

## INTRODUCTION

The Humboldt Wildlife Management Area (HWMA), also known as Humboldt-Toulon, is located in Pershing and Churchill counties, Nevada, approximately 10 miles southwest of Lovelock and 80 miles east of Reno/Sparks. The area that comprises the HWMA has a rich history of human activity starting as early as 2,000 B.C. with Native American tribes that occupied cave dwellings in the West Humboldt Range and hunted for wetland associated wildlife within the Humboldt Sink (Sink). In the early 1910s, numerous artifacts were discovered in the cave sites surrounding the Sink including the world's oldest (at over 2,000 years) known waterfowl decoy made from tules. During the mid 1850s, emigrants traveling West used the Emigrant Trail which travels along the west side of the Sink. The settlers would stop at what is now the Toy Railroad Siding to stock up on fresh water before beginning their trek across the Forty Mile Desert. In 1953, the Nevada Fish and Game Commission began efforts to create a state managed wildlife area within the Sink. Through a series of leases, purchases, land trades and donations, the HWMA was created and today comprises a total of 37,140 acres of land.

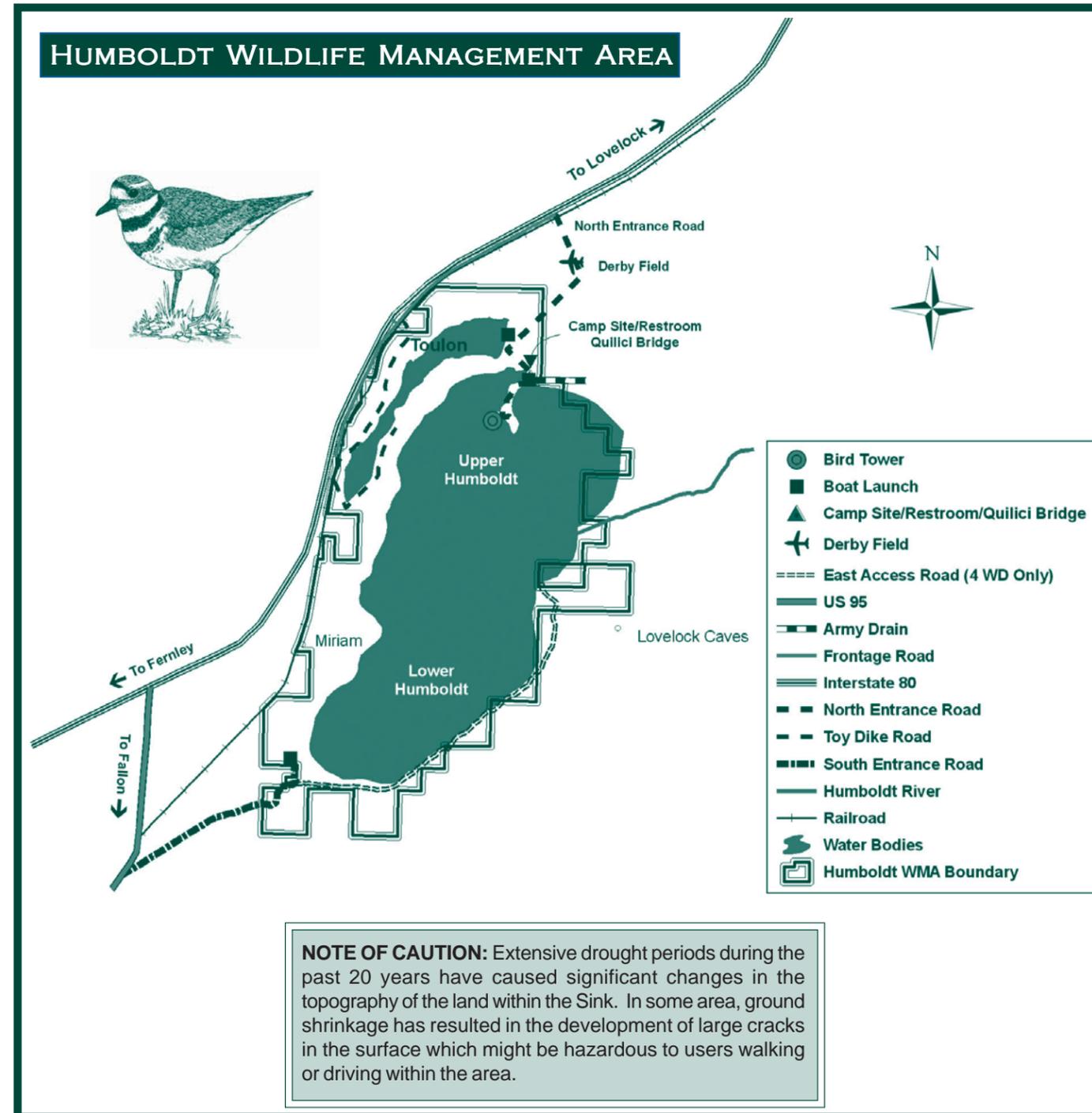
## HABITAT TYPES

The HWMA has a variety of habitat types ranging from very dry alkali desert scrub to open waters. The quantity of the various habitat types can vary tremendously due to erratic climatic patterns within the Great Basin that result in widely varying flows of water into the Sink. What this means for the area is that during wet cycles there may be up to 25,000 acres of open water and other wetland habitat while during extremely dry cycles the entire area may be completely dry.

## AREA MANAGEMENT

### Water Distribution

The primary water bodies in the HWMA are Upper Humboldt Lake, Lower Humboldt Lake and Toulon Lake. The primary source of water for Upper Humboldt Lake is the Army Drain which was constructed to assist with dewatering nearby agricultural lands and to provide for disposal of drain and irrigation return flows. The Army Drain enters Upper Humboldt Lake near the Quilici Bridge which is located on the north end of the lake body. If flows in the Army Drain are plentiful, the water will eventually spill over a small hydrographic divide into Lower Humboldt Lake. The primary water supply for Lower Humboldt Lake comes from the main channel of the Humboldt River which enters in the northeast corner of the lake body. When river flows are plentiful, the water will eventually inundate all of the areas within Upper and Lower Humboldt Lakes and will eventually spill through a water control structure that has been constructed at the south end of Lower Humboldt Lake. The primary water supply for Toulon Lake is the Toulon Canal which captures drain and return irrigation flows from the west side of the Lovelock Valley and delivers the water to Toulon Lake. The flows in the Toulon Drain can be highly variable and are dependent on the amount of irrigation water that is introduced into the system during the irrigation season. That quantity, in turn, is dependent on how much was available to the agricultural users during the season.



