

Appendix III Native Vegetation

A partial list of vegetation documented on Owen Sowerwine Natural Area.

Trees:

Black Cottonwood (*Populus trichocarpa*)
River Birch (*Betula occidentalis* Hook.)
Douglas Fir (*Pseudotsuga menziesii*)
Ponderosa Pine (*Pinus ponderosa*)
Englemann Spruce (*Picea engelmanni*) (possibly a hybrid with White Spruce)
Paper Birch (*Betula papyrifera*)

Shrubs:

Sandbar Willow (*Salix exigua*)
Ribes (*Ribes* species)
Snowberry (*Symphoricarpos* species)
Buffaloberry (*Shepherdia* species)
Alder (*Alnus* species)
Hawthorne (*Crataegus* species)
Thimbleberry (*Rubus parviflorus*)
Rose (*Rosa woodsii*)
Red-osier Dogwood (*Cornus stolonifera*)
Chokecherry (*Prunus virginiana*)

Grasses and Forbs:

Water Horsetail (*Equisetum fluviatile*)
Variegated Horsetail (*Equisteum variegatum*)
Bunchberry (*Cornus canadensis*)
False Solomon's Seal (*Smilacina* species)
Trillium (*Trillium ovatum*)
Twisted Stalk (*Streptopus amplexifolius*)
False Hellebore (*Veratrum viride*)
Fireweed (*Epilobium angustifolium*)
Wintergreen (*Pyrola* species)
Ricegrass (*Oryzopsis* species)
Wild Sarsaparilla (*Aralia nudicaulis*)
Stinging Nettle (*Urtica dioica*)
Narrow Spiked Reedgrass (*Calamagrostis inexpansa*)
Rush (*Juncus* species)
Wapato (*Sagittaria cuneata*)
Mare's Tail (*Hippuris vulgaris*)
Common Spikerush (*Eleocharis palustris*)
Needle Spikerush (*Eleocharis acicularis*)
Beaked Sedge (*Carex rostrata*)
Asparagus (*Asparagus officinalis*)
Strawberry (*Fragaria* species)

Appendix IV Noxious Weed List

Most Common Noxious Weeds:

Canada Thistle (*Cirsium arvense*)

Houndstongue (*Cynoglossum officinale*)

Identified by the Montana Natural Heritage Program (Greenlee, 1999) in the area:

Redtop (*Agrotis stolonifera*)

Reed Canarygrass (*Phalaris arundinacea*)

Spotted knapweed (*Centaurea maculosa*)

St. Johnswort (*Hypericum perforatum*)

Oxeye Daisy (*Chrysanthemum leucanthemum*)

Appendix V Fish and Wildlife Species List

Mammal Species

Mountain Cottontail (*Sylvilagus nuttallii*)
Beaver (*Castor canadensis*)
Red squirrel (*Tamiasciurus hudsonicus*)
Muskrat (*Ondatra zibethicus*)
Raccoon (*Procyon lotor*)
Red fox (*Vulpes vulpes*)
Coyote (*Canis latrans*)
River otter (*Lutra canadensis*)
Stripped skunk (*Mephitis mephitis*)
Mink (*Mustela vison*)
Weasel (*Mustela species*)
White-tailed Deer (*Odocoileus virginianus*)

Amphibians and Reptiles

Western Toad (*Bufo boreas*)
Painted turtle (*Chrysemys picta*)
Common garter snake (*Thamnophis sirtalis*)
Western terrestrial garter snake (*Thamnophis elegans*)
Rubber boa (*Charina bottae*)

Fish Species

Peamouth Chub (*Mylocheilus caurinus*)
Northern Pikeminnow (*Ptychocheilus oregonensis*)
Redside Shiner (*Richardsonius balteatus*)
Largescale Sucker (*Catostomus macrocheilus*)
Northern Pike (*Esox lucius*)*
Lake Whitefish (*Coregonus clupeaformis*)*
Westslope Cutthroat Trout (*Oncorhynchus clarki lewisi*)
Rainbow Trout (*Oncorhynchus mykiss*)*
Mountain Whitefish (*Prosopium williamsoni*)*
Bull Trout (*Salvelinus confluentus*)
Lake Trout (*Salvelinus namaycush*)*
Shorthead Sculpin (*Cottus confusus*)
Slimy Sculpin (*Cottus cognatus*)

* Indicates species that are either native North American species transplanted to Montana or not native to North America.

Bird Species

This cumulative list of 101 species was compiled from annual mid-June field trips by the Flathead Audubon Society to the Owen Sowerwine Natural Area, 1992-2002 (except 1995). It also includes species recorded during standardized point counts at three points in the area during the 1996 and 1997 breeding seasons, and during Bald Eagle/waterfowl counts since 1985. The list includes species seen along the Stillwater River from Conrad Drive to Leisure Lane; those seen outside the Natural Area are listed in boldface. Evidence of breeding status is as described in *Montana Bird Distribution*, 5th edition: t = no evidence of breeding; b = circumstantial evidence of breeding (e.g. singing males); and B = hard evidence of breeding (e.g. occupied nest, dependent young).

