

ORIGINAL PURPOSE To preserve a representative natural segment of the most arid ecosystem in British Columbia in Canada

OVERVIEW

Date established:	17 Dec. 1980	Location:	Adjacent to N end of Osoyoos Lake, 6 km NNW of Osoyoos
ORC #:	3100	Latitude:	49°05'N
Map number:	82 E/4	Longitude:	119°31'W

Total Area:	101 ha	Elevation:	280-610 m
Land:	100 ha		
Lake:	1 ha		

Access: Access by road from Highway 3A/97 north of Osoyoos. Turn off the Hwy onto Road 22. The north end of the ER can be accessed off of Meadowlark Lane, and the south end off of Black Sage Rd.

Biogeoclimatic Zone:	Bunchgrass (BG)
Biogeoclimatic Variant:	BGxh1 Okanagan Very Dry Hot
Ecosection:	Southern Okanagan Basin
Region:	Okanagan
Management Area:	South Okanagan

COMPOSITION

Physical: The reserve lies on the east side of the Okanagan Valley and contains three distinct landforms, the Okanagan River floodplain, gently sloping terraces above the floodplain, and the steep southwestern slopes of Inkaneep (Throne) Mountain. Soils of these landforms are, respectively, Gleysols, Chernozems, and Brunisols. Cliffs, talus slopes, prominent glacial fluting, and erratic boulders also occur. Except on the floodplain, soils tend to be sandy to gravelly and very well drained. Soil characteristics, aspect, and the rainshadow of the Cascade Mountains combine to make this area the most arid in Canada for plant growth.

Biological: The reserve is located within a very restricted life zone commonly referred to as the Osoyoos-Arid Biotic Area. This extends as two fingers into British Columbia from the United States, one up the Similkameen Valley to near Keremeos, the other up the Okanagan Valley to Okanagan Falls. Many species of arid land plants and animals occur only in, or have their centers of abundance within, this narrow, greatly impacted zone and are therefore rare or endangered in both a provincial and national context.

The diversity of habitats here results in 13 identifiable plant communities. Floodplain wetlands support emergent herbaceous associations dominated by either cattail, common reed, or great bulrush, and riparian shrubland dominated by coyote willow or by water birch-Mackenzie's willow-rose stands. These communities, interspersed with ponds and old river oxbows, provide nesting habitat for Mallards, Northern Pintails, Blue-winged and Cinnamon Teal, Canada Geese, Common Snipe, Black Terns, Common Yellowthroats, Yellow-

headed and Red-winged Blackbirds, Marsh Wrens, and the red-listed Yellow-breasted Chat.

The sandy terraces which make up the bulk of the reserve support three communities which have been influenced by 100 years of livestock grazing. These are the heavily grazed cheat grass-prickly-pear cactus-sand dropseed type, and the moderately grazed antelope brush-sand dropseed-red three-awn-needlegrass, and ponderosa pine-antelope brush communities. Five communities, mostly of limited extent, have been described on the rocky slopes and summit of Throne Mountain. Shrubby thickets dominated by sumac, occur on talus deposits at the foot of the mountain. Small benches, especially the seat of the “throne” from which the mountain gets its name, are inaccessible to cattle and support essentially pristine communities dominated by bluebunch wheatgrass and alkali bluegrass or ponderosa pine and bluebunch wheatgrass.

Common indicators of heavy grazing in the reserve are cheat grass, prickly-pear cactus, tumble-mustard, Russian thistle, Indian-wheat, low pussytoes, and diffuse knapweed. Showy wildflowers here include long-leaved phlox, death-camas, and shaggy fleabane. About 130 species of vascular plants have been recorded, of which at least 13 are rare in the province.

Typical birds recorded on uplands in the reserve are the Meadowlark, Eastern and Western Kingbird, Say’s Phoebe, Vesper Sparrow, Savannah Sparrow, Northern Flicker, American Kestrel, Magpie, Brown-headed Cowbird, Rock Wren and Gray Catbird. Rare birds which may occur here include the Canyon Wren, Grasshopper Sparrow, Sage Thrasher, and Burrowing Owl.

