



## Endangered Species on the Missouri National Recreational River

The Endangered Species Act, a federal law enacted on December 28, 1973, and amended in 1978, 1982 and 1988, is one of the most far-reaching wildlife conservation laws ever enacted by any country.

Under this Act, a species may be classified as endangered or threatened. An endangered species is one that is in danger of extinction throughout all or a significant part of its range. A threatened species is one that is likely to become endangered in the near future in all or a significant part of its range. The legislation states that endangered and threatened species are of aesthetic, ecological, historical, recreational and scientific value to the nation and its people.

The primary purposes of the Endangered Species Act is to protect vulnerable species from further harm, to restore them to self-sustaining populations, and “to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved...”

### The Threat



Gavins Point Dam

NPS photo

The Missouri River has had nearly three million acres of its riparian and floodplain habitats altered through land use changes, levee building, and channelization. Only one-third of the Missouri is still a river; the rest has been dammed up in reservoirs or channelized for barge traffic.

The Missouri River supports an abundance of wildlife including 67 species of fish, of which 51 are now listed as rare, uncommon or

decreasing across all or part of their ranges. The Missouri National Recreational River has four species that are federally listed under the Endangered Species Act: Pallid sturgeon, least tern, piping plover and scaleshell mussel.

Modifications to and current operation of the Missouri River, which is heavily dammed and channelized, poses a threat to the survival of these four species.

### Pallid Sturgeon (*Scaphirhynchus albus*)



USFWS photo

The pallid sturgeon was listed by the U.S. Fish & Wildlife as endangered in 1990. The pallid looks more at home in a natural history museum than on the end of a fisherman's line, thus its nickname “Dinosaur of the Missouri,” although whether for its age or appearance is a tossup. It has a flat, upturned shovel of a nose and long, fleshy whiskers called barbels. These are used to sense the river bottom and to identify prey, allowing their vacuum cleaner-like mouth to quickly capture it. Prey consists of aquatic insects and small bottom dwelling fish.

The Pallid and Shovelnose sturgeon are very similar in appearance. Pallid have a knobby back and bony protrusions called scutes, rather than scales, lining the gray skin of its body. The tail of the pallid is flattened in cross section, completely covered with armor-like plates, and the upper lobe of the tail fin is elongated and shark-like. Also, the belly of the pallid is completely without bony plates throughout its life and the barbels are positioned differently from those of the

shovelnose sturgeon. In the shovelnose (left), all four barbels are in line and evenly spaced



USFWS photo

in front of the mouth. In the pallid (right), the outer barbels are placed slightly farther back.

Pallid sturgeons can weight up to 80 pounds and can live 60 years or longer. While continued research and studies are ongoing and we gain new insight into their lives, we do know that they prefer large turbid, free-flowing riverine habitats with rocky bottoms. Pallids are well adapted to life on the river bottom and inhabit areas of swift water characteristic of pre-dam conditions. Over millennia, these fish have adapted to spawn in synchronization with the spring rise of the river, an event that ceased with the construction of the dams; thus, there has been virtually no natural reproduction for over fifty years.

## Interior Least Tern (*Sterna antillarum athalassos*)



Least Tern mating ritual USACE photo

The interior least tern was listed as a federally endangered species in 1985, due to the loss of nesting habitat from dramatic alterations (channelization and impoundment) of important river systems.

This shorebird is the smallest member of the gull and tern family, measuring 8-9 inches (20 to 23 cm) long and having a 20 inch (51 cm) wingspread. The males and females appear identical with a black crown, distinctive white forehead patch, gray back, gray wings above with white below, orange legs and a black tipped yellow bill.

It nests on barren sandbars and beaches comprised of sand, shells or salt-encrusted soils and at sand and gravel pits adjacent to the river. The birds may also nest on flat rooftops, possibly in

response to the loss of natural habitats. Least terns' nesting success depends on the presence of bare or nearly barren sandbars, favorable water levels during nesting and abundant food. Least terns begin nesting in loose colonies of 1 to 20 nests on the Missouri River in early June. The female typically lays a three-egg clutch in shallow nest bowl scraped in an open sandy area. Eggs hatch in about 20 days and chicks are fledged in about another 20 days. Least terns feed on small fish and crustaceans captured by hovering and diving into shallow water. They defend their nests vigorously, calling and diving at intruders.

Water level fluctuations, vegetation of nesting habitat and disturbance (from people, pets, predators and livestock) continue to jeopardize nesting success.

## Piping Plover (*Charadrius melodus*)



USACE photo

The piping plover was listed as a federally threatened species in 1985, except within the Great Lakes, where it is endangered. The piping plover is a sandy-gray robin-sized (7 inch, 17 cm) shorebird with one dark breast band. It has a dark stripe across the crown during the breeding season. Other characteristics include a white wing stripe and a white rump that is visible in flight and a black tipped orange bill.

The piping plover is present on the Missouri River breeding grounds from April through August, primarily along the Lake Oahe and the natural stretches of the Missouri National Recreational River. Piping plovers are in the family of migratory shorebirds that begins nesting in early May. They make their nests on sand and gravel bars of prairie rivers, rocky beaches with short, sparse vegetation along glacial lakes and ponds and shores of alkali wetlands in the Northern Great Plains. The nests are shallow, scraped depressions, occasionally lined with small pebbles, shells or other material. The fe-

male lays a clutch of three to four eggs with hatching in 28 days; eggs and young are tended by both parents.

Plovers and terns are both threatened by the loss of bare sandbar nesting habitat; dams have disrupted the natural scouring and building that historically occurred on the Missouri. These birds are very sensitive to the presence of humans, and disturbance threatens their survival. Even biologists aiding the survival of these species have strict limits on the amount of time they may spend in the vicinity of nesting areas. Each year, most nesting areas are posted with black and white signs alerting people to the presence of nesting birds. Boat ramps and water access points display warnings to watch for the birds in areas where they normally are found.



USACE photo

## Scaleshell Mussel\_ (*Leptodea leptodon*)



USFWS photo

The scaleshell is a freshwater mussel that was listed an endangered species in 2001 by the U.S. Fish & Wildlife Service. The scaleshell mussel is a relatively small freshwater mussel with a thin, fragile shell and faint green rays. It grows to about one to four inches in length. The inside of the shell is pinkish white or light purple and highly iridescent. The scaleshell gets its name from the scaly appearance of the shell, which is only seen in females. Scaleshells live in medium-sized and large rivers with stable channels and good water quality. They bury themselves in the sand and gravel on the bottom with only the edge of their partially opened shells exposed.

Scaleshells are endangered by a number of factors. Mussels are highly susceptible to pollution because of their sedentary nature. Their habitat can be degraded by changes in sedimentation, temperature, flow patterns and fish migration, all of which are now influenced by dams and changes in land use. The exotic Zebra Mussel, though not currently invading the Recreational River, is a serious threat to many native shellfish, starving and suffocating them by attaching to their shells in large numbers.

The survival of the scaleshell on the Missouri River depends greatly on the restoration of habitat and improved surface land management.

[www.nps.gov/mnrr](http://www.nps.gov/mnrr)

To learn more about Threatened & Endangered species visit: <http://www.fws.gov/angered/>