Double-crested Cormorant	t	Barn Swallow	t
Great Blue Heron	B	Steller's Jay	t
Turkey Vulture	t	Blue Jay	t
Canada Goose	B	Black-billed Magpie	B
Wood Duck	b	American Crow	t
Mallard	B	Common Raven	t
Green-winged Teal	t	Black-capped Chickadee	B
Blue-winged Teal	t	Mountain Chickadee	b
Cinnamon Teal	t	Red-breasted Nuthatch	b
Northern Pintail	t	White-breasted Nuthatch	B
Common Goldeneye	B	House Wren	b
Hooded Merganser	b	Ruby-crowned Kinglet	b
Common Merganser	B	Golden-crowned Kinglet	t
Osprey	B	Mountain Bluebird	b
Bald Eagle	t	Veery	b
Sharp-shinned Hawk	t	Swainson's Thrush	b
Cooper's Hawk	t	American Robin	B
Red-tailed Hawk	B	Gray Catbird	B
American Kestrel	t	Cedar Waxwing	B
Peregrine Falcon	t	Bohemian Waxwing	t
Ring-necked Pheasant*	b	European Starling*	t
Ruffed Grouse	b	Cassin's Vireo	t
Wild Turkey*	b	Warbling Vireo	b
Long-billed Curlew	t	Red-eyed Vireo	b
Killdeer	b	Yellow Warbler	b
Spotted Sandpiper	b	Yellow-rumped Warbler	t
Common Snipe	b	Townsend's Warbler	b
Ring-billed Gull	t	American Redstart	b
Rock Dove*	t	Ovenbird	t
Mourning Dove	b	Northern Waterthrush	b
Great Horned Owl	B	MacGillivray's Warbler	b
Common Nighthawk	t	Common Yellowthroat	b
Vaux's Swift	B	Wilson's Warbler	t
Calliope Hummingbird	b	Western Tanager	t
Black-chinned Hummingbird	t	Black-headed Grosbeak	b
Belted Kingfisher	B	Lazuli Bunting	b
Red-naped Sapsucker	B	Chipping Sparrow	b
Downy Woodpecker	B	Song Sparrow	b
Hairy Woodpecker	b	Dark-eyed Junco	b
Northern Flicker	b	Red-winged Blackbird	b
Pileated Woodpecker	b	Yellow-headed Blackbird	t
Western Wood-Pewee	b	Brewer's Blackbird	t
Willow Flycatcher	b	Brown-headed Cowbird	b
Least Flycatcher	b	Bullock's Oriole	b
Dusky Flycatcher	b	House Finch	b
Eastern Kingbird	B	Red Crossbill	t
Tree Swallow	B	Pine Siskin	t
Violet-green Swallow	b	American Goldfinch	b
N. Rough-winged Swallow	B	Evening Grosbeak	t
Bank Swallow	B	House Sparrow*	t
Cliff Swallow	t		

Appendix VI

Ecological Description of Owen Sowerwine and the Surrounding Area

The following excerpt on Owen Sowerwine and the surrounding island complex within the Flathead River system appears on pages 106-107 in the report *Ecologically Significant Wetlands in the Flathead, Stillwater, and Swan River Valleys* (Greenlee, 1999). The report details the vegetation types, noxious weed issues, and ecological significance of the area.

14 Flathead River Islands

Location

This series of islands occurs in the Flathead River immediately east of Kalispell, Montana. NOTE: Some of this site is on private lands, and landowner permission is needed to access these portions of the site.

Richness

Owen Sowerwine Natural Area and several nearby islands (which are being considered for natural area designation by the state) constitute the best examples of riparian shrub and forest communities left in the Flathead Valley. The islands occur in a section of the river where the stream gradient drops. As a result of this decrease in energy, a lot of bedload is deposited here, which causes the braiding in the river channel through this stretch. It is also likely that a large amount of upwelling occurs here, where it is thought that water flowing through the relatively permeable cobbles beneath the Flathead River and floodplain (i.e. the hyporheic zone) encounters the less permeable fine sediments of the Flathead River delta, forcing the discharge of the subsurface water into the river (Stanford and Ward 1993). Just below this braided section, the Flathead River makes a sharp bend to the east, following the Creston fault (Alt and Hyndman 1986). Each island in this stretch of river was formed at a different time in the past; this history is reflected in the spectrum of successional stages represented here. The sandbar willow (*Salix exigua*) and black cottonwood (*Populus balsamifera* ssp. *trichocarpa*)/recent alluvial bar communities are two of the early successional communities on the islands. Both are flooded annually. Sandbar willow was dominant in the former community, with heavy cover of streambank alder (*Alnus* sp.), bunchberry (*Cornus canadensis*), and narrow spiked reedgrass (*Calamagrostis inexpansa*). The black cottonwood/recent alluvial bar community was dominated primarily by a gravel and sand bar, with numerous cottonwood seedlings and various native and exotic annuals. Black cottonwood/red-osier dogwood (*P. balsamifera*/*Cornus sericea*) communities occur on some of the islands, and they are mid-successional cottonwood forests. They occur on older terraces on the islands and are flooded infrequently. These forests, if they don't experience any major disturbances like fire or channel movement, gradually become dominated by conifers as the cottonwood overstory dies and thins (Hansen et al. 1995). A spruce/red-osier dogwood (*Picea* sp./*Cornus sericea*) community, an example of such a late successional riparian community, occurs in Owen Sowerwine Natural Area. The two-types of forest communities mentioned above are in fair to good condition, with typical forest structure, but with an understory composition shifted to exotics or increasers in some areas. The last types of communities on the islands are those occurring in sloughs. Some sloughs are ancient channels crossing the high terrace of an island. They may be rarely flooded by surface water, but nonetheless have a high water table because of subsurface water. In one such slough I observed a water horsetail (*Equisetum fluviatile*) community in the deeper part of the slough, with a red-osier dogwood community in the shallower part of the slough. Other sloughs are younger and connected to the river via surface water. In one of these sloughs I observed a needle spikerush (*Eleocharis acicularis*) community on a mudflat. Associated species were a rush (*Juncus* sp.), wapato (*Sagittaria cuneata*), mare's tail (*Hippuris vulgaris*), common spikerush (*Eleocharis palustris*), and variegated horsetail (*Equisetum variegatum*). Beaked sedge (*Carex utriculata*) communities occurred in several of these sloughs, as did aquatic communities.