Opportunities to intensely manage water inflows onto the area are very limited at this point in time. Various options are being explored that would provide at least some level of reliable water to the area in most years.

### Invasive Plants

Invasion by non-native plant species, primarily salt cedar and tall whitetop, has become a major threat to the habitat types on the HWMA. The competitive nature of these plants and their ability to spread impacts the natural plant diversity and ultimately the diversity of wildlife on the HWMA. Although the presence of tall whitetop is a

concern, the invasion by salt cedar is of much greater concern due to its highly aggressive nature, its ability to quickly expand over large areas and its tendency to use large quantities of water during its life cycle. One only needs to take a brief look at the HWMA to see the tremendous impact salt cedar has had on the area. The good news is that some relief is on its way in the form of a leaf beetle that is providing impressive biological control of the salt cedar. At this time, managers are optimistic that an integrated program of beetle introduction, herbicidal treatment and controlled burning will provide an acceptable level of control.

## WILDLIFE AND FISH

The abundance of wildlife populations within the HWMA is highly dependent on the "boom/bust" precipitation cycles experienced in this geographical area. When water supplies are adequate to produce suitable habitat, the number and diversity of fauna within the HWMA can be nothing short of spectacular. While the boom/bust cycle of water availability can be disturbing to wildlife managers and nature enthusiasts, the climate induced wet/dry cycles tend to restore vigor to the wetland ecosystem which leads to superior wetland habitat conditions when water returns to the marsh. Under ideal habitat conditions, the area is capable of sustaining large and diverse populations of waterfowl, raptors, shorebirds, wading birds, resident songbirds and neotropical migrants. While we generally think of the Lahontan Valley Wetlands and HWMA as separate sites, from a bird migration and breeding perspective, these two sites are intimately connected. In fact, there are times when the two terminal wetland systems are literally linked by floodwaters, primarily those flowing down the Humboldt system. Thus, HWMA serves as a valuable support role in sustaining both migratory and breeding waterfowl, shorebird and wading bird populations for which the more renowned Lahontan Valley Wetlands are so highly recognized.

### Waterfowl

Waterfowl are the most conspicuous wildlife on HWMA. Under ideal conditions, the shallow waters in the Humboldt and Toulon Lakes provide excellent feeding conditions for the many dabbling and diving ducks that frequent the area. More than 21 species of ducks have been recorded on the area with the most common species being pintail, green-winged teal, wigeon, mallard and Northern shoveler. Diving ducks make up only about 10 percent of the total duck use on the area with canvasback, redhead and ruddy ducks being the most common diving species observed. Duck populations generally reach their highest levels during the fall and spring migration periods while the lowest numbers have been recorded during drought conditions when habitat was very limited.