Several rare mammals restricted to the South Okanagan, for example the Pallid, Small-footed and Spotted Bats; Pocket Mouse, Harvest Mouse, and White-tailed Jackrabbit should occur at least intermittently. A cave used by bats is present on the south face of Throne Mountain. Rattlesnakes occur in rocky sites, and two reptiles of very restricted range in the province, the Western Skink and Short-horned Lizard, are expected to be present.

Several noteworthy insects are confined to the arid South Okanagan and should occur in the reserve. Examples include the Scorpion, Sun-spider and the native Mantid. The reserve harbours two genera of oribatid mites previously unrecorded in Canada and is the type locality for two newly described species.

MANAGEMENT CONCERNS

SIGNIFICANT SPECIES and ECOSYSTEMS	BC LIST STATUS	COSEWIC STATUS	CF PRIORITY
Badger	Red listed	Endangered (2000)	1
Yellow-breasted Chat	Red listed	Endangered (2000)	1
Burrowing Owl	Red listed	Endangered (2006)	2
Great Basin Pocket Mouse	Red listed		2
blue vervain	Red listed		2
Grasshopper Sparrow	Red listed		1
Idaho fescue-bluebunch wheatgrass association	Red listed		2

Lark Sparrow	Red listed		2
Night Snake	Red listed	Endangered (2001)	1
Pallid Bat	Red listed	Threatened (2000)	2
Ponderosa pine-smooth sumac association	Red listed		2
water birch – roses association	Red listed		1
prairie wedgegrass	Red listed		1
Canyon Wren	Blue listed	Not At Risk (1992)	4
flat-topped broomrape	Blue listed		2
Great Basin spadefoot	Blue listed	Threatened (2007)	1
hairgrass dropseed	Blue listed		2
false-pimpernel	Blue listed		2
Gopher Snake, ssp. <i>deserticola</i>	Blue listed	Threatened (2002)	2
Nuttall's Cottontail	Blue listed	Special Concern (2006)	2
Racer	Blue listed	Special Concern (2004)	2
Chiselmouth	Blue listed	Not At Risk (2003)	2
Spotted Bat	Blue listed	Special Concern (2004)	2
thyme-leaved spurge	Blue listed		2
Western Harvest Mouse	Blue listed	Special Concern (2007)	2

THREATS

- Climate Change:** Diversity within this arid landscape may be reduced due to changed climate. Those species adapted to the more dry aspects may out-compete those that require more moisture.
- Agriculture:** Vineyards border the reserve on north and south boundaries and overspray from irrigation is directed into the reserve.
- Forest health:** The fire department has brought vehicles into the reserve and hand dug fire guards, introducing invasive species and destroying the land's crust in the process.
- Non-native species:** Aggressive invasive puncture vine is mostly outside the reserve, but some is inside the south end. Long-spine sandbur is a species of concern and dalmation toad flax is also present in the south end of the reserve.
- Recreation:** Illegal camping occasionally occurs at the north end of the reserve. Activity disrupts the rattlesnakes and increases the risk of injury to people due to snake antagonism.
- Recreation:** Hiking is the most common recreational activity in the reserve. Illegal use of motorized recreational vehicles within the reserve is an unusual occurrence but can be very damaging, with the potential to spread weeds, destroy fragile crust, and antelope-brush plants. Access may also lead to poaching.
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**RESEARCH
OPPORTUNITIES**

Reports are available on regional fauna and land capability, and selected features of the reserve (plants and oribatid mites).

