NATIONAL NATURAL LANDMARK EVALUATION

Snake River Birds of Prey Preserve (IDAHO)

Columbia Plateau Natural Region

Salt Desert Shrub Theme

Black Greasewood, Playa and Valley Subtheme

November 1989

prepared for

U.S. Department of the Interior
National Park Service

by

The Nature Conservancy
Idaho Field Office
P.O. Box 64
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INTRODUCTION

The term salt desert shrub is used to describe a group of associations which occur in areas of low precipitation and saline or droughty soils (The Nature Conservancy et al. 1989). These areas are dominated by low growing shrubs and semi-shrubs of the goosefoot family (Chenopodiaceae). To adequately represent the range of diversity within the salt desert shrub theme it was proposed, in Phase I of the current study, to include two subthemes: Black Greasewood, Playa and Valley; and Low Shrub, Upland Salt Desert Shrub. Two associations are included in the former subtheme: black greasewood/saltgrass (Sarcobatus vermiculatus/Distichilis spicata var. stricta) and black greasewood/basin wildrye (Elymus cinereus). Both associations are characterized by a domination of widely scattered black greasewood and dense cover of either saltgrass or basin wildrye. This report evaluates a potential NNL site to represent the Black Greasewood, Playa and Valley Subtheme.

In the 1989 Phase II study, five Black Greasewood, Playa and Valley Subtheme sites were evaluated on the basis of illustrative character, condition, diversity, rarity, and value for science and education (Crawford et al. 1989). The following sites were evaluated: Snake River Birds of Prey Preserve (ID); Powder River - Hot Creek (OR); Lower Crab Creek Preserve (WA); Haines Rodeo Grounds (OR); and, Alkali Canyon (OR). On the basis of this evaluation, the Snake River Birds of Prey Preserve was chosen as the best example of this subtheme.

SITE CHARACTERISTICS

Location

Snake River Birds of Prey Preserve proposed NNL includes the alluvial terrace along the Snake River 3.2 km (2 mi) upriver from Swan Falls Dam, which is approximately 48 km (30 mi) air miles southwest of Boise, Ada County, Idaho. The approximate center lies at a latitude of 43^{O}11'30" north and a longitude of 116^{O}22'47" west. Lands within the proposed NNL boundary lie within Township 3 South, and Range 1 East. The U.S. Geological Survey topographic map coverage is available using the Sinker Butte, Idaho (7.5') 1948 quadrangle. The Murphy Quadrangle Surface Management Status map, 1:100,000-scale series, published by the Bureau of Land Management (BLM) also provides coverage.

The site is a private inholding within the Bureau of Land Management's Snake

River Birds of Prey Area and is located 48 km (30 mi) southwest of Boise, Idaho. From Boise, the Snake River Birds of Prey Preserve is accessed by traveling 16 km (10 mi) west on U.S. Interstate 84 to State Route 69. Proceed south on State Route 69 for 16 km (10 mi) to Kuna. Continue south from Kuna for approximately 29 km (18 mi), following signs to the BLM Snake River Birds of Prey Area and Swan Falls Dam. Proceed south for approximately 3.2 km (2 mi) on a dirt road, upriver from Swan Falls Dam, to the end; a foot trail leads from this point to the property, about 3.2 km (2 mi) upriver. It is advisable to carry BLM Surface Management Status or USGS topographic maps to facilitate access.

Figure 1. Location of Snake River Birds of Prey Preserve National Natural Landmark, Ada County, Idaho.

R 1 W R 1 E

Snake River
Birds of Prey
Preserve NNL

Boundary

A boundary was chosen to encompass the range in diversity of Black Greasewood, Playa and Valley Subtheme communities in Snake River Birds of Prey Preserve proposed NNL. The boundary is the minimum required to include an adequate representation of features needed in the Black Greasewood, Playa and Valley Subtheme. The NNL boundary follows topographic features on three sides and a biological boundary on one. On the west and south, the boundary follows the alluvial terrace along the Snake River. The eastern boundary follows the natural break between the cliffs to the east and the alluvial terrace. The north boundary follows the biological boundary between the black greasewood/saltgrass association and the riparian community.

