

= Tualatin River National Wildlife Refuge =

The Tualatin River National Wildlife Refuge is a 1 @, @ 856 acres (751 ha) wetlands and lowlands sanctuary in the northwestern part of the U.S. state of Oregon . Established in 1992 and opened to the public in 2006 , it is managed by the United States Fish and Wildlife Service . Located in southeastern Washington County , 15 miles (24 km) southwest of Portland , the refuge is bordered by Sherwood , Tualatin and Tigard . A newer area , extending into northern Yamhill County , is located further west near the city of Gaston surrounding the former Wapato Lake .

Part of the network of National Wildlife Refuges (NWR) , the Tualatin River refuge is one of only ten urban refuges in the United States . Habitats in the refuge include forested areas , wetlands , oak and pine grassland , and meadows , with mixed deciduous and coniferous forests common to Western Oregon . The refuge was established as an urban refuge to provide wetland , riparian , and upland habitats for a variety of migratory birds , threatened and endangered species , fish and other resident wildlife . The refuge is home to nearly 200 bird species and more than 70 other animal species .

A visitor center with exhibits and information about the refuge was opened in 2008 off of Oregon Route 99W near Sherwood in the Portland metropolitan area . Next to the center is the refuge 's headquarters and an observation deck overlooking seasonal ponds . The refuge has nearly five miles of wildlife interpretive trails open to the public . Up to 50 @, @ 000 waterfowl can be seen at the refuge during the winter months when officials flood portions of the refuge .

= History =

The creation of the refuge was first proposed to the city of Sherwood by a local citizen in 1990 . A year later , the United States Fish and Wildlife Service began looking at creating a national wildlife refuge along the Tualatin River near Sherwood at Rock Creek . The original plans called for a 2 @, @ 500 @-@ acre (1 @, @ 000 ha) refuge near Sherwood and Oregon Route 99W and then grew to a 3 @, @ 000 @-@ acre (1 @, @ 200 ha) proposal that would have unconnected parts , with the additional wetlands near Scholls to the west . To press for the creation of the proposed Tualatin River National Wildlife Refuge , citizens groups lobbied Congress for funding , which included a video narrated by actor Robert Wagner . Initial estimates for the completion of the project were up to 30 years at a cost of USD \$ 10 million for land acquisitions .

In late 1992 , area residents Tom Stibolt and Lisa Brenner donated the first 12 acres (4 @. @ 9 ha) to the project , with the Fish and Wildlife Service then accepting the donation to officially create the refuge . They had purchased the 12 acres (49 @, @ 000 m2) of woodland which adjoined their own property and donated it to the refuge . Sherwood donated the second parcel to the refuge , 1 @-@ acre (0 @. @ 40 ha) in 1993 . Congress approved \$ 2 million for the project to purchase more land in November 1993 . In January 1994 , the Department of the Interior granted the Fish and Wildlife Service the authority to spend the money in order to begin buying land for the refuge . Congress gave the project an additional \$ 2 @. @ 5 million in 1995 .

In the early years , the facility was only open to the public for a songbird festival in May and National Wildlife Refuge Week in October . A program to restore the habitat to its original state began in 1997 . During that year , twenty water flow systems and dikes were added at the refuge to allow managers to flood parts of the land . The refuge grew from what was once a former dairy farm that spanned 400 acres (160 ha) to more than 800 acres (320 ha) by September 1998 . In the spring of 1999 , the \$ 1 @. @ 1 million system for flooding parts of the refuge was completed . In total , the refuge grew to 1 @, @ 066 acres (431 ha) in 1999 , and increased the number of bird species from 18 to 146 . The facility was further enlarged to 1 @, @ 268 acres (513 ha) in 2003 , and received nearly \$ 750 @, @ 000 to build a new safe entrance to the planned visitor 's area .

