor</i>
Red-necked Phalarope	<i>Phalaropus lobatus</i>
Ring-billed Gull	<i>Larus delawarensis</i>
California Gull	<i>Larus californicus</i>
Herring Gull	<i>Larus argentatus</i>
Thayer's Gull	<i>Larus thayeri</i>
Glaucous Gull	<i>Larus hyperboreus</i>
Caspian Tern	<i>Sterna caspia</i>
Forster's Tern	<i>Sterna forsteri</i>
Black Tern	<i>Chlidonias niger</i>
Rock Dove	<i>Columba livia</i>
Mourning Dove	<i>Zenaida macroura</i>
Barn Owl	<i>Tyto alba</i>
Flammulated Owl WC	<i>Otus flammeolus</i>

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Western Screech-owl	<i>Otus kennicottii</i>
Great Horned Owl	<i>Bubo virginianus</i>
Snowy Owl	<i>Nyctea scandiaca</i>
Northern Pygmy-owl	<i>Glaucidium gnoma</i>
Burrowing Owl WC	<i>Athene cunicularia</i>
Spotted Owl WE,FT	<i>Strix occidentalis</i>
Barred Owl	<i>Strix varia</i>
Great Gray Owl	<i>Strix nebulosa</i>
Long-eared Owl	<i>Asio otus</i>
Short-eared Owl	<i>Asio flammeus</i>
Boreal Owl	<i>Aegolius funereus</i>
Northern Saw-whet Owl	<i>Aegolius acadicus</i>
Common Nighthawk	<i>Chordeiles minor</i>
Common Poorwill	<i>Phalaenoptilus nuttallii</i>
Black Swift	<i>Cypseloides niger</i>
Vaux's Swift WC	<i>Chaetura vauxi</i>
White-throated Swift	<i>Aeronautes saxatalis</i>
Black-chinned Hummingbird	<i>Archilochus alexandri</i>
Calliope Hummingbird	<i>Stellula calliope</i>
Rufous Hummingbird	<i>Selasphorus rufus</i>
Belted Kingfisher	<i>Ceryle alcyon</i>
Lewis's Woodpecker WC	<i>Melanerpes lewis</i>
Williamson's Sapsucker	<i>Sphyrapicus thyroideus</i>
Red-naped Sapsucker	<i>Sphyrapicus nuchalis</i>
Red-breasted Sapsucker	<i>Sphyrapicus ruber</i>
Downy Woodpecker	<i>Picoides pubescens</i>
Hairy Woodpecker	<i>Picoides villosus</i>
White-headed Woodpecker WC	<i>Picoides albolarvatus</i>
Three-toed Woodpecker	<i>Picoides tridactylus</i>
Black-backed Woodpecker	<i>Picoides arcticus</i>
Northern Flicker	<i>Colaptes auratus</i>
Pileated Woodpecker WC	<i>Dryocopus pileatus</i>
Olive-sided Flycatcher	<i>Contopus cooperi</i>
Western Wood-pewee	<i>Contopus sordidulus</i>
Willow Flycatcher	<i>Empidonax traillii</i>
Hammond's Flycatcher	<i>Empidonax hammondii</i>
Gray Flycatcher	<i>Empidonax wrightii</i>
Dusky Flycatcher	<i>Empidonax oberholseri</i>
Pacific-slope Flycatcher	<i>Empidonax difficilis</i>
Cordilleran Flycatcher	<i>Empidonax occidentalis</i>
Say's Phoebe	<i>Sayornis saya</i>
Western Kingbird	<i>Tyrannus verticalis</i>
Eastern Kingbird	<i>Tyrannus tyrannus</i>
Loggerhead Shrike	<i>Lanius ludovicianus</i>
Northern Shrike	<i>Lanius excubitor</i>
Cassin's Vireo	<i>Vireo cassinii</i>

