



Natural Heritage & Endangered Species Program

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Virginia Rail *Rallus limicola*

State Status: None
Federal Status: None



Virginia Rail. Photo: Chris Buelow, NHESP

Description: A secretive bird of marshes, the Virginia Rail has a laterally compressed body and other modifications to allow it to move within dense vegetation. A relatively small bird -- approximately 9.5" high with a 13" wingspan - the body often appears robust, almost chicken-like in shape. Virginia Rails have a brownish crown, gray face, red eyes and a long, slightly decurved bill. The chest and throat is a rich red or chestnut color and the back is mottled with browns and chestnut. The flanks are banded with black and white stripes and the legs and bill are reddish. The heads of juveniles are duller than adults, with a darker eye. Juveniles lack chestnut on chest and throat, instead having a purely white throat and dark gray blotches on the chest blending into black and white stripes on the flanks. Juveniles do have chestnut on the back, which is most apparent in flight. Juvenile bills are brown and the legs are yellowish.

Virginia Rails make a variety of vocalizations. One common call of the adult Virginia Rail has been likened to a series of pig-like grunts that typically descend and accelerate: *wep wep wep wep wepwepwepwepppprrrrr*. Females give sharp metallic notes followed by rich churring: *chi chi chi chi treeerrr*. Males give a hard mechanical *gik gik gik gidik gidik gidik*. Several other vocalizations have been described for this species.

Similar Species in Massachusetts: The plumage of the Virginia Rail is very similar to that of the King Rail, but the Virginia Rail is much smaller (9.5" compared to 15" in height). King Rail also give a series of grunts that

descend in pitch, but the tempo remains consistent, rather than accelerating like the Virginia Rail. The Sora, another rail in Massachusetts, lacks chestnut color, and has a shorter, blunt yellow bill.

Range: Virginia Rails breed throughout much of the northern United States and southern Canada, and overwinter along the Atlantic coast from North Carolina into Mexico, and from the southwest United States into most of Mexico. Recently, Virginia Rail have been increasingly observed over-wintering on Cape Cod and the Islands. There are small areas on both coasts that have year-round residents. In Massachusetts, breeding Virginia Rails have been observed in most counties, but mainly in Berkshire, Worcester, Middlesex, and Essex counties. Bristol County has the fewest observations according to the Breeding Bird Atlas for Massachusetts.

Habitat in Massachusetts: Virginia Rails prefer freshwater marshes with large patches of emergent vegetation, particularly cattails, and tall sedges and bulrushes. Breeding in salt marshes, shrub marshes and wet meadows may also occur. They use standing water (up to 15 cm and occasionally deeper), and muddy soils for foraging. Virginia Rails seem to prefer larger wetlands with large stands of emergent vegetation. In Maine, it has been found that they choose richer, more fertile beaver or man-made wetlands with more heterogeneous topography and greater herbaceous understory over glacial wetlands.

Lifecycle/Behavior: Most Virginia Rail probably arrive in Massachusetts in late April or early May. Nesting typically begins in early May in the northeastern United States. Nests are built in thick emergent vegetation and are usually close to water and well-concealed. The nests are loosely formed baskets generally made up of the dominant emergent vegetation, with more vegetation pulled over the nest to form a canopy. Mean clutch size is 8.5 eggs. Eggs range from white to buff in base color, with an irregular pattern of spots of brown, gray or lilac: the larger end often more heavily spotted. Incubation appears to be approximately 20 days in the Northeast. Several studies indicate that hatching is nearly synchronous. Young are precocial, and are able to leave the nest and even swim by the end of their first day. Virginia Rails feed on small animals, including fish, snakes, crayfish, snails, slugs, and a variety of insects. Virginia Rail breeding in the northern portion of their range (including Massachusetts) typically begin moving south in late September to mid-October.

Population Status: Evidence from the early 1900's suggested that populations of Virginia Rail in the northeast United States were in decline. More recent data is conflicting, but

generally indicates that populations are stable in Massachusetts. The Breeding Bird Atlas, which collects data state-wide, mapped 90 blocks with breeding evidence in Massachusetts in its first survey, and the current second survey shows 158 blocks with breeding evidence. Two recent studies in Massachusetts both found Virginia Rail at 61% of the marshes surveyed. In contrast, the Breeding Bird Survey data for this species throughout North America from 1982 to 1991 show a population decline of 2.2% per year ($P < 0.05$, $n = 93$), but some think that this may actually underestimate the decline. Trends in BBS data from 1966 to 2006 for northern New England also show a declining trend, but this is not considered a statistically significant trend, possibly due to the scarcity of data for this species in this region. A literature review revealed few recent studies on this species.

Management Recommendations: As is the case with all marsh birds, preserving wetland habitat is vital for the continued existence of Virginia Rails in Massachusetts. Larger wetlands with extensive marshes are particularly valuable for conservation of this species. Virginia Rail are nocturnal migrants, and so like many of our marshland birds, are susceptible to collisions with lighted towers and buildings at night. This should be taken into consideration during planning and construction of these and other structures such as power generating wind mills. As of 1995, 37 states allowed hunting of Virginia Rails, including Massachusetts. It appears that most are taken on their over-wintering grounds in the southern United States. An additional threat to all marsh birds are invasive exotic marsh-plant species, particularly *Phragmites australis*. Continued systematic surveys for Virginia Rail in Massachusetts could provide important data on population trends for this species in our region.

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