

**YAKIMA NATION LAND MANAGEMENT PLAN  
FOR  
THE ARID LANDS ECOLOGY RESERVE**

The Department of Energy is currently in the beginning phases of relinquishing control over lands within the boundaries of the Hanford Nuclear Site (Hanford). The lands to be transferred or "excessed" form the Hanford "Crescent" and stretch from the White Bluffs area in the northeastern portion of Hanford north along the Columbia River, then west of Vernita Bridge, eventually linking into Rattlesnake Ridge and the Arid Lands Ecology (ALE) Reserve on the southwest. Figure 1. Several groups and agencies have expressed a desire to acquire portions of this vast area. These lands could end up under the control of other federal agencies, state and local governments, Indian nations, private individuals, or any combination thereof. The local counties want the land in private ownership as that would increase their tax bases. Agricultural interests would like to develop the area; environmental groups would like to manage significant areas and limit uses.

In 1943, Hanford was chosen as the location to develop the fuel for the first atomic bomb because of the site's remoteness and easy access to large quantities of water and electricity. In

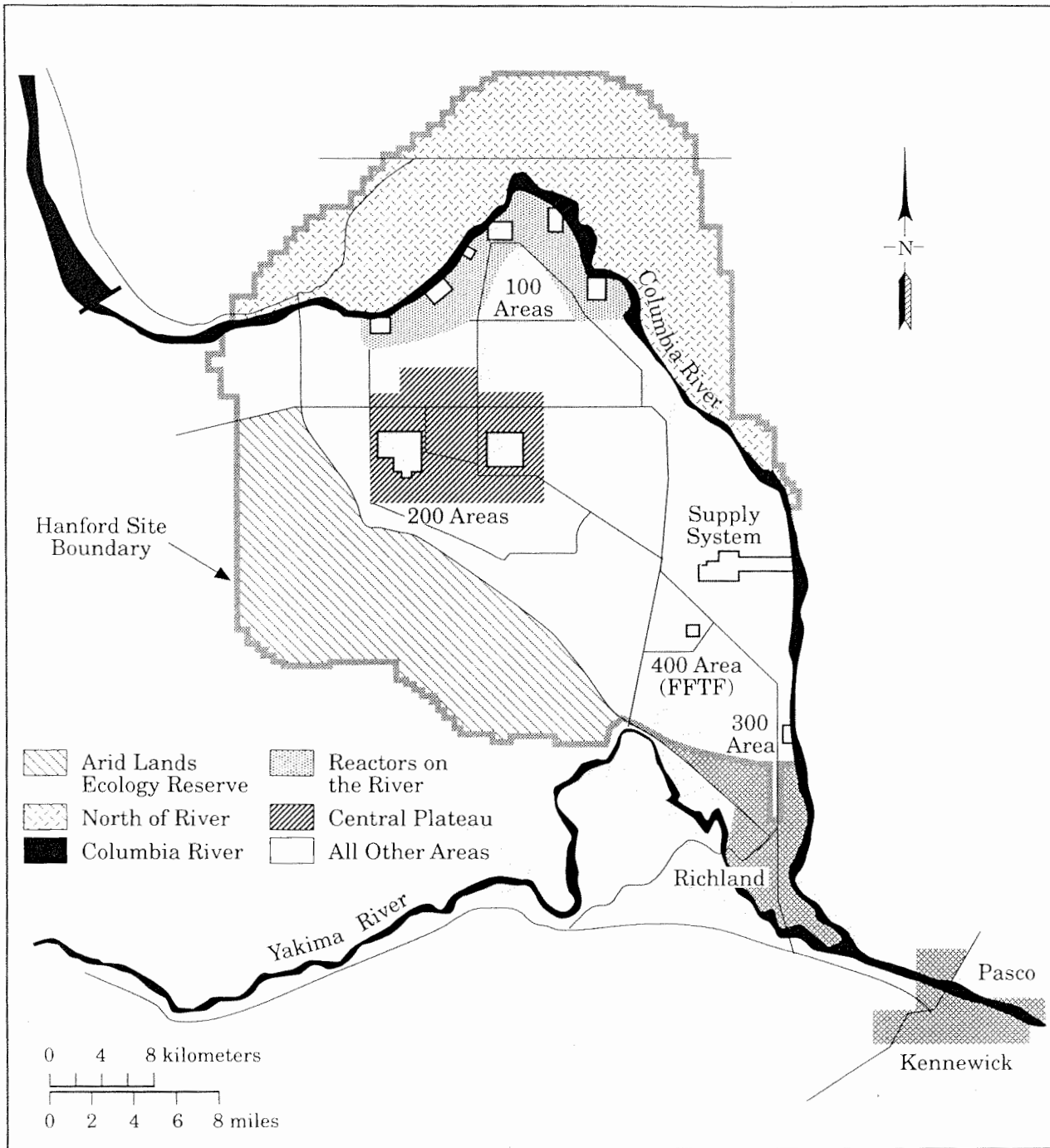


Figure 1

acquiring the land, some property was withdrawn from public domain, some was obtained from private owners. The current size of the Site is 562 square miles (360,000 acres).

During the 1980's, when the predominant mission of the Hanford Site began to change from one of nuclear material production and processing to one of decontamination and environmental restoration, a number of significant new policy directives were adopted by the Secretary of Energy. One of these involved the identification of uncontaminated lands such as ALE that were no longer needed to support the Hanford Mission.

The area between Route 240 and Rattlesnake Ridge, the ALE Reserve, was officially set aside in 1967. Originally, it was acquired as a buffer zone to keep the general public away from the hazardous nuclear material in the heart of Hanford. This 120 square mile area has remained uncontaminated and been used for ecological research by DOE contractors, primarily Battelle Northwest. ALE is dominated by Rattlesnake Ridge, a northeast facing anticlinal slope which reaches an elevation of 3,581 feet and forms the southwest portion of Hanford. The ridge overlooks the plain upon which the heart of the nuclear complex is concentrated. This ridge has provided the indigenous peoples with lithic materials, wild game, seasonal roots and berries, grazing land, and burial grounds. Rattlesnake Mountain is a sacred site and holds special significance to the Yakima people. It was there that Smowhalla was initially given power and a vision that formed the foundation of the Washat Religion which is still adhered to