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Warbling Vireo	<i>Vireo gilvus</i>
Red-eyed Vireo	<i>Vireo olivaceus</i>
Gray Jay	<i>Perisoreus canadensis</i>
Steller's Jay	<i>Cyanocitta stelleri</i>
Clark's Nutcracker	<i>Nucifraga columbiana</i>
Black-billed Magpie	<i>Pica pica</i>
American Crow	<i>Corvus brachyrhynchos</i>
Northwestern Crow	<i>Corvus caurinus</i>
Common Raven	<i>Corvus corax</i>
Horned Lark	<i>Eremophila alpestris</i>
Tree Swallow	<i>Tachycineta bicolor</i>
Violet-green Swallow	<i>Tachycineta thalassina</i>
Bank Swallow	<i>Riparia riparia</i>
Northern Rough-winged Swallow	<i>Stelgidopteryx serripennis</i>
Cliff Swallow	<i>Petrochelidon pyrrhonota</i>
Barn Swallow	<i>Hirundo rustica</i>
Black-capped Chickadee	<i>Poecile atricapillus</i>
Mountain Chickadee	<i>Poecile gambeli</i>
Chestnut-backed Chickadee	<i>Poecile rufescens</i>
Boreal Chickadee	<i>Poecile hudsonicus</i>
Red-breasted Nuthatch	<i>Sitta canadensis</i>
White-breasted Nuthatch	<i>Sitta carolinensis</i>
Pygmy Nuthatch	<i>Sitta pygmaea</i>
Brown Creeper	<i>Certhia americana</i>
Rock Wren	<i>Salpinctes obsoletus</i>
Canyon Wren	<i>Catherpes mexicanus</i>
House Wren	<i>Troglodytes aedon</i>
Winter Wren	<i>Troglodytes troglodytes</i>
Marsh Wren	<i>Cistothorus palustris</i>
American Dipper	<i>Cinclus mexicanus</i>
Golden-crowned Kinglet	<i>Regulus satrapa</i>
Ruby-crowned Kinglet	<i>Regulus calendula</i>
Western Bluebird	<i>Sialia mexicana</i>
Mountain Bluebird	<i>Sialia currucoides</i>
Townsend's Solitaire	<i>Myadestes townsendi</i>
Veery	<i>Catharus fuscescens</i>
Swainson's Thrush	<i>Catharus ustulatus</i>
Hermit Thrush	<i>Catharus guttatus</i>
American Robin	<i>Turdus migratorius</i>
Varied Thrush	<i>Ixoreus naevius</i>
Gray Catbird	<i>Dumetella carolinensis</i>
Northern Mockingbird	<i>Mimus polyglottos</i>
Sage Thrasher	<i>Oreoscoptes montanus</i>
European Starling	<i>Sturnus vulgaris</i>
American Pipit	<i>Anthus rubescens</i>
Bohemian Waxwing	<i>Bombycilla garrulus</i>

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Cedar Waxwing	<i>Bombycilla cedrorum</i>
Orange-crowned Warbler	<i>Vermivora celata</i>
Nashville Warbler	<i>Vermivora ruficapilla</i>
Yellow Warbler	<i>Dendroica petechia</i>
Yellow-rumped Warbler	<i>Dendroica coronata</i>
Black-throated Gray Warbler	<i>Dendroica nigrescens</i>
Townsend's Warbler	<i>Dendroica townsendi</i>
Hermit Warbler	<i>Dendroica occidentalis</i>
American Redstart	<i>Setophaga ruticilla</i>
Northern Waterthrush	<i>Seiurus noveboracensis</i>
Macgillivray's Warbler	<i>Oporornis tolmiei</i>
Common Yellowthroat	<i>Geothlypis trichas</i>
Wilson's Warbler	<i>Wilsonia pusilla</i>
Yellow-breasted Chat	<i>Icteria virens</i>
Western Tanager	<i>Piranga ludoviciana</i>
Spotted Towhee	<i>Pipilo maculatus</i>
American Tree Sparrow	<i>Spizella arborea</i>
Chipping Sparrow	<i>Spizella passerina</i>
Brewer's Sparrow	<i>Spizella breweri</i>
Vesper Sparrow	<i>Poocetes gramineus</i>
Lark Sparrow	<i>Chondestes grammacus</i>
Black-throated Sparrow	<i>Amphispiza bilineata</i>
Sage Sparrow WC	<i>Amphispiza belli</i>
Savannah Sparrow	<i>Passerculus sandwichensis</i>
Grasshopper Sparrow	<i>Ammodramus savannarum</i>
Fox Sparrow	<i>Passerella iliaca</i>
Song Sparrow	<i>Melospiza melodia</i>
Lincoln's Sparrow	<i>Melospiza lincolnii</i>
White-crowned Sparrow	<i>Zonotrichia leucophrys</i>
Dark-eyed Junco	<i>Junco hyemalis</i>
Lapland Longspur	<i>Calcarius lapponicus</i>
Snow Bunting	<i>Plectrophenax nivalis</i>
Black-headed Grosbeak	<i>Pheucticus melanocephalus</i>
Lazuli Bunting	<i>Passerina amoena</i>
Bobolink	<i>Dolichonyx oryzivorus</i>
Red-winged Blackbird	<i>Agelaius phoeniceus</i>
Western Meadowlark	<i>Sturnella neglecta</i>
Brewer's Blackbird	<i>Euphagus cyanocephalus</i>
Yellow-headed Blackbird	<i>Xanthocephalus xanthocephalus</i>
Brown-headed Cowbird	<i>Molothrus ater</i>
Bullock's Oriole	<i>Icterus bullockii</i>
Gray-crowned Rosy-Finch	<i>Leucosticte tephrocotis</i>
Pine Grosbeak	<i>Pinicola enucleator</i>
Purple Finch	<i>Carpodacus purpureus</i>
Cassin's Finch	<i>Carpodacus cassinii</i>
House Finch	<i>Carpodacus mexicanus</i>