In November 2004 , Congress appropriated \$ 700 @, @ 000 for the NWR to cover the costs of designing a public visitor ? s center . By 2005 construction had progressed on public facilities at the site that included trails , observations decks , parking , and an entrance from Oregon Route 99W with plans for permanently opening to the public in 2006 . In July 2005 , the refuge received \$ 3

@. @ 9 million from the federal government to complete a visitor ? s center and new headquarters for the facility . In February 2006 , construction began on the main observation deck at the visitor ? s plaza , with plans to open the refuge to the public in June .

Regular public access began on June 3 , 2006 , when roughly 450 acres (180 ha) of more than 1 @, @ 300 acres (530 ha) of the refuge was opened on a permanent basis ; Construction on the visitor ? s center began later that month . In March 2007 , the Wapato Lake Unit was created to the west near Gaston . In the same month , the refuge received the 2007 Sunset Magazine Environmental Award , with the magazine honoring the refuge as a " preserved paradise " . The number of annual visitors to the refuge totaled 40 @, @ 000 in 2007 .

The Wildlife Center at the refuge was finally completed and opened in January 2008 . A dedication ceremony was held at the Wildlife Center on March 29 , 2008 ; 500 people attended the event including Congressman David Wu and author Richard Louv . In 2008 , the refuge had attracted 50 @, @ 000 birds in a single day , with 20 @, @ 000 birds wintering in the refuge . As of December 2008 , the federal government had spent \$ 10 @. @ 4 million on the refuge and it had grown to 1 @, @ 358 acres (550 ha) . The refuge submitted a proposal to start collecting user fees in February 2009 , with a planned start date of August 2009 . In December 2013 , the Wapato Lake National Wildlife Refuge was split out from TRNWF .

= = Natural environment = =

Before becoming a protected area , much of the land in the Tualatin River National Wildlife Refuge was agricultural , with hog and dairy farms , and crops such as corn (maize) and onions . Today , the refuge spreads out over ten miles (16 km) along the Tualatin River , Rock Creek , and Chicken Creek , and is managed in five main sections (units) : Rock Creek , Onion Flats , Riverboat , Tualatin River , and Atfálat ´ i .

The refuge also includes the Tonquin scablands created by the Missoula Floods to the southeast of the river . These scablands were scoured of the top layers of soil , leaving a marsh @-@ filled valley . There is also the Wapato Lake Unit approximately 15 miles (24 km) to the west . Located along the Pacific Flyway for migratory birds , this habitat includes seasonal wetlands , streams , forested wetlands , savanna , riparian zones , forested uplands , and the Tualatin River and portions of its floodplain .

The refuge is home to almost 200 species of birds , more than 50 mammal species , and 25 species of reptiles and amphibians . Tree species include red alder , aspen , maple , oak , Oregon white ash , Douglas fir , ponderosa pine , Pacific yew , and cedar . A pair of 350 @-@ year @-@ old oak trees can be found at the visitor center . Plant species in the refuge include bulrushes , wapato , water plantain , as Oregon grape , wild trillium , camas , iris , snowberry , cattails , wild millet , wild rose , thimbleberry , and others . Wildflowers include blue chicory , Douglas spirea , and purple crocuses .

Waterfowl at the refuge are great blue herons , Canada geese , wood ducks , swans , northern pintails , green herons , teals , mergansers , belted kingfishers , and American wigeons among others . Birds that spend time there include , sandhill cranes , Oregon juncos , wren , common starlings , blackbirds , nuthatches , Pacific @-@ slope flycatchers , red @-@ tailed hawks , American goldfinch , peregrine falcons , yellow warblers , western flycatchers , killdeer , northern harriers , osprey , egrets , quail , pheasants , golden @-@ crowned kinglets , owls , and black @-@ headed grosbeaks to name a few . There is also a pair of bald eagles . The year it was created officials counted 24 different bird species . By 2008 there were 185 birds species represented at the refuge .

River otter , beaver , nutria , mink , weasel , red fox , deer , elk , coyotes , raccoons , and rabbits make up a portion of the terrestrial animals . Other wildlife includes painted turtles , frogs , salamanders , crawfish , fish , and alligator lizards . The refuge is one of only ten national wildlife refuges in the United States located in an urban area . Groups have suggested that the refuge be expanded all the way to the Willamette River to provide a greenway through a heavily populated area . The Tualatin 's floodplain is the largest of any of the Willamette River ? s tributaries .