today.

Hanford is located on land ceded to the U.S. government by the Fourteen Confederated Tribes and Bands of the Yakima Nation in the Treaty of 1855 (12 Stat. 951, June 9, 1855). Under the terms of that Treaty, the Yakima people retained many rights to these lands for such activities as hunting, fishing, and food gathering. However, these traditional lifestyle uses were disrupted by the actions of the government. In 1943, with the establishment of Hanford, the government restricted the ability of the Yakima people to exercise rights guaranteed them under the Treaty.

The Yakima Nation plans to manage the area as both a cultural preserve and a wildlife refuge. The ALE Reserve is rich in cultural resources significant to the Yakima Nation. ALE is an important source of many traditional foods and medicines, as well as a traditional site for cultural practices. ALE provides a location for the practice of traditional ceremonies, not only because of its physical characteristics, but also because of its importance as a site that was once used for these very activities. Many lands once used for these purposes have disappeared under the tidal wave of development.

At the time of the Treaty signing, the Yakima people's leaders negotiated long and hard with the United States, eventually securing many rights on lands outside the boundaries of the reservation. The leaders knew it would take a much larger area to support future generations than was retained in the reservation land base; as a result of the loss of shrub-steppe habitat from

development, agricultural activities, and cattle grazing, ALE is one of the few such remaining areas. Under the terms of the Treaty and the doctrine of trust responsibility established through many U.S. Supreme Court decisions over the last 200 years, the ALE Reserve is a legally protected place to exercise the rights guaranteed the Yakima Nation by the United States.

Depending on the status of the land at the time of acquisition by the U.S. government, excess property is disposed of by separate means. Former fee title lands enter into the Government Services Administration's (GSA) land disposal process. GSA offers the property to other government agencies at fair market value. If the property is not taken by any of those entities, it is eventually offered at public auction. Lands that were withdrawn from the public domain simply revert back to the public land managing agency, the Bureau of Land Management, when excessed.