**SCIENTIFIC NAMES OF SPECIES MENTIONED IN THE HAYNES' LEASE ER
ACCOUNT**

Flora

antelope-brush (*Purshia tridentata*)
birch, water (*Betula occidentalis*)
bluegrass, alkali (*Poa juncifolia*)
broomrape, flat-topped (*Orobanche corymbosa* ssp. *mutabilis*)
bulrush, soft-stemmed (aka great bulrush) (*Schoenoplectus tabernaemontani*)
cactus, prickly-pear (*Opuntia fragilis*)
cattail, common (*Typha latifolia*)
death-camas, meadow (*Zigadenus venenosus*)
dropseed, hairgrass (*Sporobolus airoides*)
dropseed, sand (*Sporobolus cryptandrus*)
false-pimpernel (*Lindernia dubia* var. *anagallidea*)
fescue, Idaho (*Festuca idahoensis* ssp. *idahoensis*)
fleabane, shaggy (*Erigeron pumilus* var. *intermedius*)
grass, cheat (*Bromus tectorum*)
knapweed, diffuse (*Centaurea diffusa*)
needlegrass (*Stipa* spp.)
phlox, long-leaved (*Phlox longifolia*)
pine, ponderosa (*Pinus ponderosa*)
plantain, woolly (aka Indian-wheat) (*Plantago patagonica*)
pussytoes, low (*Antennaria dimorpha*)
reed, common (*Phragmites australis* ssp. *australis*)
spadefoot, Great Basin (*Spea intermontana*)
spurge, thyme-leaved (*Chamaesyce serpyllifolia*)
sumac, smooth (*Rhus glabra*)
thistle, Russian (*Salsola tragus*)
three-awn, red (*Aristida purpurea* var. *longiseta*)
tumble-mustard (*Sisymbrium* spp.)
vervain, blue (*Verbena hastata* var. *scabra*)
wedgrass, prairie (*Sphenopholis obtusata*)
wheatgrass, bluebunch (*Pseudoroegneria spicata*)
willow, coyote (*Salix exigua* ssp. *interior*)
willow, MacKenzie (*Salix prolixa*)

Fauna

Badger (*Taxidea taxus*)
Bass, Largemouth (*Micropterus salmoides*)
Bass, Smallmouth (*Micropterus dolomieu*)
Bat, Pallid (*Antrozous pallidus*)
Bat, Spotted (*Eudema maculatum*)
Blackbird, Red-winged (*Agelaius phoeniceus*)

Blackbird, Yellow-headed (*Xanthocephalus xanthocephalus*)
Catbird, Gray (*Dumetella carolinensis*)
Chat, Yellow-breasted (*Icteria virens*)
Chiselmouth (*Acrocheilus alutaceus*)
Cottontail, Nuttall's (*Sylvilagus nuttallii*)
Cowbird, Brown-headed (*Molothrus ater*)
Crappie, Black (*Pomoxis nigromaculatus*)
Flicker, Northern (*Colaptes auratus*)
Goose, Canada (*Branta Canadensis*)
Jackrabbit, White-tailed (*Lepus townsendii*)
Kestrel, American (*Falco sparverius*)
Kingbird, Eastern (*Tyrannus tyrannus*)
Kingbird, Western (*Tyrannus verticalis*)
Lizard, Short-horned (*Phrynosoma* spp.)
Magpie, Black-billed (*Pica hudsonia*)
Mallard (*Anas platyrhynchos*)
Mantid, Ground (*Litaneutria minor*)
Meadowlark, Western (*Stumella neglecta*)
Mouse, Great Basin Pocket (*Perognathus parvus*)
Mouse, Western Harvest (*Reithrodontomys megalotis*)
Myotis, Western Small-footed (aka Western Small-footed Bat) (*Myotis ciliolabrum*)
Owl, Burrowing (*Athene cunicularia*)
Phoebe, Say's (*Sayornis saya*)
Pintail, Northern (*Anas acuta*)
Racer (*Coluber constrictor*)
Rattlesnake, Western (*Crotalus oreganus*)
Scorpion (*Paruroctonus boreus*)
Skink, Western (*Eumeces skiltonianus*)
Snake, Gopher, ssp. *deserticola* (*Pituophis catenifer* ssp. *deserticola*)
Snake, Night (*Hypsiglena chlorophaea*)
Snipe, Common (*Gallinago gallinago*)
Sparrow, Grasshopper (*Ammodramus savannarum*)
Sparrow, Lark (*Chondestes grammacus*)
Sparrow, Savannah (*Passerculus sandwichensis*)
Sparrow, Vesper (*Pooecetes gramineus*)
Teal, Blue-winged (*Anas discors*)
Tern, Black (*Chlidonias niger*)
Thrasher, Sage (*Oreoscoptes montanus*)
Wren, Canyon (*Catherpes mexicanus*)
Wren, Marsh (*Cistothorus palustris*)
Wren, Rock (*Salpinctes obsoletus*)
Yellowthroat, Common (*Geothlypis trichas*)