The Canada goose is the most common goose species found on HWMA and can be seen throughout the year when habitat conditions are suitable. The geese frequently use the adjacent agricultural areas for feeding and then return to the large lake bodies on the area to roost. The HWMA is a favorite site for tundra swan during the late fall, winter and early spring periods primarily due to the tremendous food source provided by massive beds of sago pondweed that grow in the larger lakes.

American coot inhabit the area in huge numbers and are the most abundant game bird found on the area with surveys documenting in excess of 100,000 birds in some years.

### Upland Game and Mammals

The HWMA does not support large numbers of upland birds; however, the tamarisk stands and grasslands near the edges of the area do sustain limited numbers of ring-necked pheasant. California quail also use some of the alkali desert scrub and riverine habitats on the area. Modest numbers of chukar inhabit the West

Humboldt Range, which lies immediately east of the area, and occasionally use the lake areas as water sources.

The dense stands of tamarisk and willow provide attractive cover habitat for a small population of mule deer that take advantage of the adjacent farm fields as a reliable and abundant feed source.

Occupying the riparian corridor and open lakes are a variety of furbearers including beaver, mink, and muskrat. Beaver frequently use tamarisk to disrupt the flow of water entering the area, demonstrating their ability to adapt to the use of non-native vegetation. A fair population of kit foxes and bobcats also find a favorable living environment and abundant prey in the dense vegetation.

## NONGAME WILDLIFE

A variety of birds, mammals, reptiles, amphibians and fish inhabit the HWMA.

Various wading birds use HWMA for both migration and breeding. The area has been documented as a nesting site for white-faced ibis since 1973. Nesting pair numbers range from zero in severe drought years, to as high as 1,420 pairs in 1997 when the area was experiencing very good habitat conditions. Great blue herons, black-crowned night herons, great egrets, snowy egrets and cattle egrets also nest on the HWMA when conditions are favorable.

Shorebird populations are most numerous during the fall and spring migrations. However, use of HWMA by migrating shorebirds is extremely variable from year to year depending on area water levels as influenced by climatic cycles. Breeding shorebird species include American avocets, black-necked stilts, snowy plovers, killdeer and long-billed curlew. Wilson's phalarope, spotted sandpiper and common snipe also have the potential to nest on the area in very small numbers. Except during the extremes of flood or total desiccation, HWMA generally provides abundant mud flats and shallow water areas that are attractive to migrating and breeding shorebirds for foraging and resting.

When water levels remain fairly constant and fish populations in the various lakes have been able to thrive, HWMA provides important foraging habitat for a diverse array of fish-eating birds,

including Western grebe, Clark's grebe, pied-billed grebe, eared grebe, double-crested cormorant, American white pelican, California gull, ring-billed gull, Forster's tern and Caspian tern. HWMA provides particularly valuable foraging habitat for the American white pelicans that nest on Anaho Island in Pyramid Lake. Brood-rearing white pelicans routinely commute daily from Anaho Island to areas of shallow waters more conducive to their fishing techniques. HWMA is well within the pelicans' commute radius, and is actually closer via air miles than many of the similar wetland units in the Lahontan Valley.

A variety of raptors use HWMA during all seasons. Nesting species of raptors on or near the area include the great horned owl, burrowing owl, red-tailed hawk, Swainson's hawk, ferruginous hawk, Northern harrier and American kestrel. Golden eagles and prairie falcons nest on the bluffs and tufa outcrops in the hills on the southern margin of the Sink, and use the HWMA for foraging. Bald eagles, rough-legged hawks, ferruginous hawks, merlins and short-eared owls are frequent winter visitors to the WMA. Peregrine falcons use the area during migration, feeding primarily on shorebirds present when conditions are suitable.

Extensive surveys of the passerine bird community at HWMA have not been conducted. However, it is known that the emergent wetland habitat supports breeding populations of yellow-headed blackbird, red-headed blackbird, marsh wren, common yellowthroat and song sparrow. The extensive stands of tamarisk likely support populations of horned lark, brewer's blackbird, Western meadowlark, mourning dove, barn swallow, bushtit, Western kingbird and loggerhead shrike since that habitat segment has been shown to support those species in other areas.