= = Amenities = =

Within the refuge only 450 acres (180 ha) of the Atfalut 'i Unit is open to the public . This section includes the visitor ? s center with the Wildlife Center and refuge headquarters . The Wildlife Center includes classrooms , a student lab , a gift shop , and informational displays , and is next to a grove of oak trees estimated to be 350 years old . Inside the center are murals , dioramas , and hands @-@ on exhibits , plus the classroom contains skins and skulls of wildlife that live in the refuge . From inside the center , visitors can view the scenery using a viewing scope through a large window overlooking the pond .

The 6 @, @ 300 @-@ square @-@ foot (590 m²) Wildlife Center was designed to give basic information and encourage visitors to then explore the wildlife in their natural habitats . The building is sienna in color and was built with a flat roof that has gravel on top to provide nesting habitat for birds , one of the features designed to be environmentally friendly . Built at a cost of \$ 4 @. @ 6 million , the Wildlife Center also has a large arced skylight and atrium in the center to provide lots of natural light . Builders used local wood in the Wildlife Center , which has large , exposed beams . The center and headquarters are adjacent to each other off Oregon Route 99W on a knoll above a seasonal pond .

Original plans called for a \$ 5 million headquarters and wildlife visitor ? s center . Refuge headquarters were previously in old farm buildings to the west on Roy Rogers Road . The new building was awarded honorable mention by the Department of the Interior in its 2008 Environmental Achievement Awards . It was designed to meet Leadership in Energy and Environmental Design standards at the silver level , but did not receive certification from the United States Green Building Council . The administration building and visitor structures were constructed by Wade Perrow Construction .

A variety of people @-@ oriented amenities are spread outdoors across the part of the refuge open to the public . One feature is an outdoor deck overhanging an embank that overlooks ponds at the refuge . This 50 @-@ foot (15 m) long concrete deck is of a cantilevered design that extends 30 feet (9 @. @ 1 m) over the embankment . Other amenities include footbridges , education sites , and walking trails . There are nearly five miles (8 @. @ 0 km) of trails , but they are closed in the fall and winter . Centennial and River are two of the viewing areas along the trails , each offering a place to view wildlife . Photographers have access to blinds which allow them to take pictures without disturbing the wildlife .

= = Wapato Lake Unit = =

Wapato Lake Unit is located about 15 miles (24 km) to the west of the main refuge , near the city of Gaston along Oregon Route 47 in Washington and Yamhill counties . The area was once the site of Wapato Lake , whose soil held an organic @-@ rich peat that sustained a shrub swamp ecosystem . The wapato plant (*Sagittaria fasciculata*) grew in the upper marsh of the Wapato Lake Basin and was harvested by Native Americans . In 1892 , attempts began to drain the 800 acres (320 ha) lake to increase farmland , with the Wapato Improvement District completing the effort in the 1930s . Valley forests , prairies , and wetlands encompass the region today , including two small streams , Ayers and Wapato creeks .

The government had hoped to add land in the Gaston area to the main refuge , but initially met resistance from local residents . Some residents later asked the government to buy their land for the refuge in 2000 . By 2002 , up to 6 @, @ 400 acres (2 @, @ 600 ha) were being studied in that area for inclusion into the wildlife refuge as part of the then uncreated unit . At that time the Fish and Wildlife Service owned 108 acres (44 ha) in the area , with plans to restore the lake if the unit was established . In March 2007 , the Service approved the creation of the Wapato Lake Unit with a boundary encompassing 4 @, @ 310 possible acres (17 @. @ 4 km²) . In June 2008 , the Wapato Lake Unit purchased its first sets of properties . Totaling 180 acres (73 ha) from three properties , the Fish and Wildlife Service paid \$ 631 @, @ 000 for the land using a grant from the Migratory Bird

Conservation Commission . An additional 15 acres (6 @. @ 1 ha) were added in September . Plans called for restoring the farmland back to its natural state and acquiring all land by 2011 .