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Red Crossbill
 White-winged Crossbill
 Common Redpoll
 Pine Siskin
 American Goldfinch
 Evening Grosbeak
 House Sparrow
 Bald Eagle **WT,FT**
Total Bird Species: 235

Loxia curvirostra
Loxia leucoptera
Carduelis flammea
Carduelis pinus
Carduelis tristis
Coccothraustes vespertinus
Passer domesticus
Haliaeetus leucocephalus

Mammals

Virginia Opossum
 Masked Shrew
 Vagrant Shrew
 Montane Shrew
 Water Shrew
 Pacific Water Shrew
 Trowbridge's Shrew
 Merriam's Shrew **WC**
 Shrew-mole
 Coast Mole
 California Myotis
 Western Small-footed Myotis
 Yuma Myotis
 Little Brown Myotis
 Long-legged Myotis
 Fringed Myotis
 Long-eared Myotis
 Silver-haired Bat
 Western Pipistrelle
 Big Brown Bat
 Hoary Bat
 Spotted Bat
 Townsend's Big-eared Bat **WC**
 Pallid Bat
 American Pika
 Pygmy Rabbit **WE,FEL**
 Eastern Cottontail
 Nuttall's (Mountain) Cottontail
 Snowshoe Hare
 White-tailed Jackrabbit **WC**
 Black-tailed Jackrabbit **WC**
 Mountain Beaver
 Least Chipmunk
 Yellow-pine Chipmunk

Didelphis virginiana
Sorex cinereus
Sorex vagrans
Sorex monticolus
Sorex palustris
Sorex bendirii
Sorex trowbridgii
Sorex merriami
Neurotrichus gibbsii
Scapanus orarius
Myotis californicus
Myotis ciliolabrum
Myotis yumanensis
Myotis lucifugus
Myotis volans
Myotis thysanodes
Myotis evotis
Lasionycteris noctivagans
Pipistrellus hesperus
Eptesicus fuscus
Lasiurus cinereus
Euderma maculatum
Corynorhinus townsendii
Antrozous pallidus
Ochotona princeps
Brachylagus idahoensis
Sylvilagus floridanus
Sylvilagus nuttallii
Lepus americanus
Lepus townsendii
Lepus californicus
Aplodontia rufa
Tamias minimus
Tamias amoenus