A variety of small and medium-sized mammals use the HWMA. These include carnivores such as coyote, striped skunk, spotted skunk, long-tailed weasel and badger. Antelope ground squirrels, pocket gophers, deer mice, grasshopper mice and other small rodents live in the non-wetland habitats and are preyed upon by birds of prey and other animals.

The most common reptiles observed at the HWMA include zebra-tailed lizard, Great Basin gopher snake, Western ground snake and even an occasional Great Basin rattlesnake. Two species of particular interest that inhabit the interface between the dry salt desert scrub uplands and the riparian strip of the Humboldt River are the long-nosed leopard lizard and the red coachwhip snake.

## FISH RESOURCES

The presence of fish within the HWMA is sporadic due to the great fluctuations in water levels resulting from changing climatic conditions. High water levels can result in fish being flushed from the Humboldt River system and into the lakes on the WMA. When climatic conditions continue to provide adequate water supplies, fair numbers of warm water fish can exist in the lakes for a limited period until the waters recede. Game fish species include channel catfish, white catfish, white bass, yellow perch, largemouth bass, smallmouth bass, white crappie and walleye.

Nongame fish species are also subject to the radically changing habitat conditions in the HWMA; however, some of the smaller species may be present on the area when other larger

species of fish have perished due to the poor habitat conditions. Some of the nongame species that may be present include Tahoe sucker, Lahontan redbreast shiner, Asiatic carp and mosquito fish.

## PUBLIC USES

### Hunting

Waterfowl hunting is the predominant form of hunting that occurs at HWMA. When habitat conditions are favorable, the area can be host to tremendous flocks of waterfowl that are pursued by hunters from across Nevada. Because of the size of the area and relatively light hunting pressure, the area is open to hunting every day of the hunting season. As with any wetland that contains large bodies of water, the best hunting at HWMA occurs when inclement weather forces the birds to leave the large, open bodies of water to seek cover in more protected locales. When water levels are suitable, many hunters use airboats, long-shaft boats and other types of water conveyances to improve their access to the large bodies of water.

Upland bird hunting is very limited with a small amount of activity related to the pursuit of ring-necked pheasant and California quail that inhabit some of the more dense vegetative stands on the area.

Although some mule deer inhabit the area, there doesn't seem to be a lot of interest in hunting the area – probably due to the almost impenetrable stands of tamarisk that are used by the deer. Hunters interested in hunting deer on the area are advised that the HWMA lies within Big Game Management Unit 043. Hunters are encouraged to review NDOW's current regulation brochures prior to hunting at HWMA.

### Fishing

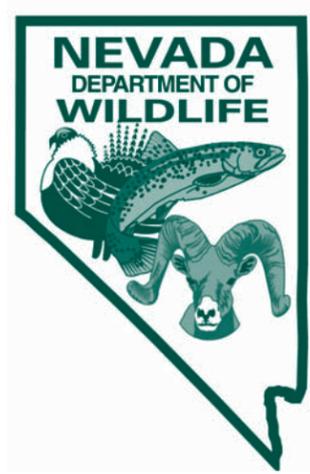
As explained earlier, game fish populations can occasionally become established when water conditions are favorable for an extended period of time. Under those conditions, some fishing opportunity may be available until low water conditions cause the demise of the game fish. Anglers are encouraged to review NDOW's fishing regulation booklet prior to fishing at HWMA.

### Other Recreational Activities

Other recreational opportunities pursued by the public include wildlife viewing, photography and camping. The remoteness of the area, combined with sometimes less than desirable road conditions, may limit casual recreational activity on the area. Efforts are ongoing to improve the primary roads within the area and plans are in place to establish additional boat ramps and camping/picnic areas for public enjoyment.

### GETTING THERE

From Reno, take I-80 east to a point 11 miles west of Lovelock (Toulon Exit). Exit freeway and travel northeast on frontage road for approximately 4.6 miles to Airport Road. Travel southeast on Airport Road for 1.6 miles to main entrance road. Area may also be accessed by traveling southeast on frontage road from Toulon Exit for 4.6 miles to Toy Mill entrance.



[www.ndow.org](http://www.ndow.org)

The Humboldt Wildlife Management area is open year-round, without hourly restrictions. There is no charge for use of the area, but users are asked to complete visitor cards before leaving. For more information contact the Mason Valley Wildlife Management Area at (775) 463-2741 or NDOW's Habitat Division at (775) 463-7816. This publication was developed by the Nevada Department of Wildlife's Habitat and Conservation Education Divisions, 1100 Valley Road, Reno, NV 89512.

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