## I. THE CULTURAL PRESERVE

Since time immemorial, the First Americans have been a part of the natural ecosystem of the ALE Reserve. Following the coming of EuroAmericans, use of the area by the indigenous peoples was severely curtailed, culminating with restriction of such uses when DOE's predecessors took over the area to build the fuel for the first atomic bomb.

That indigenous people used the area extensively in the past cannot be disputed. There are at least 49 prehistoric and 12 historic archaeological sites currently of record within the ALE Reserve. However, surveys have only been made near spring sites or along the ridge top; there have been no systematic surveys of the entire area.

The presence of stones with evidence of use in connection with food grinding in at least three of the sites indicates the importance this area may once have had for the procurement of traditional foods and medicines. Locations of rock cairns, quarries, rock alignments and depressions of unknown origin indicate that additional study may reveal information important to defining of indigenous people's settlement, subsistence and use patterns. Archaeological analysis has led to the suggestion that the area has undergone continuous use for over 10,000 years. A water impoundment at Rattlesnake Springs shows indications of use dating back 11,000 to 12,000 years.

Four ancient trail systems intersect at Rattlesnake Springs. Figure 2. These trails tie the ALE Reserve to subsistence and migration patterns of the original inhabitants, prior to EuroAmerican influence. By analyzing the information from known sites, archaeologists have integrated knowledge of hunting, fishing, camps, villages, burial locations and other culturally significant sites.

Rattlesnake Ridge is sacred and recognized as the birthplace of the Washat Religion. The great religious leader, Snowhalla, is known to have gone to the Ridge as a young man searching for direction. After fasting and abstaining from water for several days, he received a vision in which he was presented with a song and rituals which became the foundation for his teachings. However, even long before Snowhalla's time, Rattlesnake Ridge was considered a sacred location and a place where the people went to seek visions.

Under Yakima Nation management, Tribal members would be able to use this area for traditional and cultural purposes, as their ancestors did. In early spring, natural foods become available within the ALE Reserve. Traditionally, the Yakima women would climb the ridge and collect roots, then return to camp for cleaning and drying of these sacred foods. Since plants within ALE are some of the first to ripen anywhere in the region, they are considered "first foods" and play a major role in ceremonies of thanksgiving and respect for the Earth's continuing gifts of sustenance.

The ALE Reserve provided the Yakima people with traditional

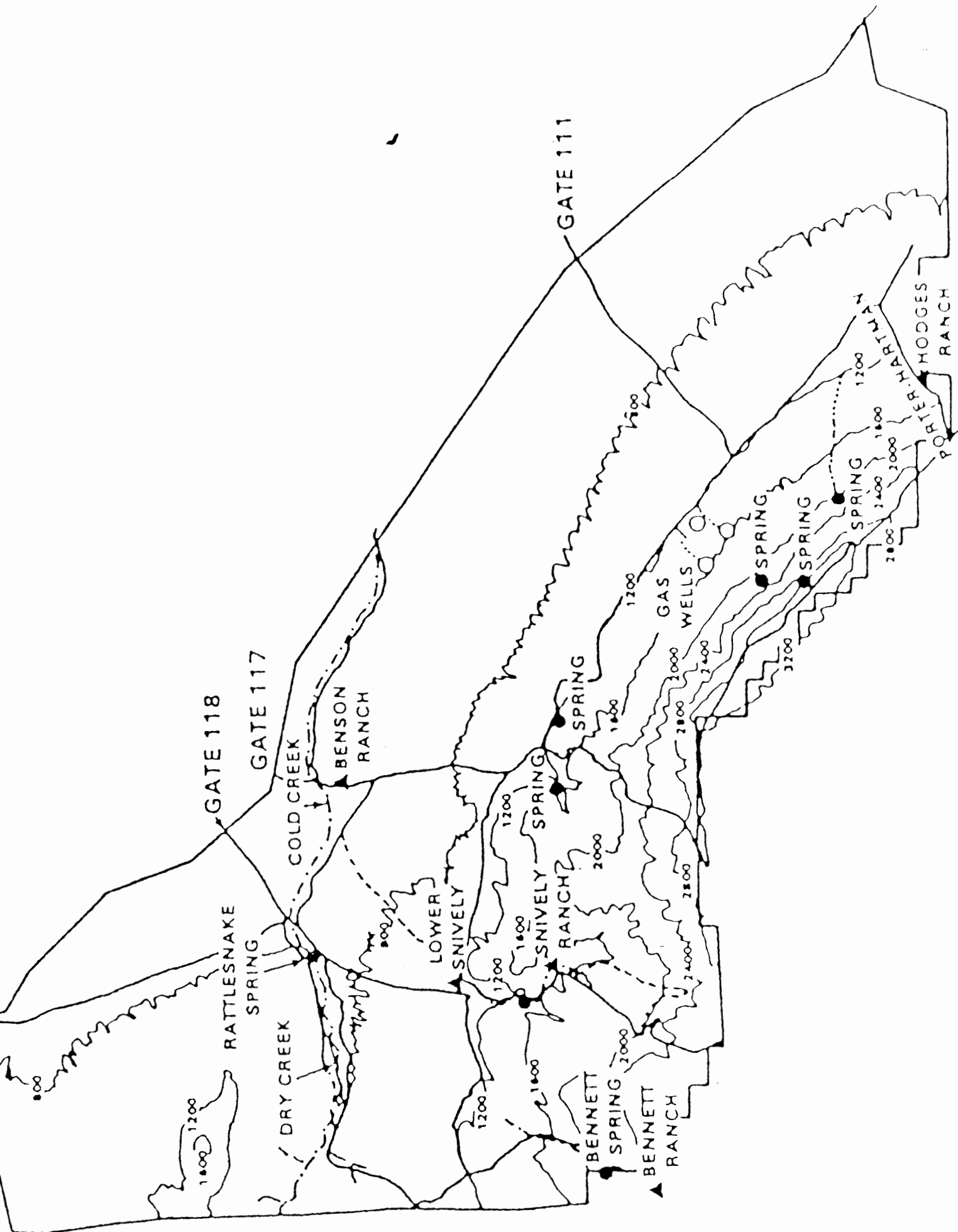


Figure 2

8



foods and medicines that were harvested throughout the year. Deer and elk augmented supplies of meat, clothes and tools not only during the warmer months but especially during the winter. However, information has disappeared with the passing of elders and restrictions in use. With the denial of access to ALE for 50 years, few elders are left who have the knowledge of the Reserve and utilized it for traditional purposes. Studies will be initiated to determine, in detail, past usage of the area. Knowledge that has been lost could potentially be recovered through careful examination of locations that were used by the ancestors. An integration of the experience of elders with that of the skill of archaeologists may reveal information that scholarly research alone could never learn.

Although usage would not be open, those with good reason could obtain a permit for entry into these lands. Access would be limited to people pursuing traditional use activities. The area would be maintained in as near a natural condition as possible, reflecting the central Washington ecosystem prior to devastation by exploitative land uses. Because of its near natural condition, the area is ideal for studies on the preservation and growth of indigenous plants, a matter of utmost importance to the culture of the Yakima people. By managing ALE as a cultural preserve, its continued protection would be assured.

Under these management goals, cultural practices would be carried out without interference from outside forces. There would be no interpretive signs, no guided nature walks, and no visitors

center. This would be a place where the Yakima people could come and exercise the beliefs and values that are essential to their being.

## II. THE WILDLIFE REFUGE

### A. Biological Characterization

In recognition of ALE's unique biotic character, DOE officially designated it a reserve in 1967 via an administrative order. In 1971, the ALE Reserve was named the Rattlesnake Hills Natural Area by federal interagency agreement, and in 1977 ALE was selected as one of several National Environmental Research Parks identified throughout the U.S.

From the late 1800's through the early 1940's, some 9,000-14,000 sheep were seasonally grazed each winter on the ALE lands. At the time of Hanford's federal designation in the 1940's, the predominant land uses of ALE included livestock grazing, homesteading, and gas drilling, as well as continued use by the indigenous peoples. Unofficial livestock grazing continued on parts of the ALE Reserve until 1968 when an exterior fence was completed. Since 1968, the predominant use of ALE Reserve lands has been for ecological research and monitoring by DOE and its contractors, and by universities under special arrangement with the Energy Department.

Shrub-steppe is an arid ecosystem dominated by grass/shrub climax communities. Wildfire, common in this ecosystem, often created large tracts of early seral stages typically dominated by grass/forb assemblages without a significant shrub component. The ALE Reserve, because of its special management history, still retains a significant component of native plant communities.

Extensive tracts of bluebunch wheatgrass (Agropyron spicatum) cover much of the higher elevations of the reserve. Other native grasses such as Sandberg's bluegrass (Poa sandbergii), Indian ricegrass (Oryzopsis hymenoides), Thurber's needlegrass (Stipa thurberiana), and Cusick's bluegrass (Poa cusickii) are found locally on the reserve. A variety of native forb species are commonly found associated with the dominant grasses on the ALE Reserve. Included among these are a host of species with significant and unique cultural value to the Yakima people. Table 1. Because of the tremendous loss of native shrub-steppe from southcentral Washington, many of the culturally-important plants found on the ALE Reserve are no longer found in any abundance outside the ALE boundaries. Thus, this area serves as a unique cultural reserve relative to food and medicinal plants.

The ALE Reserve also provides significant habitat for several species of vertebrate wildlife. Included among these are several bird species with limited abundances or distributions, such as Swainson's and ferruginous hawks (Buteo swainsoni) (Buteo regalis), golden eagles (Aquila chrysaetos), long billed curlews (Numenius americanus), sage sparrows (Amphispiza belli), and loggerhead shrikes (Lanius ludovicianus). A number of mammalian species also inhabit the ALE Reserve, including a unique herd of elk (Cervus elaphus), mule deer (Odocoileus hemionus), coyotes (Canis latrans), badgers (Taxidea taxus), bobcats (Lynx rufus), black tailed jackrabbit (Lupus californicus), and several small mammal species such as the relatively uncommon sagebrush vole (Lagurus curtatus).

In addition, a rich assemblage of shrub-steppe reptiles is found on the ALE Reserve. Many of these vertebrate species are also of great cultural significance to the Yakima people.

#### B. Management Philosophy

The overall management philosophy of the Yakima Nation relative to ALE reflects the unique historical relationship between the Yakima people and the natural landscape which has sustained them for thousands of years. The Yakima Nation fully recognizes the unique ecological setting of ALE and the limited and sensitive nature of shrub-steppe landscapes. Therefore, conservation and maintenance of the area's unique natural and cultural resources so as to ensure their existence for future generations is a goal of Yakima Nation management. The Nation recognizes that utilization of resources is compatible with conservation. However, it also recognizes that arid landscapes are extremely sensitive to human perturbation, and that wildlife populations in arid landscapes typically occur at such relatively low densities as to be very sensitive to human impacts. Therefore, prudent management will be a priority and will govern how and when ALE will be utilized by people. Given the scarcity of semi-pristine shrub-steppe landscapes, the Yakima Nation also recognizes that the research and monitoring values which were central to ALE's creation and management, and will continue to emphasize these values. Specific guidelines for ALE are outlined in the following management subsections.

### 1. Access

Because of the sensitive nature of the landscape, the Yakima Nation will manage public access to the reserve, including access by the Nation's members. The Yakima Nation recognizes the direct correlation between limited access which has characterized the reserve's recent historical management and the perpetuation of the unique values presently associated with the reserve. In order to maintain the biological and cultural integrity of the ALE landscape, a protocol designed to afford access without undue restrictions, while still affording resource protection and solitude, will be implemented. Access points will be through locked gates, maintaining the "restricted access" nature that has characterized the reserve's management during the last several decades.

### 2. Vehicle use

Specific areas of the ALE Reserve are accessible by primitive service roads; however, large areas of the reserve are largely unroaded. Off-road vehicle travel represents a source of significant negative impact to natural and cultural resource values associated with the ALE Reserve and, therefore, will be strictly regulated. However, in order to meet the needs of the people, particularly elders, requesting access to specific cultural areas of the reserve, vehicular access may be permitted.

### 3. Grazing

Livestock grazing practices in southcentral Washington have,

during the last several decades, dramatically impacted the vegetative characteristics of shrub-steppe plant communities in undeveloped areas. Livestock grazing has been largely responsible for changes from perennial native species assemblages to landscapes dominated by introduced, annual species which reduce the vigor of native perennial species. The exclusion of livestock from ALE has been a significant factor in the successful maintenance of semi-pristine shrub-steppe vegetation on the reserve. However, impacts from prior livestock grazing are still in evidence in specific locations on ALE. In recognition of the unique and limited natural and cultural resource values associated with the ALE Reserve and the sensitivity of the shrub-steppe landscape to grazing impacts, use of the ALE Reserve for livestock grazing will not be permitted. The Nation considers livestock grazing an incompatible use with the basic management philosophy emphasizing the conservation of existing natural and cultural resource values.

#### 4. Harvesting of Traditional Plants

From generation to generation, since time immemorial, knowledge concerning the uses of indigenous plants as foods and medicines has been passed down by the Yakima people. The re-establishment of this use on the ALE lands is a high priority with the Yakima Nation. Being able to exercise traditional rights in a location guaranteed by the Treaty of 1855 is considered a significant and appropriate event, especially given the uncompensated loss of Treaty rights which occurred when the federal government created Hanford. To assure the conservation and

perpetuation of the people's foods and medicines on ALE lands, pertinent species will be managed under the guidance of the Yakima Tribal Council, with input from Wildlife, Cultural Resources, and Range Management Programs. A program of monitoring and enhancing identified areas will enable the development of a plan to manage the plants for sustainable levels of harvesting activity commensurate with their known distribution and abundance.

#### 5. Big Game Hunting

The elk and deer populations on the ALE Reserve are at relatively low densities, largely unhunted in recent decades. The absence of significant hiding or escape cover makes these animals susceptible to human exploitation and overharvest. Still, hunting by the ancestors was an integral part of the ALE ecosystem. Further, hunting on "open and unclaimed land" is a significant right delineated in the Treaty. However, the ALE Reserve will not be open to general subsistence hunting by Tribal members. In conjunction with management of the cultural preserve, harvest of surplus animals will be permitted for special cultural and ceremonial purposes on a special request basis. A big game research and monitoring program will be implemented by the Yakima Nation Wildlife Resources Program.

#### 6. Non-game Wildlife Management

The many unique shrub-steppe wildlife species inhabiting the ALE Reserve will be managed by emphasizing protection and enhancement of existing animals. Research and monitoring programs will be implemented to identify sensitive and/or limited habitats,



and will provide information needed for species conservation and management. Special use restrictions on access or activity may be seasonally imposed to offer protection to wildlife. Efforts may also be pursued to re-establish extirpated native wildlife such as the sage grouse (*Centrocercus urophasianus*).

#### 6. Educational and Research Use

The Yakima Nation recognizes the value of ALE as a living shrub-steppe laboratory providing important opportunities for baseline monitoring of the Hanford landscape and basic research into a rapidly disappearing ecosystem. Thus, the Nation will actively promote research activities. A program offering educational and research opportunities for Native American students will be pursued in order to increase the number of such natural resource professionals. While the first priority for educational and research use will be to benefit Tribal members, use by non-Indian educators and researchers will be considered on a case-by-case basis. Contractual arrangements for special investigations or monitoring with federal agencies and their contractors, or colleges and universities, may be considered.

### III. SECURITY

It is the intent of the Yakima Nation to have an "on-site" residential ranger/manager at ALE to handle day-to-day regulation and supervision. This person would have Tribal and State law enforcement authority. Cooperative agreements with local law enforcement authorities would also be entered into for support. All pertinent laws of the Yakima Nation, the State of Washington and the United States, as well as all specific regulations enacted by the Yakima Nation for the preservation of the ALE area, would be strictly enforced. The Reserve will remain fenced, be posted against trespassing, and have locked gates. Security will patrol the area. Fire protection would continue in the current mode, with cooperative agreements between the Yakima Nation and all pertinent agencies.

The goal of Security is to make sure ALE retains its status and ability to function as a cultural preserve and a wildlife refuge. Thus, recreational use of the ALE lands will not be permitted. All users will be required to obtain a permit issued by the Yakima Tribal Council. Such permission is not meant to restrict cultural use and would only be used to control unauthorized, non-cultural usage. In conjunction with the stated management objectives, use of the area by non-Indians will necessarily be very limited in nature.

TABLE 1

A Partial List of Culturally Significant Vascular Plants of the  
Arid Lands Ecology Reserve/Rattlesnake Mountain.

K.A. Robson, Botanist, ER/WM

Trees & Woody Shrubs

<i>Amelanchier alnifolia</i>	Western serviceberry
<i>Artemisia tridentata</i>	Big sagebrush
<i>Artemisia tripartita</i>	Three-tip sagebrush
<i>Clematis ligusticifolia</i>	Western virgins-bower
<i>Cornus stolonifera</i>	Red-osier dogwood
<i>Crataegus douglasii</i>	Black hawthorn
<i>Eriogonum heracleoides</i>	Parsnip-flowered buckwheat
<i>Eriogonum microthecum</i>	Slender buckwheat
<i>Eriogonum niveum</i>	Snow buckwheat
<i>Eriogonum sphaerocephalum</i>	Rock buckwheat
<i>Eriogonum strictum</i>	Strict buckwheat
<i>Eriogonum thymoides</i>	Thyme-leaf buckwheat
<i>Philadelphus lewisii</i>	Mock-orange
<i>Physocarpus malvaceus</i>	Ninebark
<i>Populus tremuloides</i>	Quaking aspen
<i>Populus trichocarpa</i>	Black cottonwood
<i>Prunus virginiana</i> var. <i>melanocarpa</i>	Chokecherry
<i>Purshia tridentata</i>	Antelope bitterbrush
<i>Ribes aureum</i>	Golden currant
<i>Ribes cereum</i>	Squaw currant
<i>Rhus glabra</i>	Smooth sumac
<i>Rosa woodsii</i>	Wood's rose
<i>Salix amygdaloides</i>	Peach-leaf willow
<i>Salix bebbiana</i>	Bebb's willow
<i>Salix exigua</i>	Coyote willow
<i>Salix lasiandra</i>	Whiplash willow
<i>Salix scouleriana</i>	Scouler's willow
<i>Salvia dorrii</i>	Gray-ball sage
<i>Sambucus cerulea</i>	Blue elderberry
<i>Symphoricarpos albus</i>	Snowberry

Perennial, Biennial and Annual Herbs

<i>Achillea millefolium</i>	Yarrow
<i>Agastache occidentalis</i>	Western horsemint
<i>Allium douglasii</i>	Douglas' onion
<i>Allium macrum</i>	Rock onion
<i>Apocynum cannabinum</i>	Common dogbane
<i>Apocynum sibiricum</i>	Indian hemp
<i>Aquilegia formosa</i>	Red columbine
<i>Arabis sparsiflora</i>	Elegant rockcress
<i>Artemisia dracunculus</i>	Tarragon

<i>Balsamorhiza careyana</i>	Carey's balsamroot
<i>Balsamorhiza rosea</i>	Rosy balsamroot
<i>Brodiaea douglasii</i>	Douglas' cluster-lily
<i>Calochortus macrocarpus</i>	Sagebrush mariposa lily
<i>Castilleja thompsonii</i>	Thompson's paintbrush
<i>Chaenactis douglasii</i>	Hoary false-yarrow
<i>Collomia grandiflora</i>	Large-flowered collomia
<i>Comandra umbellata</i>	Bastard toadflax
<i>Crepis atrabarba</i>	Slender hawksbeard
<i>Cymopterus terebinthinus</i>	Turpentine spring-parsley
<i>Delphinium nuttallianum</i>	Upland larkspur
<i>Epilobium angustifolium</i>	Fireweed
<i>Epilobium paniculatum</i>	Tall willowherb
<i>Erigeron linearis</i>	Desert yellow-daisy
<i>Erigeron pumilus</i>	Shaggy fleabane
<i>Erysimum asperum</i>	Rough wallflower
<i>Fritillaria pudica</i>	Yellow bells
<i>Galium aparine</i>	
var. <i>echinospermum</i>	Bedstraw
<i>Geranium viscosissimum</i>	
var. <i>nervosum</i>	Sticky purple geranium
<i>Geum macrophyllum</i>	Large-leaved avens
<i>Geum triflorum</i>	Prairie smoke
<i>Helianthus cusickii</i>	Cusick's sunflower
<i>Heuchera cylindrica</i>	Lava alumroot
<i>Lewisia rediviva</i>	Bitterroot
<i>Linum perenne</i>	Wild blue flax
<i>Lithospermum ruderale</i>	Western gromwell
<i>Lomatium canbyi</i>	Canby's desert-parsley
<i>Lomatium dissectum</i>	Fernleaf desert-parsley
<i>Lomatium farinosum</i>	Coeur d'Alene desert-parsley
<i>Lomatium gormanii</i>	Gorman's desert-parsley
<i>Lomatium grayi</i>	Gray's desert-parsley
<i>Lomatium macrocarpum</i>	Bigseed desert-parsley
<i>Lomatium triternatum</i>	nine-leaf desert-parsley
<i>Lupinus leucophyllus</i>	Velvet lupine
<i>Mentha arvensis</i>	Field mint
<i>Mentzelia laevicaulis</i>	Blazing-star
<i>Mimulus guttatus</i>	Yellow monkeyflower
<i>Monardella odoratissima</i>	Coyote mint
<i>Nicotiana attenuata</i> (rare)	Coyote tobacco
<i>Opuntia polyacantha</i>	Prickly pear cactus
<i>Penstemon richardsonii</i>	Basalt beardtongue
<i>Perideridia gairdneri</i>	Gairdner's yampah
<i>Phlox hoodii</i>	Hood's phlox
<i>Phlox longifolia</i>	Longleaf phlox
<i>Plantago patagonica</i>	Indian wheat
<i>Potentilla arguta</i>	Tall cinquefoil
<i>Potentilla gracilis</i>	Slender cinquefoil
<i>Ranunculus glaberrimus</i>	Sagebrush buttercup
<i>Silene menziesii</i>	Menzies' catchfly
<i>Solidago canadensis</i>	Meadow goldenrod

*Urtica dioica*  
*Veronica americana*  
*Vicia americana*  
*Zigadenus venenosus*

Stinging nettle  
American brooklime  
American vetch  
Meadow death-camas

**Grasses, Sedges, Rushes, Cattails**

*Agropyron spicatum*  
*Elymus cinereus*  
*Oryzopsis hymenoides*  
*Phalaris arundinacea*  
*Phragmites communis*  
*Scirpus acutus*  
*Scirpus validus*  
*Sporobolus cryptandrus*  
*Typha latifolia*

Bluebunch wheatgrass  
Giant wildrye  
Indian ricegrass  
Reed canarygrass  
Common reed  
Hardstem bulrush  
Softstem bulrush  
Sand dropseed  
Common cattail

**Sources:**

Hitchcock, C.L. & A. Cronquist. 1973. *Flora of the Pacific Northwest*. Univ. of Wash. Press, Seattle.

Hitchcock, C.L., A. Cronquist, M. Ownbey & J.W. Thompson. 1964. *Vascular Plants of the Pacific Northwest*. Parts 2-5. Univ. of Wash. Press, Seattle

Sackschewsky, M.R., D.S. Landeen, J.L. Downs, W.H. Rickard & G.I. Baird. 1992. *Vascular Plants of the Hanford Site*. Westinghouse Hanford Co., Richland, WA.

Turner, N.J., R. Bouchard & D.I.D. Kennedy. 1980. *Ethnobotany of the Okanagan-Colville Indians of British Columbia and Washington*. B.C. Provincial Museum, Victoria.