Key Environmental Factors

The riverine wetland communities on Owen Sowerwine Natural Area and the surrounding islands are all dependent on the hydrologic regime of the Flathead River. Gravelbars and sandbars created during floods are the substrate for future cottonwood forests. The hydrologic regime controls many of the vegetation patterns in this river corridor.

Rarity

No rare plant occurrences are known from this very dynamic riparian system, although a number of such species occur in some of the older sloughs nearby. Large intact examples of black cottonwood/red-osier dogwood communities are uncommon in western Montana, and the occurrence at Owen Sowerwine represents the best such example of such a community in the Flathead Valley because of its size, overall condition, and continued occurrence of natural processes such as flooding.

Other Values

The large, diverse riparian communities at Owen Sowerwine Natural Area, are extremely valuable in a number of ways. They provide important habitat for wildlife and fish. They also provide important wetland functions and services, such as the temporary storage of surface water, energy dissipation, maintaining characteristic subsurface hydrology, nutrient cycling, and particulate retention (Hauer 1998).

Condition

The current landuses on and around the islands are mostly limited to recreational uses like hunting, fishing, and birding. Some of the islands are in private ownership and have a number of homes built on them. Because of these and other nearby residences, human impacts like septic systems and dogs at large do occur. Timber harvest has also occurred on these same islands. Probably all but the wettest plant communities have been influenced by exotics to some degree. The cottonwood and spruce forest communities have been degraded in some areas by up to 30% cover of Canada thistle (*Cirsium arvense*), houndstongue (*Cynoglossum officinale*), and redtop (*Agrostis stolonifera*). In addition, reed canarygrass (*Phalaris arundinacea*) forms dense patches in some of the sloughs. The gravel bars support some exotic annuals as well as the noxious weeds spotted knapweed (*Centaurea maculosa*), St. Johnswort (*Hypericum perforatum*), and oxeye daisy (*Chrysanthemum leucanthemum*). The frequent flooding disturbance and good local seed sources make the islands extremely susceptible to invasive exotics. Exotic animals, such as brown headed cowbirds (*Molothrus ater*) and European starlings (*Sturnus vulgaris*), probably also use the islands. Exotic fish such as bullhead are also known from the Flathead River.

Uplands

The islands in this stretch of the Flathead River represent the remnants of a riparian corridor that was very large and diverse at one time. Urban and agricultural development on both sides of the Flathead River have resulted in numerous offsite impacts which undoubtedly affect this series of islands. Some of these offsite impacts include nutrient loading, bank instability, increased particulates, stream channelization because of levees and bridge approaches, and groundwater pollution. Hungry Horse dam influences river levels to some degree. Kerr Dam keeps Flathead Lake at full pool for longer than would occur naturally, and consequently backs water up the Flathead River longer than would occur naturally as well.

Information Needs

A complete noxious weed inventory for the islands should be carried out.

Management Needs

Further development on the islands should be regulated by all appropriate state and federal laws relating to wetlands and activities in floodplains. A noxious weed monitoring program should be established for the islands to detect any new occurrences of noxious weeds like leafy spurge (*Euphorbia esula*) or purple loosestrife (*Lythrum salicaria*).

Element Occurrence Information

<i>Picea sp/cornus stolonifera</i> forest	G3	S3S4
<i>Populus balsamifera ssp. trichocarpa/cornus sericea</i> forest	G3?	S3
<i>Salix exigua</i> ct	G5	S4
<i>Carex rostrata</i> herbaceous vegetation	G5	S5
<i>Equisetum fluviatile</i> herbaceous vegetation	G5	S5
<i>Cornus sericea</i> shrubland	G4	S3