The proposed Snake River Birds of Prey Preserve NNL lies in Section 6, T3S, R1E (See Figure 1, page 3).

Size

The total area contained within the proposed NNL is estimated to be 12.0 ha (29.6 acres). Area was computed using a Tamay Planix 5000 digitizing planimeter. The site lies within the ca. 43.4 ha (107.3 acre) Snake River Birds of Prey Preserve, which is a private inholding within the 12,950 ha (32,000 acre) Snake River Birds of Prey Area.

Description

The proposed Snake River Birds of Prey Preserve NNL, is an alluvial terrace along a dammed stretch the Snake River upriver from the Swan Falls Dam. The topography is generally flat to gently sloping, with an elevation of 709 m (2325 ft).

The alluvial fan is comprised of widely to densely scattered black greasewood with an almost complete ground cover of saltgrass. The dominant feature is the extensive and well-developed example of the black greasewood/saltgrass association in excellent condition (Figure 2). Vegetation of canyon slopes adjacent to the proposed NNL is composed largely of the shadscale/Indian ricegrass (Atriplex confertifolia/Oryzopsis hymenoides) association. Riparian vegetation bordering the reservoir behind Swan Falls Dam consists largely of bulrush (Scirpus acutus) and the exotic tree Russian olive (Elaeagnus angustifolia).

The climate of the Snake River Birds of Prey Preserve is typical of southwestern Idaho. Temperatures at Snake River Birds of Prey Preserve are lowest in January and the highest are in July. These generalizations are borne out by precipitation and temperature records from Deer Flat Dam approximately 48 km (30 mi) air miles northwest (Table 1).

Table 1. Average mean monthly and mean annual precipitation and temperature for the period 1951-1973 at Deer Flat Dam (NOAA, no date).

	Temperature				Precipitation		
	Mean Maximum		Mean Minimum		Mean		Percent Annual
Month	°C	°F	°C	°F	mm	ins.	%
January	0.9	33.6	-5.2	22.6	335	1.32	13.1
February	17.5	45.7	-2.9	26.7	206	0.81	8.0
March	12.3	54.3	-0.8	30.5	211	0.83	8.2
April	17.3	63.4	2.7	36.9	216	0.85	8.5
May	22.1	72.2	7.2	45.0	285	1.12	11.2
June	26.0	79.3	10.9	51.8	249	0.98	9.8
July	31.0	88.4	13.9	57.3	356	0.14	1.4
August	29.9	86.3	12.8	55.2	940	0.37	3.7
September	24.8	77.2	7.9	46.4	130	0.51	5.1
October	18.2	65.0	2.8	37.1	191	0.75	7.5
November	10.0	50.1	-1.2	29.9	302	1.19	11.9
December	4.4	39.9	-4.1	24.6	296	1.16	11.6
Mean Annual	15.0	63.4	3.7	38.7	2548	10.03	100.0

Figure 2. Location of the biotic community in the Snake River Birds of Prey Preserve proposed NNL.

Key to community:
1. Black greasewood/saltgrass assoc.

Plate 1. Black greasewood/saltgrass in the proposed Snake River Birds of Prey Preserve NNL.

Plate 2. Black greasewood/saltgrass in the proposed Snake River Birds of Prey Preserve NNL.

Plate 3. Slough adjacent to the proposed Snake River Birds of Prey Preserve NNL on the north.

Plate 4. Transition between shadscale and black greasewood/ saltgrass associations in the proposed Snake River Birds of Prey Preserve NNL.

Plate 5. Black greasewood/saltgrass association and visitor registration box at the proposed Snake River Birds of Prey Preserve NNL.

Plate 6. Visitor registration box at proposed Snake River Birds of Prey Preserve NNL.

Land Use and Present Condition

In general, the present condition of the recommended area is excellent. Natural values of the proposed NNL are currently being protected by being encompassed within a Nature Conservancy preserve. A limited amount of camping takes place in the preserve, but does not appear to affect the ecological values of the proposed NNL.

