

Rare Wildlife of the Oak Ridge Reservation

More than 20 rare animal species can be found on the Department of Energy's (DOE's) Oak Ridge Reservation (ORR). Some are full-time residents, while others are transients. Species are considered to be rare when they have low population numbers or limited distribution, making them susceptible to extinction. The state and federal governments categorize the rarest animal species as endangered, threatened, or in need of management.



Great egrets, state listed as in need of management, are occasionally seen near streams and ponds on the ORR.

The ORR, acquired by the federal government in 1942 as part of the Manhattan Project, has escaped the development that has gone on around it. This unplanned conservation effort has preserved important, largely unfragmented habitat for many rare animals that have disappeared elsewhere in east Tennessee.

Rare Animals List

The rarest forms of wildlife found on the ORR include a fish, two amphibians, two mammals, and almost twenty birds. Most of those animals are state listed as in need of management, but three are state or federally listed as endangered or threatened. The gray bat, federally and state listed as endangered, is the only one of those three animals that regularly frequents the ORR. The peregrine falcon, state listed as endangered, and the northern saw-whet owl, state listed as threatened, are transients on the ORR.

The list of rare animals on the ORR changes over time for many reasons:

- The state and federal rare species lists change. The bald eagle, osprey, grasshopper sparrow, Cooper's hawk, sandhill crane, and double-crested cormorant have been removed from the state or federal list. The golden-winged warbler has been added to the state list, while the peregrine falcon was removed from the federal list but is still listed as endangered by the state.
- Some areas of the ORR that once supported rare species have been substantially altered. Bewick's wren, a species state listed as endangered, has disappeared from the reservation because there is no longer suitable nesting habitat for it here.
- Migratory species do not return every year. Bachman's sparrow, a species state listed as endangered, has not returned to the ORR since the early 1980s, even though suitable open grassy field habitat exists in several areas.



- Historical records include species that have not been documented here since the ORR was set aside for the Manhattan Project. The flame chub, state listed as in need of management, was found in Bear Creek, now part of the ORR, in the 1930s, but it has not been reliably reported since.

The Three Bend Scenic and Wildlife Refuge is a specially protected conservation area managed by the Tennessee Wildlife Resources Agency for DOE. It provides habitats for regionally, nationally, or globally unique, rare, or endangered animal species and communities. Some of the birds seen on the refuge include the bald eagle, top, state listed as in need of management, and the osprey, bottom, at one time listed as endangered but now common on the ORR. (Field photo © R. K. McConathy)

Locating rare animals

Detailed investigations in unsurveyed ORR areas can locate rare animals not previously known to occur here. For example, the spotfin chub, a fish listed as federally and state threatened, has been found in the city of Oak Ridge in East Fork Poplar Creek. Habitat for chubs—larger streams with boulder substrates—occurs on the ORR, so surveys may find the fish here too. Surveys for rare animals must, however, be done during the time of year each species is most likely to be encountered. Some birds can be observed only as they migrate through the ORR; other species are most easily located during their breeding seasons.

Protecting rare animal habitats

The best way to ensure the long-term survival of rare species is to protect their natural habitats. Wetlands provide homes for rare reptiles, amphibians, and mammals. Grasslands, caves, and mature forests also provide unique habitats for some species.

Implementation of habitat management plans assists in rare species conservation. Important aspects of managing rare animals include identifying and protecting the habitat in which they are found. Many sites on the ORR where rare animals occur have been designated as Natural Areas. Several Aquatic Natural Areas provide habitat for the Tennessee dace, a fish listed by the state as in need of management.

Good management practices help maintain and enhance habitats for rare animals on the ORR. Habitat management includes selective thinning of hardwood tree stands (a past practice that could be done again), minimizing and eliminating nonnative species such as autumn olive and tree of heaven, and burning fescue fields as part of a plan to restore native grass communities.



This spotfin chub was found in East Fork Poplar Creek just outside the ORR. (Photo by Mike Ryon)



Hembree Marsh provides habitat for some rare aquatic and terrestrial animal species, including the four-toed salamander, state listed as in need of management. (Background photo © R. K. McConathy; salamander photo by Claire Campbell)

For more detailed information on rare wildlife on the ORR, contact Neil Giffen, the Oak Ridge National Laboratory wildlife management coordinator, at 865-241-9421 or giffennr1@ornl.gov, or check the list of rare animals recently documented on the reservation at the ORR National Environmental Research Park website at <http://www.esd.ornl.gov/facilities/nerp/rarewildlifelist.pdf>.

For more information about the ORR National Environmental Research Park, contact Pat Parr, the Oak Ridge National Laboratory natural resources manager, at 865-576-8123 or parrpd@ornl.gov, or check the Research Park website at <http://www.esd.ornl.gov/facilities/nerp/index.html>.