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Townsend's Chipmunk	<i>Tamias townsendii</i>
Yellow-bellied Marmot	<i>Marmota flaviventris</i>
Hoary Marmot	<i>Marmota caligata</i>
Townsend's Ground Squirrel	<i>Spermophilus townsendii</i>
Washington Ground Squirrel WC	<i>Spermophilus washingtoni</i>
Columbian Ground Squirrel	<i>Spermophilus columbianus</i>
California Ground Squirrel	<i>Spermophilus beecheyi</i>
Golden-mantled Ground Squirrel	<i>Spermophilus lateralis</i>
Cascade Golden-mantled Ground Squirrel	<i>Spermophilus saturatus</i>
Eastern Fox Squirrel	<i>Sciurus niger</i>
Western Gray Squirrel WT	<i>Sciurus griseus</i>
Red Squirrel	<i>Tamiasciurus hudsonicus</i>
Douglas' Squirrel	<i>Tamiasciurus douglasii</i>
Northern Flying Squirrel	<i>Glaucomys sabrinus</i>
Northern Pocket Gopher	<i>Thomomys talpoides</i>
Great Basin Pocket Mouse	<i>Perognathus parvus</i>
American Beaver	<i>Castor canadensis</i>
Western Harvest Mouse	<i>Reithrodontomys megalotis</i>
Deer Mouse	<i>Peromyscus maniculatus</i>
Columbian Mouse	<i>Peromyscus keeni</i>
Northern Grasshopper Mouse	<i>Onychomys leucogaster</i>
Bushy-tailed Woodrat	<i>Neotoma cinerea</i>
Southern Red-backed Vole	<i>Clethrionomys gapperi</i>
Heather Vole	<i>Phenacomys intermedius</i>
Meadow Vole	<i>Microtus pennsylvanicus</i>
Montane Vole	<i>Microtus montanus</i>
Long-tailed Vole	<i>Microtus longicaudus</i>
Creeping Vole	<i>Microtus oregoni</i>
Water Vole	<i>Lemmiscus curtatus</i>
Muskrat	<i>Ondatra zibethicus</i>
Northern Bog Lemming	<i>Synaptomys borealis</i>
Black Rat	<i>Rattus rattus</i>
Norway Rat	<i>Rattus norvegicus</i>
House Mouse	<i>Mus musculus</i>
Western Jumping Mouse	<i>Zapus princeps</i>
Pacific Jumping Mouse	<i>Zapus trinotatus</i>
Common Porcupine	<i>Erethizon dorsatum</i>
Nutria	<i>Myocastor coypus</i>
Coyote	<i>Canis latrans</i>
Gray Wolf WE,FE	<i>Canis lupus</i>
Red Fox	<i>Vulpes vulpes</i>
Black Bear	<i>Ursus americanus</i>
Grizzly Bear WE,FT	<i>Ursus arctos</i>
Raccoon	<i>Procyon lotor</i>
American Marten	<i>Martes americana</i>
Fisher WE	<i>Martes pennanti</i>

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Ermine	<i>Mustela erminea</i>
Long-tailed Weasel	<i>Mustela frenata</i>
Mink	<i>Mustela vison</i>
Wolverine WC	<i>Gulo gulo</i>
American Badger	<i>Taxidea taxus</i>
Striped Skunk	<i>Mephitis mephitis</i>
Northern River Otter	<i>Lutra canadensis</i>
Mountain Lion	<i>Puma concolor</i>
Lynx	<i>Lynx canadensis</i>
Bobcat	<i>Lynx rufus</i>
Mule Deer	<i>Odocoileus hemionus</i>
Moose	<i>Oreamnos americanus</i>
Elk	<i>Cervus elaphus</i>
White-tailed Deer	<i>Odocoileus virginianus</i>
Bighorn Sheep	<i>Ovis canadensis</i>

Total Mammals: 97

Amphibians and Reptiles

Tiger Salamander	<i>Ambystoma tigrinum</i>
Northwestern Salamander	<i>Ambystoma gracile</i>
Long-toed Salamander	<i>Ambystoma macrodactylum</i>
Pacific Giant Salamander	<i>Dicamptodon tenebrosus</i>
Rough-skinned Newt	<i>Taricha granulosa</i>
Dunn's Salamander WC	<i>Plethodon dunni</i>
Western Red-backed Salamander	<i>Plethodon vehiculum</i>
Ensatina	<i>Ensatina eschscholtzii</i>
Tailed Frog	<i>Ascaphus truei</i>
Great Basin Spadefoot	<i>Scaphiopus intermontanus</i>
Western Toad WC	<i>Bufo boreas</i>
Woodhouse's Toad	<i>Bufo woodhousii</i>
Pacific Chorus (Tree) Frog	<i>Pseudacris regilla</i>
Cascades Frog	<i>Rana cascadae</i>
Columbia Spotted Frog WC	<i>Rana luteiventris</i>
Northern Leopard Frog WE	<i>Rana pipiens</i>
Bullfrog	<i>Rana catesbeiana</i>
Total Amphibians: 17	
Painted Turtle	<i>Chrysemys picta</i>
Northern Alligator Lizard	<i>Elgaria coerulea</i>
Southern Alligator Lizard	<i>Elgaria multicarinata</i>
Short-horned Lizard	<i>Phrynosoma douglassii</i>
Sagebrush Lizard	<i>Sceloporus graciosus</i>
Western Fence Lizard	<i>Sceloporus occidentalis</i>
Side-blotched Lizard	<i>Uta stansburiana</i>
Western Skink	<i>Eumeces skiltonianus</i>
Rubber Boa	<i>Charina bottae</i>
Racer	<i>Coluber constrictor</i>
Sharptail Snake WC	<i>Contia tenuis</i>

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Ringneck Snake	<i>Diadophis punctatus</i>
Night Snake	<i>Hypsiglena torquata</i>
Striped Whipsnake WC	<i>Masticophis taeniatus</i>
Gopher Snake	<i>Pituophis catenifer</i>
Western Terrestrial Garter Snake	<i>Thamnophis elegans</i>
Northwestern Garter Snake	<i>Thamnophis ordinoides</i>
Common Garter Snake	<i>Thamnophis sirtalis</i>
Western Rattlesnake	<i>Crotalus viridis</i>
Total Reptiles: 19	

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Appendix B1: Comparison of Historic and Present Vegetation (IBIS)

Habitat Type	Past Acreage (1850)	Present Acreage (1999)
Montane Mixed Conifer Forest	2,051	11,045
Eastside Mixed Conifer Forest	16,244	21,049
Lodgepole Pine Forest and Woodlands	9,148	750
Ponderosa Pine Forest and Woodland	97,458	53,815
Sub-alpine Parkland	241	1,188
Western Juniper and Mountain Mahogany Woodlands	90,244	0
Eastside Grasslands	117,065	12,764
Shrub-Steppe	1,241,382	760,605
Dwarf Shrub-Steppe	494	0
Desert Playa and Salt Scrub Shrub Lands	26,246	0
Open Water- Lakes, Rivers, And Streams	7,166	41,682
Upland Aspen Forest	0	30
Alpine Grasslands and Shrublands	0	306
Agriculture, Pastures and Mixed Enviorns	0	692,984
Urban and Mixed Enviorns	0	8,084
Montane Coniferous Wetlands	0	313
Herbaceous Wetlands	0	2,102
Eastside Riparian –Wetlands	0	1,000
Total Acreage	1,607,736	1,607,711

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Appendix B2: Information on Wildlife Areas (WA) in the Columbia Upper Middle. (WDFW website)

WHMA	Location and Habitat
Chelan Butte	Covers ~8,200 acres and occurs just outside the town of Chelan on the south-facing slopes of Chelan Butte on the west side of the Columbia River. The Butte rises 3,825 feet. The unit is primarily dry grassland with some shrubs and a few riparian zones holding most of the wildlife in the area. The unit has experienced recent fires which include the 1994 Tyee fire and the 1988 Dinkleman fire.
Colockum	Covers ~ 88,000 acres located in portions of Chelan and Kittitas Counties. The area lies twenty miles south of Wenatchee and ~ twenty-five miles north-northwest of Ellensburg on the west bank of the Columbia River. The topography climate and vegetative zones vary from the West Bars desert bunchgrass prairie zone found at 580 feet in elevation, through the shrub-steppe, yellow pine, forest, montane forest, and finally to the sub-alpine zone of Mission Peak at 6,875 feet in elevation.
Entiat and Swakane	These areas cover a combined 19,200 acres and are located north of on the west side of the Columbia River. The areas encompass valley bottoms not far from the river that are served by numerous steep drainages with both perennial and intermittent streams. Major habitat includes sage-steppe, ponderosa pine, and several riparian draws. The higher elevations and north slopes of the units some heavy thickets of douglas fir. The 1988 Dinkleman Fire burned a large portion of the area changing much of the habitat to grass. Both areas are important wintering range for mule deer, and offer year-round habitat for upland birds.
Quilomene	This area contains 17,803 acres. The unit consists of steep, rocky slopes and narrow riparian bottoms. Vegetation is comprised of a mix of sagebrush and bitterbrush mixed with a variety of bunchgrasses. The habitat is important for the Colockum elk herd, Quilomene bighorn sheep herd and supports mule deer, birds of prey, song birds, and mammals.
Quincy Lakes	The Quincy Lakes WHMA is 15,266 acres. The geology is the product of erosion of lava flows by glacial flood waters. There are large basalt cliffs, isolated mesas, stair-stepped benches, box canyons, and potholes. Several of the potholes have filled with water providing a diversity of habitat in the area. Big sage/bluebunch wheatgrass is the most common plant community. The area has been identified as one of the most important waterfowl breeding areas in Washington.
Wells Wildlife Area	The Wells Wildlife Area is located on the northwest edge of the Columbia Plateau. The area is underlain by basaltic lava flows and contains rock knolls with numerous kettle ponds and lakes. Grass

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	<p>and shrub steppe habitat is dissected by riparian and occasional wetland habitats. The area is comprised of seven management units described below.</p>
<p>Bridgeport Bar</p>	<p>The unit is 502 acres. It is located adjacent to the Wells reservoir approximately three road miles east of the town of Brewster. The unit topography is flat to gently rolling. Waterfowl frequently use the Wells reservoir, and the ponds and fields that comprise the unit. Bald eagles winter in the area from November to April. Osprey nest in the unit during the spring and summer.</p>
<p>Central Ferry Canyon</p>	<p>The unit is 1,538 acres. Located in Central Ferry Canyon, the unit is four road miles southwest of the town of Brewster. The topography is gently rolling to steeply benched, ranging from 1,350 to 2,800 feet in elevation. Minor seeps and springs feed the central drainage. Fingers of riparian vegetation dissect the shrub steppe-dominated canyon. Upland game birds and non-game bird species are found in the unit.</p>
<p>Indian Dan Canyon</p>	<p>The unit consists of 5,036 acres in the Indian Dan Canyon located three road miles west of the town of Brewster. Topography of the unit consists of deep canyons, steep hillsides and glacial terraces that reach from 1,140 feet to 3,050 feet in elevation. The unit is dominated by sagebrush and bitterbrush habitat. Riparian cover lines the canyon bottoms. A ten-acre lake lies in the center of the unit.</p>
<p>Unit</p>	<p>This is a small 60 acre unit on the River. The unit is gently rolling with varying elevation from 780 to 830 feet. The habitat varies from marshy near the river to dry and sparsely vegetated in the upland areas.</p>
<p>Washburn Island</p>	<p>The unit is 261 acres and lies 6 road miles east of Brewster on the Colville Confederated Tribe's reservation. The unit is bordered on the north and east by a pond and on the west by the Columbia River. The topography is flat, varying from only 780 feet to 790 feet in elevation. The periphery is laced with marsh vegetation and sloughs and is used by waterfowl.</p>
<p>West Foster Creek</p>	<p>The unit includes 2,930 acres of land and lies five road miles southeast of the town of Bridgeport. The north-facing unit is gently rolling to steeply-benched, and varies from 1,280 to 2,360 feet in elevation. Sagebrush steppe is the dominant vegetation, though the northern portion is more diverse with extensive meadows and riparian areas. Eight artificial ponds are fed by a developed spring and a creek diversion</p>
<p style="text-align: center;">The 8,616 acres Sagebrush Flat Wildlife Area (SFWA) is located in</p>	

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<p>Sagebrush Flat</p>	<p>Douglas County, Washington and is comprised of four separate parcels (Units) owned and/or managed by the Washington Department of Fish and Wildlife. The SFWA includes the 3,740 acres Sagebrush Flat Unit, the 320 acre Dormaier Unit, and the 2,206 acres Chester Butte Unit.</p> <p>The Sagebrush Flat Unit was acquired by WDFW in 1997 from the Washington Department of Natural Resources (DNR) through a Washington Wildlife and Recreation Program (WWRP) grant administered by the Interagency Committee (IAC) for outdoor recreation. The entire Dormaier (purchased in 1995) and Chester Butte (purchased in 1998) Units were purchased by BPA.</p> <p>The SFWA was established to promote recovery of sage grouse, sharp-tailed grouse, and pygmy rabbits. In addition, mule deer and a host of shrub-steppe obligate species benefit significantly from habitat protection, maintenance, and enhancement measures already implemented and/or planned for the wildlife area. Shrub-steppe (including shrub- and grass-dominated types) is the dominant habitat on the Sagebrush Flat Wildlife Area (WDFW 1998, WDFW 2001) .</p>
<p>Whiskey Dick</p>	<p>The Whiskey Dick Wildlife Area is located on the southeastern foothills of the Colockum range to the west of the Columbia River. The unit contains 28,549 acres. The topography is comprised of steep rocky slopes and narrow riparian bottoms. Vegetation is made up of sagebrush and/or bitterbrush mixed with various bunchgrasses. The unit is important to the maintenance of the Colockum elk herd and provides habitat for mule deer, birds of prey, song birds and other mammals.</p>

Appendix C

Appendix C1: Past and Present Efforts Citations

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