Although the region has a long history of grazing (Yensen 1982), little disturbance has taken place on the preserve in the recent past. The past grazing appears to have had little impact on the vegetation or the area has recovered since grazing was excluded.

There are no mineral claims located within the area and The Nature Conservancy will not mine the site. Few float-boaters and hikers use the area for camping with little impact resulting. The area is likely used by hunters in the autumn.

Anticipated Damage

The float-boater, day-hiking, camping, and hunting use is being monitored by The Nature Conservancy and if deemed necessary certain areas and/or uses will be restricted.

No mining claims have been established within the proposed NNL. The area has a high potential for sand and gravel deposits, however The Nature Conservancy has no plans to develop this resource.

Effects of Publicity

The recommended Snake River Birds of Prey Preserve is not expected to be sensitive to increased publicity. The only foreseen effect of publicity is that more of the public will learn of the area's nationally significant ecological values. Any increase in visitor use to the NNL is not expected to be great enough to impact the ecology of the area.

Ownership

All lands within the proposed NNL are owned by The Nature Conservancy, a national non-private conservation organization, and managed by their Idaho Field Office. Their address is as follows:

Idaho Field Office
The Nature Conservancy
P.O. Box 64
Sun Valley, ID 83353
208/726-3007

ANALYSIS

Significance

Like other western rangelands, much of the salt desert shrublands on the Columbia Plateau have been altered by livestock grazing. According to estimates by Clapp (1936), there has been a 70 percent reduction in grazing capacity on salt desert shrub ranges. However, the condition of the Snake River Birds of Prey Preserve is excellent. Snake River Birds of Prey Preserve is in the Black Greasewood, Playa and Valley Subtheme as defined by Phase I of the 1989 study (The Nature Conservancy et al 1989), and is the Columbia Plateau's best example of that subtheme, as evaluated in the 1989 Phase II study (Crawford et al 1989).

Recommendations

In my opinion, the site appears to be nationally significant and I recommend that it be designated as a National Natural Landmark.

Management Guidelines

Presently the area is used occasionally by float-boaters, campers, day-hikers, and hunters. This use appears to have little impact probably due to the infrequent use and the relatively tenacious nature of the strongly-rhizomatous saltgrass. The area is managed by The Nature Conservancy as a nature preserve and this use is currently consistent with the National Natural Landmark designation. Recreational use of the area should be closely monitored. If the impacts to the nationally significant ecological values of the area are being impacted, then certain areas and/or uses should be limited or prohibited.

An exotic tree, Russian olive, occurs in the adjacent riparian community. Control measures should be considered if it starts to become established in the NNL.

NNL designation would further enhance the Snake River Birds of Prey Preserve by highlighting the ecological significance.

General Background

Evaluator:

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Botanist, U.S. Forest Service, Wallowa-Whitman National Forest (1988)

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Information contained in this report is based on literature cited, interviews with Idaho Natural Heritage Program staff, and reconnaissance level field investigations during the spring of 1989.

Photographs and considerable information was provided by Bob Moseley, who inventoried the area while employed by The Nature Conservancy. A total of approximately seven days was spent researching and writing this NNL evaluation for the proposed Snake River Birds of Prey Preserve NNL.

REFERENCES

Clapp, E.G. 1936. The major range problems and their solutions. IN: The western range. U.S. Senate Document 199. Washington, DC: U.S. Senate. 1-70.

Crawford, R.C., J.S. Kagan, and R.K. Moseley. 1989. Final Report, Phase II, 1989 National Natural Landmark Ecological Themes. Report submitted to U.S. Department of the Interior, National Park Service, Pacific Northwest Region, Seattle, WA. 83 pp.

National Oceanic and Atmospheric Administration, Environmental Data Service. No date. Climatology of the United States, No. 20, Climate of Deer Flat Dam, Idaho.

The Nature Conservancy, Idaho Natural Heritage Program, Oregon Natural Heritage Data Base, Washington Natural Heritage Program. 1989. Final Report, Phase I, 1989. National Natural Landmark Project, Columbia Plateau National Natural Landmark Ecological Themes. Report submitted to the U.S. Department of the Interior, National Park Service, Pacific Northwest Region, Seattle, WA. 91 pp.

