

The Past and **Future Preserved** Sagebrush and Buncharasses © John Clement

The arid lands of south-central Washington harbor some of the last remaining shrub-steppe habitat in the state. Thousands of acres of land along the Hanford Reach and the Saddle Mountain National Wildlife Refuge became the Hanford Reach National Monument to protect rare plants, wildlife, and remnants of human history.

The 196,000-acre Monument is open, treeless country punctuated by steep rolling hills and canyons. Sagebrush, bunchgrasses, wildflowers, and a thin microbiotic crust cover hills and plains. The Monument lies in the rain shadow of the Cascade Mountain Range in one of the hottest and driest places in Washington State.

Since 1943, what are now Monument lands have been a safe haven for important and increasingly scarce natural and cultural resources. The lands were allowed to remain wild because they served as a security buffer for the top-secret Manhattan Project during World War II, which produced plutonium for atomic weapons. With limited human development and livestock grazing, native plants and animals have thrived, and a diverse archaeological record has been preserved.

The Monument contains shrub-steppe, riparian, and aquatic habitats that no longer exist or are declining in other areas of the Columbia Basin. These areas and surrounding lands support 725 vascular plant species—at least 47 of which are species of conservation concern—42 species of mammals, more than 200 species of birds, 9 reptile and 4 amphibian species, 45 species of fish, and over 1,600 species of insects.

The U.S. Fish and Wildlife Service (FWS) and U.S. Department of Energy (DOE) serve as joint stewards of the Monument.

Hanford Elk Herd

You might think elk are a creature of the forest. While they thrive there, they are really a plains animal. Historically, elk inhabited the arid Columbia Basin, but were hunted to extinction by 1850. In 1913, 50 Rocky Mountain elk from Yellowstone National Park were released in Yakima County, with additional releases into the Blue Mountains through 1930. In 1972, a band of five elk was spotted on the Hanford Site; by the early 1980's, elk had become firmly re-established here. Elk are frequently seen along Highway 240 in the Monument's Rattlesnake Unit.

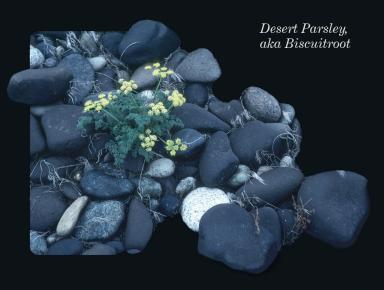
From this small beginning, the herd has grown dramatically. By 2018 (the last count), the herd was at around 1,100 elk. Elk are very successful on the Hanford Site; in most of the Northwest, there is around one calf to every five cows annually, but on Hanford, the average is as high as one calf for every two cows!

Management of the elk herd is an ongoing concern, as scientists, agencies, and Native American tribes work together to keep the herd at an appropriate level to avoid damage to fragile shrub-steppe habitats and agricultural concerns.



The elk on the Monument are among the largest found in the state—or anywhere else.

© Brian Moore



A Year of Wildlife and Plants

Each season brings new opportunities for visitors to enjoy wildlife, plants and the scenic beauty at the Hanford Reach National Monument.

Spring is one of the best times to visit

and the sky blue. In mid-March, the

The largest member of the sandpiper

family, this species bears an unmistakable

cinnamon underwings. A shorebird, the curlew is unique in that it nests

in grasslands. Other migratory birds,

native wildflowers begin their grand

with sunflower-like balsamroot, pink longleaf phlox, and purple-blue lupine.

display, covering hills and plains

such as the loggerhead shrike, sage thrasher, sage sparrow and Brewer's sparrow, also return to the shrubsteppe. These birds winter as far south as Argentina. In April and May,

the Monument. The sun is bright

long-billed curlews begin arriving.

seven inch-long curved bill and

Spring



Long-billed
Curlew
© Peter LaTourette

Summer

By June, the sun's increasing heat parches the soil, and many shrub-steppe plants cease to bloom. Along the river shore and islands, visitors likely will see flocks of American white pelicans, a state endangered species, as well as great blue herons, mule deer, coyotes, and beavers.

Fall

In late summer and early fall, large stands of rabbitbrush bloom yellow in upland areas of the Monument. In the Columbia River, the Hanford Reach supports some of the last remaining

spawning habitat for fall chinook salmon, known as "upriver brights."

The fall chinook salmon run is a premiere recreational fishery and is an important part of the Pacific Salmon Treaty between the United States and Canada. By October, fall chinook salmon complete their upriver migration to the Hanford Reach from waters as far away as Alaska and the Bering Strait in Russia. They spawn in rocky nests, known as "redds," in late October to late November.

Winter

Young sac fry

stay within the

relative safety

of the redd until

they develop into

such as this

fingerlings.

© Chris Huss

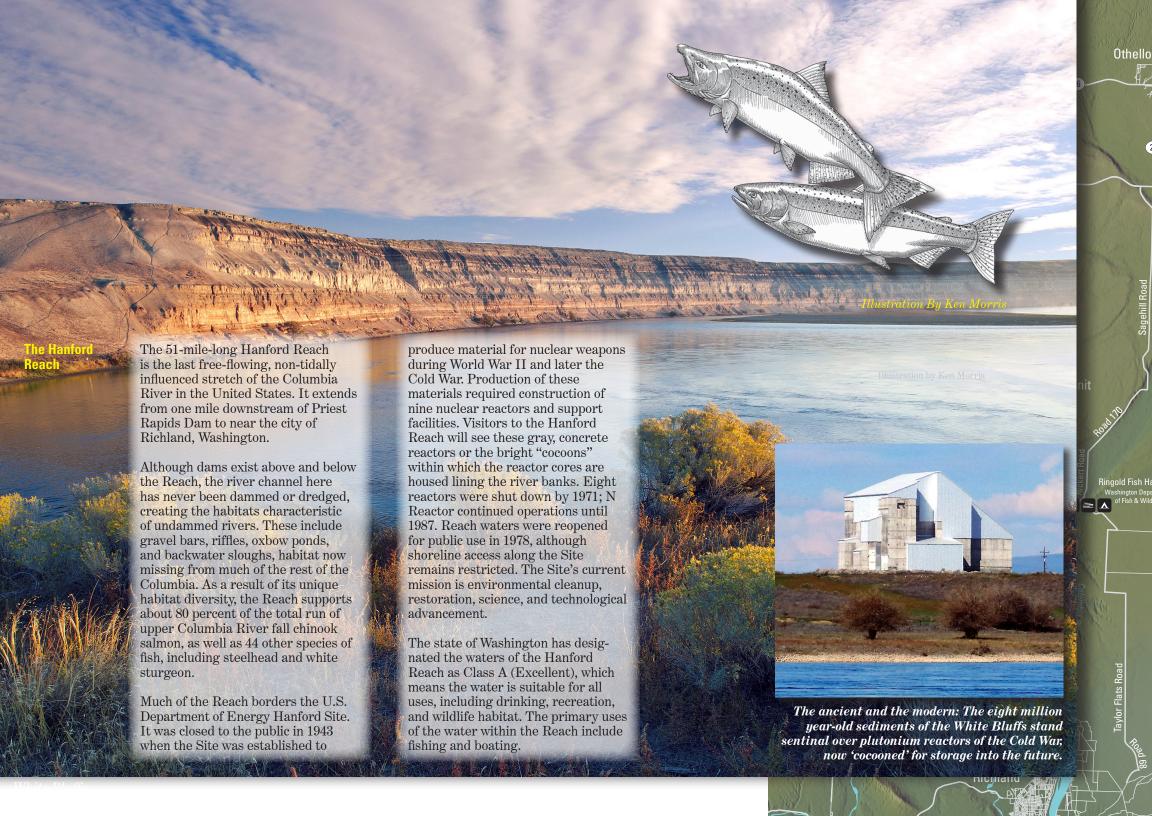
The Hanford Reach and surrounding wetlands provide important wintering habitat for bald eagles, roughlegged hawk and many species of waterfowl. Common species include mallard, green-winged teal, pintail, goldeneye and bufflehead. Listen for the familiar honk of western Canada geese as they fly over the Reach in large "V" formations.

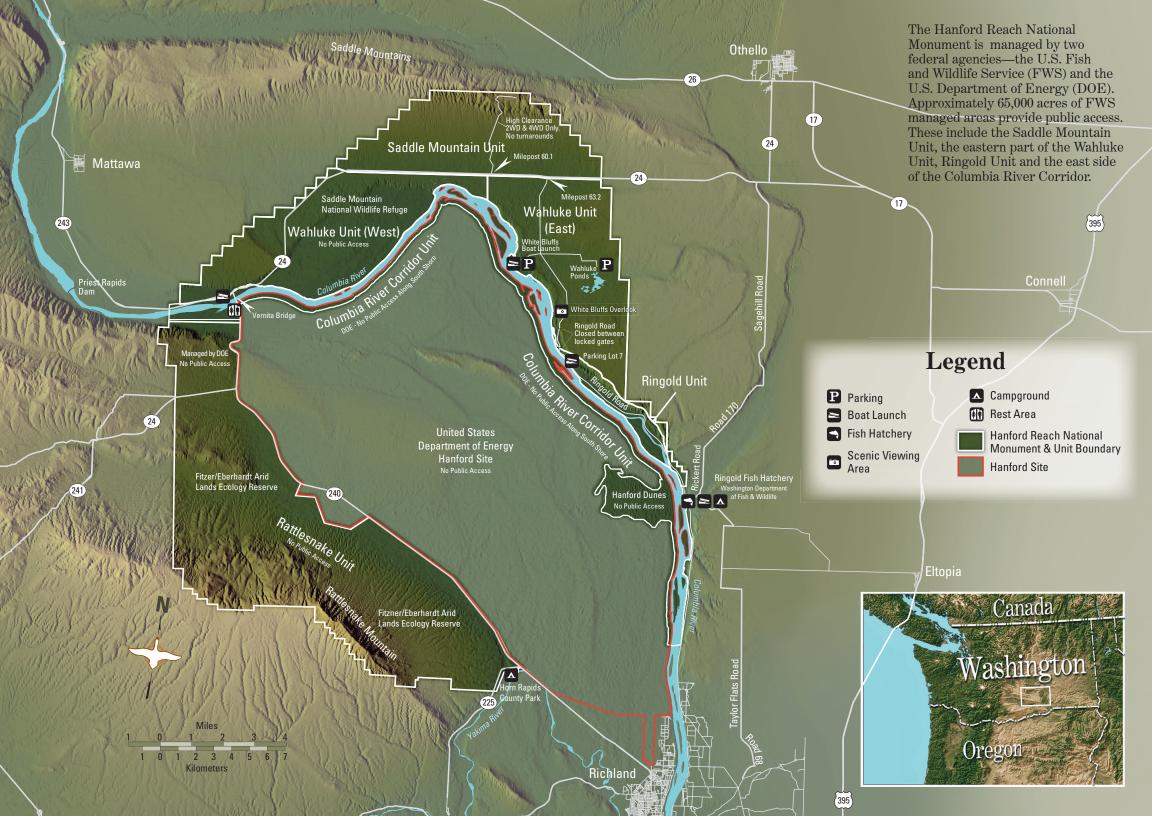


Horned Lizard

Prickly Pear Cactus
© William Radke









What do camels have to do with the Hanford Reach National Monument?

According to paleontologists. camels began evolving in North America millions of years ago. As land masses separated and climates changed. camels moved to warmer regions, eventually dying out in North America.. Fossil remains of camels and other prehistoric

Monument.

High Clearance 2WD & 4WD Only No turnarounds Saddle Mountain Unit

Milepost 60.1

animals have been found on the

Camel© Jaynee Levy

Saddle Mountain Unit

The 24,055 acre Saddle Mountain Unit includes the striated basalt

outcroppings of the rugged Saddle Mountains, This area has one of the highest concentrations of sage sparrows on the Monument. Loggerhead shrikes are also frequently seen hunting along the roadside. During spring migration, sandhill cranes can be heard passing overhead. Near the top of the mountain listen for the familiar "chuk chuk" of the chukar partridge. The views from the ridge are

Shooting Star © Nancy LaFramboise

National Wildlife Refuge, to the north.

spectacular and include the Columbia



Open to the Public



Sagebrush, an

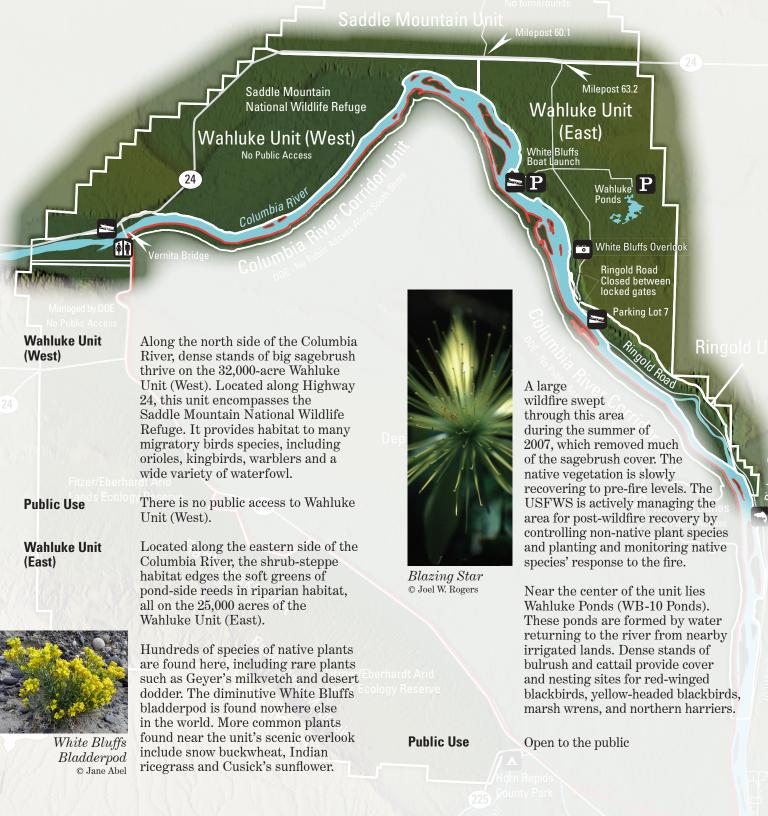
Exceptional

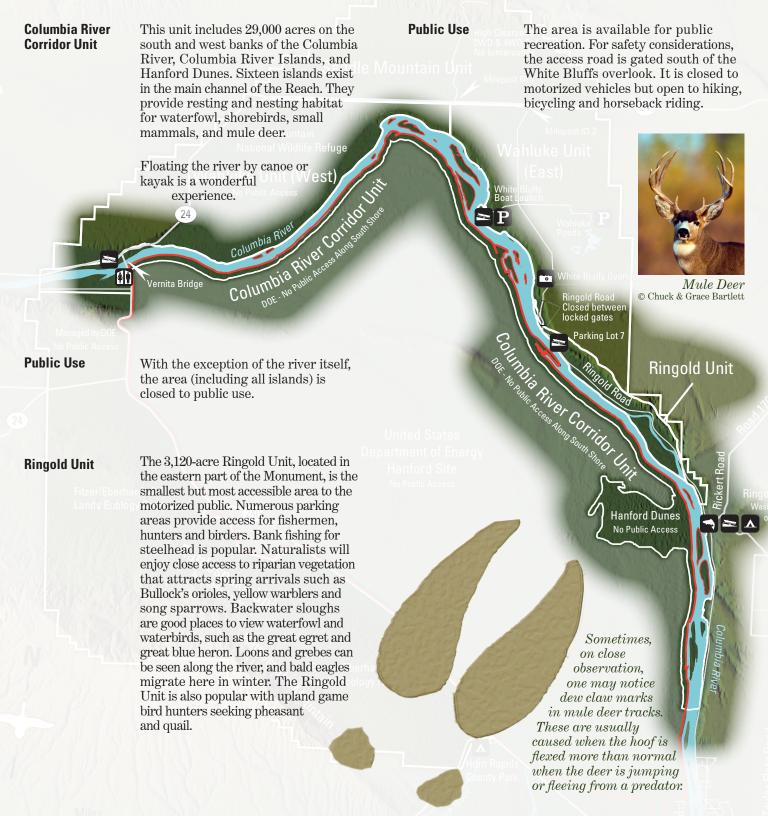
Sagebrush (Artemisia sp.) forms the structure of the shrubsteppe. However, sagebrush is not just one species of plant. There are 13 different species of sagebrush in western North America, and six of these exist at the Hanford Site! Some wildlife species are critically dependent on sagebrush for nesting, hiding and thermal cover. The sage sparrow, sage grouse and blacktailed jackrabbits are examples of sagebrush-dependent species.

Ailepost 63.2

Not all the shrubs at Hanford are sagebrush. Look closely to observe a wide diversity of shrubs in the shrubsteppe such as antelope bitterbrush, gray and green rabbitbrush, spiny hopsage, purple sage and black greasewood. Unfortunately, there is an introduced species, referred to as tumbleweed or Russian thistle that is also commonly observed. Tumbleweed is not a native shrub! None of our native shrubs break off or blow away in the wind.

Big Sagebrush © Joel W. Rogers





How did the Monument get its name?

In the late 1800's, sporadic efforts to irrigate the Columbia Basin mostly failed due to lack of funds and communal efforts, but in 1905, Judge Cornelius Hanford and a group of investors from Seattle brought permanent irrigation to the Columbia Basin under the Newlands Reclamation Act. In addition to forming the Priest Rapids Irrigation and Power Company, the speculators bought land at what was to become the town of Hanford. While the town was razed for the Manhattan Project, the name stuck. A "reach" is simply another name for a section of river, and so the Columbia River through the new Hanford Engineering Works became

Managed by DOE No Public Access Wernita Bridge Cornelius Hanford Courtesy University of Washington Archives Depa

Rattlesnake Unit



Western Meadowlark
© Peter Maudsley



Black-tailed Jackrabbit
© Marshal Hedin

River, the Rattlesnake Unit extends from State Highway 240 west up the steep ridges of Rattlesnake Mountain to its 3,660 foot summit, the highest point in the area. The Fitzner/Eberhardt Arid Lands Ecology Reserve, also known as ALE, makes up the bulk of this unit. To the north and west, the Umtanum Ridge is a former pioneer ranch area, providing habitat for rare plants, such as Umtanum desert buckwheat, Hoover's desert parsley and Kittitas larkspur.

Located south of of the Columbia

The ALE was originally set aside in 1967 by the U.S. Atomic Energy Commission to preserve native shrub-steppe vegetation. Wildfires in 2000, 2007, 2016, 2017 and 2018 devastated native plants, especially big sagebrush. The shrub-steppe ecosystem that is represented on the Rattlesnake Unit is presently being studied to determine the effects of repeated wildfires. The Service is working to restore sagebrush and grasses to the unit despite the constant threat of fire.

The unit is home to a herd of Rocky Mountain elk. Elk are grazers and thrive on the native grasslands of the ALE.

The Rattlesnake Unit is managed by the FWS and U.S. Department of Energy. No public Access.

Heidi Newsome

Management/ Public Use

County Park

Fitzner/Eberhardt Arid Lands Ecology Reserve

The Basin Through Time

For thousands of years people have depended on the "Chiawana" (Big River) to survive in the desert environs of the Columbia Basin. As



Historical photos provide some insight to the lifestyles found in fishing camps of the Wanapum and other tribes along the Columbia, Snake, and Yakima rivers. Krieger 1927 early as 10,000 years ago, the ancestors of today's Wanapum, Yakama Nation, Confederated Tribes of the Colville, Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce fished, hunted, and collected a variety of natural resources in the area. The abundant

salmon were complemented by upland roots, seeds, and game.

Seasonal gathering of resources, such as spring roots or fall chinook salmon, often required moving "camps." Tule (bulrush) mats were draped over willow poles for temporary shelter. In winter, shallow oval pits were dug and covered with poles draped with tule, willow, or hides, making for more permanent "housepit" villages along the Reach.

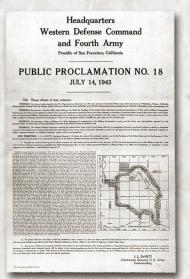


This log cabin, one of the oldest buildings in Franklin County, was part of the White Bluffs settlement.

1937 WPA photo, Louis Boeder

Several thousand
Native Americans
still occupied the
basin when Lewis
and Clark passed
just south of the
Reach in 1805.
Fur trading and
military posts gave
rise to the initial
settlement of the

area. The ferry crossing on the White Bluffs Road, likely once an Indian trail, was the hub of transportation for the region by 1860. Steam boats and wagons met here to transport supplies and gold between the coast and mines in British Columbia, Montana, and Idaho. About 1890, scattered homesteads appeared along the river banks. Families struggled to farm and raise stock. Promises of irrigation just after 1900 spurred spirits and growth in the White Bluffs, Hanford, and



In 1999, the

demolished

stacks of reactors

D and DR were

simultaneously

in a spectacular

scene, ending

one era and

ushering in

a new one.

DOE photo

Wahluke settlements. The Hanford Ditch, built in 1907, carried water from pumping stations along the river to anxious farmers. The arrival of a spur line of the Northern Pacific Railroad to Hanford in 1913 brought more families. Settlement continued through the Depression in the 1930s into the 1940s.

In 1943, the area was changed forever by World War II. The Hanford Engineer Works became a site for the top-secret Manhattan

Project. The government distributed proclamations to property owners, giving some residents only three days to pack up their belongings and move elsewhere. Between 1943 and 1963, nine plutonium production reactors were built on the site for national defense, and the land was off limits to everyone but those who worked there.

everyone but those who worked there.

The last of the nine nuclear reactors was shut down in 1987, and activities at Hanford shifted to environmental restoration and cleanup. Ironically, because of the nuclear age and its intense

secrecy, the land buffering the Hanford Site became a refuge for native plants, wildlife, and cultural artifacts. These are the resources that the Monument encompasses today.

From Plants to Prey

An

adult

green darner

dragonfly can

consume one

mosquito every

three minutes

and can reach

speeds up to 35

miles per hour.

The green darner

is Washington's official state

insect.

Scurrying through the grasses and shrubs is the most abundant small mammal in the shrub-steppe, the Great Basin mouse. The mouse and its cousin, the kangaroo rat, get their water entirely from the food they eat—seeds, grains and insects. In turn, these rodents serve as prey for owls, badgers and the most abundant predator, coyotes.

Darting over the shrub-steppe with a flash of iridescence are dragonflies and damselflies, the hawks of the insect world. Other insect species include brightly colored blister beetles, darkling beetles, sand wasps, wild bees, and several species of butterfly.

> The Monument's cold winters discourage the presence of heatloving amphibians and reptiles. However, you may spot a sideblotched lizard or short-horned lizard, both of which have adapted to the area. In the morning hours, they sun themselves on rocks. The area's only poisonous snake, the western rattlesnake, prefers basalt outcrops for warmth and protection.



WashingtonGround Squirrel © Chuck & Grace Bartlett



Ground Squirrel © Jane Abel



Marmot© Chuck & Grace Bartlett

Was that a prairie dog scurrying and barking before disappearing down its hole? Most likely not—a surprising variety of ground dwelling squirrels live in the Pacific Northwest, but not prairie dogs. Easily mistaken for prairie dogs, though, ground squirrels rely on the same grassland habitats and dig burrows underground for protection and to sleep away periods of little food or extreme heat and cold.

The Hanford Reach National Monument provides habitat for three species of ground squirrels. The Townsend's ground squirrel lives on the Rattlesnake Unit, the Washington ground squirrel can be found on the Saddle Mountain Unit and the yellow-bellied marmot resides on the Wahluke Unit. The Washington ground squirrel is a rare and declining species that is a candidate for listing as a threatened or endangered species.

Ground squirrels are very important components of ecosystems. They serve as prey for predators, reduce soil compaction, loosen and aerate soils, and increase the rate of water infiltration into soil. By bringing nutrients and buried seeds from deep soil layers to the surface, they increase soil fertility, plant diversity and productivity. Also, their burrows, and the holes dug by badgers pursuing them in their burrows, are reused by many species, including snakes, lizards, insects and burrowing owls.

Washington Ground Squirrel Pups © Gordon Warrick





 $Yellow ext{-}bellied$

Recreation Activities

Just south of Highway 24, within the Wahluke Unit (East), visitors will find scenic views of the White Bluffs and the site of the old White Bluffs Ferry Landing, which serves as the White Bluffs Boat Launch. North of Highway 24, a narrow, partially paved road leads to the crest of the Saddle Mountains for spectacular views of the Monument and Columbia National Wildlife on the other side. This road is not suitable for motor homes or trailers.

Boating

The White Bluffs Boat Launch provides a concrete boat ramp suitable for all but the largest motorboats. Unimproved gravel and earthen ramps within the Monument exist at Vernita Bridge, an area managed by the Washington Department of Fish & Wildlife (WDFW), and the old Hanford town site ferry crossing at Parking Lot 7. The Ringold Fish Hatchery, adjacent to the east side of the Monument, provides an unimproved launching area.

Kayaking and canoeing the Reach is rewarding any time of the year, but is especially enjoyable in the high heat of summer when wildlife concentrates along the river—look for porcupines sitting with tails in the water to cool off.



Camping

Although camping is not permitted on the Monument, camping is available at the Washington Department of Fish and Wildlife Ringold Fish Hatchery and the Benton County Horn Rapids Park near the Yakima River.

Fishing and Hunting

Fishing and hunting are permitted in public use areas during seasons

regulated by the WDFW and the FWS. For launching at the White Bluffs Boat Launch, access is allowed two hours before sunrise to two hours after sunset. All other



fishing access is from sunrise to sunset. For hunting, please consult Monument hunting regulations.

Hiking

The Monument has no designated hiking trails, but miles of service roads open to hiking. In areas open to the public, hiking is not confined to trails. Carry plenty of water—there is no potable water —be prepared for drastic weather changes, and be aware that restrooms exist only at the White Bluffs Boat Launch. Please pack out your trash.

Bicycling

Bicycles are permitted on roads that are open to motorized vehicles and also between the locked gates, just south of the White Bluffs Overlook, on the Ringold Road.

Observation and **Photography**

Wildlife observation and photography in open areas are encouraged, but use binoculars and long lens to keep your distance. Please stay out of closed areas to minimize disturbance to plants and animals.

Visiting Hours The public use areas of the Monument are open year-round for day use from sunrise to sunset. Regulations Open fires; camping or parking a vehicle overnight; off-road driving or bicycling; and collecting plants, animals, minerals, rocks and fossils are prohibited. Dogs are permitted only on leash in parking lots or when working as retrieving dogs during the hunting season. Archaeological, historical and cultural resources are federally protected. It is illegal and punishable by law to disturb or remove these resources from the Monument. Persons possessing, transporting, or carrying firearms on national wildlife refuges must comply with all provisions of state and local law. Persons may only use (discharge) firearms in accordance with refuge regulations. River of others are sometimes seen along the Columbia River; however, their tracks in wet sand are more likely to be seen than the animals themselves. Their hind feet are webbed, giving them greater speed when swimming after fish. Webbed feet are not as great a hindrance on land as one might think. Otters are capable of reaching speeds of

15 miles per hour on land.

© William Radke

Wildfire

In case of wildfire, dial 911.

Portions of the Wahluke Unit and the Columbia River are part of an emergency planning zone for the Hanford Site. In the event of a siren, tune a radio to the Emergency Broadcast Station (KONA, 610 AM or 105.3 FM) or marine band radio to channel 22. Personnel from the U.S. Department of Energy, U.S. Fish and Wildlife Service, and Benton and Franklin County Sheriffs' Offices also may

warn people to evacuate the area.

Washington, east of the Cascades. Other impacts could be changes to water availability and in how plants, birds, fish and other wildlife use and survive in the area. The Hanford Reach National Monument is joining a nationwide effort to monitor and

manage for such changes.

Climate Change

The most significant changes witnessed in the northwest United States during the past 50 years— and most notably the past 15 years—are higher summer temperatures and earlier spring snowmelt.

Scientists are finding that these trends are continuing and virtually all future climate scenarios predict increases in wildfire in western North America, especially here in

Hanford Reach National Monument 64 Maple Street Burbank, WA 99323 509-546-8300 hanfordreach@fws.gov www.fws.gov/national-monument/hanford-reach/

For National Wildlife Refuge System Information: 1 800/344-WILD www.fws.gov

U.S. Department of Energy 825 Jadwin A2-15 Richland WA 99352 509/372-1261 www.hanford.gov

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Equal opportunity to participate in end benefit from programs, and dethums of the 1/S. Fish & Wildrift Saylice is a validite to all individuals reparticipates of prysical program that incompletes consider the U.S. Departing in the International Conference of English programmers (MC Singer, NW, Washington, D.C. 2021)

Coyotes are great for keeping rodent populations in check. They are very adaptable and very intelligent. On occasion, they team up with badgers to catch prey; the badger digs in one entrance of a rodent burrow while a coyote waits for prey to exit from a second entrance. If the rodent is caught, coyotes will share the meal . . . sometimes.