

= Hart Lake ( Oregon ) =

Hart Lake is a shallow lake in the Warner Valley of eastern Lake County , Oregon , United States . The lake covers 7 @, @ 324 acres ( 29 @. @ 64 km<sup>2</sup> ) and has the most stable water level within the valley 's Warner Lakes chain . The lake is named for the heart @-@ shaped brand used by the pioneer Wilson and Alexander cattle ranch established near the lake . Much of the land around Hart Lake is administered by the Bureau of Land Management ( BLM ) and the United States Fish and Wildlife Service ( FWS ) . The lake and the surrounding wetlands support a wide variety of birds and other wildlife . Recreational opportunities on and near Hart Lake include hunting , fishing , bird watching , and boating .

= = Geography and geology = =

Hart Lake is located in the Warner Valley in south @-@ central Oregon . It is a natural lake that covers 7 @, @ 324 acres ( 29 @. @ 64 km<sup>2</sup> ) and is approximately 6 @. @ 5 miles ( 10 @. @ 5 km ) long and 2 miles ( 3 km ) wide . Annual precipitation in the Hart Lake basin averages from 15 to 25 inches ( 380 to 640 mm ) . The valley is approximately 60 miles ( 97 km ) long and 8 miles ( 13 km ) wide . Most of the valley is in Lake County ; however , the north end extends about 10 miles ( 16 km ) into Harney County . It is an alluvial basin containing numerous lakes , remnants of a single lake that covered the valley floor up to 200 feet ( 61 m ) deep during the Pleistocene epoch . Today , steep cliffs rise above a chain of endorheic lakes , such as Hart Lake , known collectively as the Warner Lakes . The valley has two regions commonly referred to as the South Warner Valley and the North Warner Valley . The two areas transition between Crump Lake and Hart Lake at a point where the valley narrows to about 5 miles ( 8 km ) in width .

= = Hydrology = =

The entire lake has an average depth of 5 feet ( 1 @. @ 5 m ) and a maximum depth of 11 feet ( 3 @. @ 4 m ) at a normal water level . The deepest part of the lake is at its north end , while the south half is comparatively shallow . Hart Lake not only gets the overflow from Crump Lake , but also receives a steady flow of fresh water from Honey Creek . As a result , Hart Lake has the most stable water level within the Warner Lakes chain . Any outflow during high water drains into Anderson Lake , just north of Hart Lake .

The water in Hart Lake is quite murky due to suspended particles stirred up from the shallow bottom by wave action . However , water clarity is not a good indicator of the lake 's trophic state . The amount of nutrients in the lake is very high ; nitrate and phosphorus levels indicate a hypereutrophic condition . This is counterbalanced by the chlorophyll level and related phytoplankton growth , which are typical of a mesotrophic lake . This is due to the reduced light level in the lake 's cloudy waters , so overall , the lake is classified as eutrophic , with very high turbidity .

= = Ecology = =

In addition to the lake 's fish population , Hart Lake provides a unique habitat for plants and animals along the shore . The west @-@ facing slope of Hart Mountain runs along the eastern shore of the lake . This area is typical high desert scrubland dominated by big sagebrush and desert grasses . The areas to the north , south , and west of the lake are mostly meadows and marshland , where marsh grasses are common along lake shores . In addition , willow , cottonwood , choke cherry , and wild roses are found near the lake . Local wildlife includes common high desert mammals , resident birds , and migrant waterfowl .

Hart Lake 's native fish species include the Warner sucker , tui chub , and Great Basin redband trout . The redband trout and small populations of the other species are also found in Honey Creek . These stream @-@ dwelling populations have likely been the source for re @-@ colonizing Hart Lake after extended drought killed the lake populations . In addition to the native fish , rainbow trout

, crappie , smallmouth bass , and bullhead catfish have been introduced into the lake . These non @-@ native species have put significant pressure on some of the native fish , which is why the Warner sucker is classified as threatened species . A 1996 fish survey estimated the total population of adult Warner suckers resident in Hart Lake at only 493 individuals . To help preserve and restore the lake 's threatened fish populations , the Fish and Wildlife Service developed a species recovery plan in 1998 .

There are 42 mammal species that live in the areas around Hart Lake . Mammals common in the Hart Lake shoreline and marshes include raccoons , striped skunks , and muskrats .

There are 264 species of birds that inhabit the area around Hart Lake or stop at the lake during migration . Species that nest near the lake include sandhill cranes , American white pelicans , double @-@ crested cormorants , willets , Wilson 's phalaropes , gadwalls , northern shovelers , American coots , western grebes , Clark 's grebes , black @-@ crowned night herons , Canada geese , mallards , and numerous other varieties of ducks and terns . In addition , white @-@ faced ibis , great white egrets , great blue herons , and American avocets are found in the marshes and along the lake shores . Just north of Hart Lake , at the Warner Wetlands Interpretive Site , there are bird observation blinds maintained by the Bureau of Land Management where American bitterns , black @-@ necked stilts , cinnamon teal , tundra swans , Brewer 's blackbirds , western meadowlarks , nighthawks , and several swallow varieties are commonly observed .

In the meadows and marshes around Hart Lake , dusky flycatchers , yellow warblers , orange @-@ crowned warblers , house wrens , and spotted towhees are common in the summer months . The larger birds common to the Hart Lake area include great horned owls , long @-@ eared owls , turkey vultures , prairie falcons , red @-@ tailed hawks , marsh hawks , golden eagles , and bald eagles .

= = History = =

Native Americans used the Warner Valley 's lakes and wetlands for thousands of years before the first white explorers arrived . The natives made petroglyphs along the eastern shore of Hart Lake , some of which are dated to 12 @,@ 000 years ago . The Greaser Petroglyph Site , approximately 3 miles ( 5 km ) southeast of Hart Lake , is listed on the National Register of Historic Places .

In December 1843 , Captain John C. Fremont led a party of explorers through the Warner Valley . Fremont and his party spent Christmas Day camped near Hart Lake . In honor of the date , Fremont named it " Christmas Valley " and the lake " Christmas Lake " . However , early mapmakers mistakenly plotted Christmas Valley 60 miles ( 97 km ) northwest of its actual location , leaving the valley and its lakes unnamed on early maps .

In 1867 , General George Crook decided to build a fort in the Warner Valley to prevent Indian raiding parties from passing through the area . To get his wagons across the wetlands , he had a bridge built across a narrow , marshy channel between Hart Lake and Crump Lake . Known as the Stone Bridge , the structure is listed on the National Register of Historic Places .

Hart Lake is named for the heart @-@ shaped brand used by the pioneer Wilson and Alexander cattle ranch . The ranch was established in the Warner Valley near Hart Lake prior to 1878 by Henry C. Wilson and his son @-@ in @-@ law C.G. Alexander . Later in the 19th century , much of the private land near Hart Lake was acquired by physician Bernard Daly and became part of his " 7T Ranch " . By 1916 , the 7T Ranch encompassed more than 7 @,@ 000 acres ( 28 km<sup>2</sup> ) north and west of Hart Lake .

Beginning with the earliest pioneer ranchers , water from Honey Creek was diverted for irrigation . By the 1930s , irrigation canals had significantly reduced the flow of water into Hart Lake . In most years , the diversions did not stop the flow into the lake . However , during periods of drought , the entire flow of fresh water was diverted , visibly lowering the water level in Hart Lake . The canal structures also impeded fish migration between the lake and Honey Creek 's habitat . In 1950 , a dike was constructed at the north end of the lake to increase its water holding capacity .

In the late 1980s and early 1990s , the Warner Valley experienced an extended drought , reducing the water in Hart Lake to a dangerously low level . In 1992 , the lake dried up completely . Before

the lake water had disappeared , the Fish and Wildlife Service captured a number of Warner suckers for temporary relocation . Upon the end of the drought , the fish were reintroduced in the lake . In 1998 , the FWS published a recovery plan for threatened fish species in the Warner Lakes system .

= = Recreation = =

Most of the land to the south and east of Hart Lake is privately owned . However , the Bureau of Land Management administers the 52 @, @ 033 @-@ acre ( 210 @. @ 57 km2 ) Warner Wetlands north of the lake . In addition , the land along the east shore is part of the Hart Mountain National Antelope Refuge , which is managed by the United States Fish and Wildlife Service . These public lands offer numerous recreational opportunities such as hunting , fishing , bird watching , boating , and camping . However , some of these activities are dependent on the water levels of the Warner Lakes , which can fluctuate dramatically .

Due to Hart Lake 's stable water level , it is usually available for fishing and boating . There are no developed campgrounds near Hart Lake , although dispersed camping is allowed on BLM @-@ administered lands adjacent to the lake . There is a day @-@ use recreation site at the north end of Hart Lake at Hart Bar . There are also public restrooms , sheltered picnic tables , and hiking trails at the Warner Wetlands Interpretive Site , north of Hart Lake .