Yensen, D. 1982. A grazing history of southwestern Idaho with emphasis on the Birds of Prey Study Area. Snake River Birds of Prey Research Project. U.S.D.I., Bureau of Land Management, Boise, ID. 82 pp.

APPENDIX I

Common and scientific names of the vascular plant, mammal, amphibian, reptile and bird species of known or probable occurrence within the recommended NNL boundaries.

Flora of the proposed Snake River Birds of Prey Preserve NNL has not been thoroughly collected, described, or studied. The following species have been observed at the NNL.

Scientific name	Common name
TREES	
Elaeagnus angustifolia	Russian olive
SHRUBS	
Atriplex confertifolia	shadscale
Chrysothamnus viscidiflorus	green rabbitbrush
Sarcobatus vermiculatus	black greasewood
FORBS	
Opuntia polycantha	starvation cactus
Typha latifolia	cattail
GRAMINOIDES	
Agropyron spicatum	bluebunch wheatgrass
Bromus tectorum	cheatgrass
Distichilis spicata var. stricta	saltgrass
Elymus cinereus	Basin wildrye
Oryzopsis hymenoides	Indian ricegrass
Poa sandbergii	Sandberg's bluegrass
Scirpus acutus	Bulrush
Sitanion hystrix	bottlebrush squirreltail

Fauna

Faunal species have not been systematically studied or inventoried in the proposed Snake River Birds of Prey Preserve.
The following animal species are among those most likely to be found in the NNL:

Scientific Name	Common Name
AMPHIBIANS	
Ambystoma macrodactylum	long-toed salamander
Bufo boreas	western toad
Scaphiopus intermontanus	Great Basin spadefoot
REPTILES	
Sceloporus graciosus	sagebrush lizard
Sceloporus occidentalis	western fence lizard
Uta stansburiana	side blotched lizard
Eumeces skiltonianus	western skink
Cnemidophorus tigris	western whiptail
Charina bottae	rubber boa
Coluber constrictor	racer
Hypsiglena torquata	night snake
Masticophis taeniatus	striped whipsnake
Pituophis melanoleucus	gopher snake
Thamnophis elegans	western terrestrial garter snake
BIRDS	
Cathartes aura	Turkey vulture

Circus cyaneus	Northern harrier
Buteo swainsoni	Swainson's hawk
Buteo jamaicensis	Red-tailed hawk
Buteo regalis	Ferruginous hawk
Buteo lagopus	Rough-legged hawk
Aquila chrysaetos	Golden eagle
Falco sparverius	American Kestrel
Falco columbarius	Merlin
Falco mexicanus	Prairie falcon
Alectoris chukar	Chukar
Centrocercus urophasianus	Sage grouse
Columba livia	Rock dove
Zenaida macroura	Mourning dove
Bubo virginianus	Great horned owl
Asio otus	Long-eared owl
Asio flammeus	Short-eared owl
Aegolius acadicus	Northern saw-whet owl
Chordeiles minor	Common nighthawk
Phalaenoptilus nuttallii	Common poorwill
Aeronautes saxatalis	White-throated swift
Archilchus alexandri	Black-chinned hummingbird
Stellula calliope	Calliope hummingbird
Selasphorus rufus	Rufous hummingbird
Colaptes auratus	Northern flicker
Empidonax oberhoiser	Dusky flycatcher
Sayornis saya	Say's phoebe
Myiachus cinerascens	Ash-throated flycatcher
Tyrannus verticalis	Western kingbird
Eremophila alpestris	Horned lark
Tachycineta bicolor	Tree swallows
Pica pica	Black-billed magpie
Corvus corax	Common raven
Salpinctes obsoletus	Rock wren
Sialia currucoides	Mountain bluebird
Myadestes townsendi	Townsend's solitaire
Lanius excunitor	Northern shirke
Lanius ludovicianus	Loggerhead shrike
Vermivora celata	Orange-crowned warbler
Passerina amoena	Lazuli bunting
Pipilo chorurus	Green-tailed towhee
Pipilo erythrophthalmus	Rufous-sided towhee
Spizella passerina	Chipping sparrow
Spizella breweri	Brewer's sparrow
Pooecetes gramineus	Vesper sparrow
Chondestes grammacus	Lark sparrow
Amphispiza bilineata	Black-throated sparrow
Amphispiza belli	Sage sparrow
Passerculus sandwichensis	Savannah sparrow
Zonotrichia leucophrys	White-crowned sparrow
Plectrophenax nivalis	Snow bunting'
Sturnella negelecta	Western meadowlark
Euphagus cyanocephalus	Brewer's blackbird
Molothrus ater	Brown-headed cowbird

MAMMALS

Sorex cinereus	masked shrew
Sorex merriami	Merriam's shrew
Sorex preblei	Preble's shrew
Myotis yumanensis	yuma myotis
Pipistrellus hesperus	western pipistrelle
Eptesicus fuscus	big brown bat
Antrozous pallidus	pallid bat
Sylvilagus nuttallii	Nuttall's cottontail
Lepus townsendii	white-tailed jackrabbit
Tamias minimus	least chipmunk
Tamias amoenus	yellow pine chipmunk

Spermophilus townsendii	Townsend's ground squirrel
Spermophilus lateralis	golden-mantled ground squirrel
Thomomys talpoides	northern pocket gopher
Perognathus parvus	Great Basin pocket mouse
Dipodomys ordii	Ord's kangaroo rat
Dipodomys microps	chisel-toothed kangaroo rat
Peromyscus maniculatus	deer mouse
Peromyscus crinitus	canyon mouse
Deragnothus parvus	Great Basin pocket mouse
Onychomys luecogaster	northern grasshopper mouse
Neotoma cinerea	bushy-tailed woodrat
Microtus musculus	house mouse
Microtus montanus	montane vole
Microtus longicaudus	long-tailed vole
Lemmiscus curtatus	sagebrush vole
Canis latrans	coyote
Vulpes vulpes	red fox
Odocoileus hemionus	mule deer

Snake River Birds of Prey Preserve

National Natural Landmark Brief

Location: 48 km (30 mi) southwest of Boise, Ada County, Idaho

Natural Region: Columbia Plateau Natural Region

Size: 12.0 ha (29.6 acres)

Owner: The Nature Conservancy

Description: The Snake River Birds of Prey Preserve NNL, is an alluvial terrace along the Snake River upriver from Swan Falls Dam. The topography is generally flat, with and elevation of 709 m (2325 ft).

The alluvial fan is comprised of widely to densely scattered black greasewood (Sarcobatus vermiculatus) with an almost complete ground cover of saltgrass (Distichilis spicata var. stricta). The dominant feature is the extensive and well-developed example of the black greasewood/saltgrass association in excellent condition.

Significance: Like other western rangelands, much of the salt desert shrublands on the Columbia Plateau have been altered by livestock grazing. According to some estimates, there has been a 70 percent reduction in grazing capacity on salt desert shrub ranges. However, the condition of the Snake River Birds of Prey Preserve is in excellent condition. Snake River Birds of Prey Preserve is the Columbia Plateau's best example of the Black Greasewood, Playa and Valley Subtheme.

Land use: The proposed NNL is within the larger Snake River Birds of Prey Preserve, owned and managed by The Nature Conservancy. The preserve is a private inholding within the much larger, publicly-managed Snake River Birds of Prey Area.

Special conditions: None

Proposed by: Rexford C. Crawford, Washington Natural Heritage Program, Jimmy S.

Kagan, Oregon Natural Heritage Data Base, and
Robert K. Moseley, Idaho Natural Heritage Program. 1989. Phase I and II. Reports, 1989. National Natural Landmark Project, Columbia Natural Region Ecological Theme, National Park Service.

Evaluated by: Susan Bernatas, Natural Areas Ecologist, The Nature Conservancy, Sun Valley, Idaho. November, 1989

Designated:

Owner agreement: