

Least Bittern Nesting Record in Maine

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Abstract - In June 2001, we located an active *Ixobrychus exilis* (Least Bittern) nest in Bass Harbor marsh on Mount Desert Island, Hancock County, ME. Only 2 other descriptions of Least Bittern nests exist for Maine, although based on other breeding evidence, the species is known to breed elsewhere in the state. We found the nest in a 0.7-ha *Typha* sp. (cattail)-dominated area within a larger (3.5 ha) freshwater wetland located ≈ 120 m from an 88-ha estuary. During the breeding season, most Least Bitterns in Maine and elsewhere are found in wetlands of greater size, usually >10 ha.

Introduction. *Ixobrychus exilis* Gmelin (Least Bittern) typically are difficult to detect and observe because of their secretive behavior, diminutive size, quiet vocalizations, and preference for densely vegetated habitats (e.g., *Typha* sp. [cattail] marshes; Gibbs et al. 2009). Samuels (1867:404) stated that “it has been found to breed in all the New England states”, and Smith (1883:105) noted, “in 1863 several pairs were breeding at Scarborough, as also others at Falmouth, but within the last dozen years I have not seen a single specimen in the same localities.” (sic). Smith also noted, “I once watched a family of seven during July and August”, but he did not describe a nest site or nest. The Maine Breeding Bird Atlas (1978–1983), encompassing 706 blocks of approximately 58 square mi, recorded Least Bittern as a confirmed breeder in only 1 block, a probable breeder in 7 blocks, and a possible breeder in 6 blocks (Adamus 1987); the evidence to confirm breeding was not noted, however, and no nests were described in the atlas publication. More recent surveys during the past 30 years have located 31 wetlands in Maine on which Least Bitterns were presumed nesters during the breeding season (T. Hodgman, Biologist, Maine Department of Inland Fish and Wildlife, Bangor, ME, pers. comm.). Only 2 prior records of nests are published for Maine, both from Mount Desert Island (Long 1987): on 11 June 1968, a Least Bittern nest (“roughly built platform, about 14 inches above the water”) containing 6 eggs was found in a cattail patch in Beaverdam Pond (3.2 ha) south of Bar Harbor, and in 1969, a nest with 2 addled eggs was found in the same pond. This species is now listed as endangered in Maine (MDIFW 2007).

During June 2000 and 2001, we surveyed breeding bird populations of Bass Harbor Marsh and Northeast Creek, Acadia National Park, Mount Desert Island (Wilson et al. 2005). These surveys employed call-response methods, in which we broadcast songs and calls of 10 difficult-to-detect wetland species following protocols in Gibbs and Melvin (1993). Our survey of habitats at Bass Harbor Marsh wetland complex included a 3.5-ha freshwater wetland located ≈ 120 m distance from an estuary. The wetland consists of 0.5 ha of palustrine unconsolidated bottom (PUB) and 3.0 ha of palustrine emergent wetland (PEW), with scattered patches of palustrine, scrub-shrub (PSS) vegetation (Cowardin et al. 1979) throughout the wetland. The wetland contains stands of emergent vegetation, primarily dominated by species from the genera *Carex* and *Scirpus* (sedges) and *Typha* (cattail), interspersed with patches of open water and scrub-shrub vegetation (e.g., *Myrica gale* L. [Sweetgale]).

On 8 June 2001, at 0730 hours, a male Least Bittern was seen by J.R. Longcore at a distance of ≈ 30 m from the vantage point of a tree platform located ≈ 12 m above ground

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at the wetland margin where it overlooked the cattail patch. From this aerial view, the top of the bird's head and back appeared greenish-black, and the sides of the body (wings) had two-toned brownish patches. A whitish streak extended down each side of the back, and the bird was in a typical "pose" of a bittern with its head and slender bill pointing skyward as it clung to the cattails. These plumage characteristics from field notes and recollections identified the bird as a male Least Bittern. Later that morning, a male responded with soft "coos" to broadcast calls of *Botaurus lentiginosus* Rackett (American Bittern). We reconfirmed the presence of a territorial male on 21 June 2001, when it responded again to broadcasts of Least Bittern calls. We located the female and its nest by observing the main cattail patch from the tree stand (Figs. 1, 2A). We found a nest presumed to be of a Least Bittern on 27 June 2001, but it contained no eggs. The platform-like nest, about 0.5 m into the cattail patch from open water, was 36 cm above the water, which was ≈ 0.8 m deep, and was supported by both dead and live woven cattail blades resembling an A-frame with a loose canopy of blades 15–20 cm above the nest (Fig. 2B). During a repeat visit to the nest on 2 July 2001, the nest contained 3 eggs. On 16 July 2001, we observed and photographed 2 downy young and 1 unhatched egg in the nest (Fig. 2C). On 27 July 2001, the nest was empty, with no evidence of recent use. Fledgling Least Bitterns may leave the nest as early as their sixth day if disturbed, but more typically leave from days 13–15 after hatching (Gibbs et al. 2009).

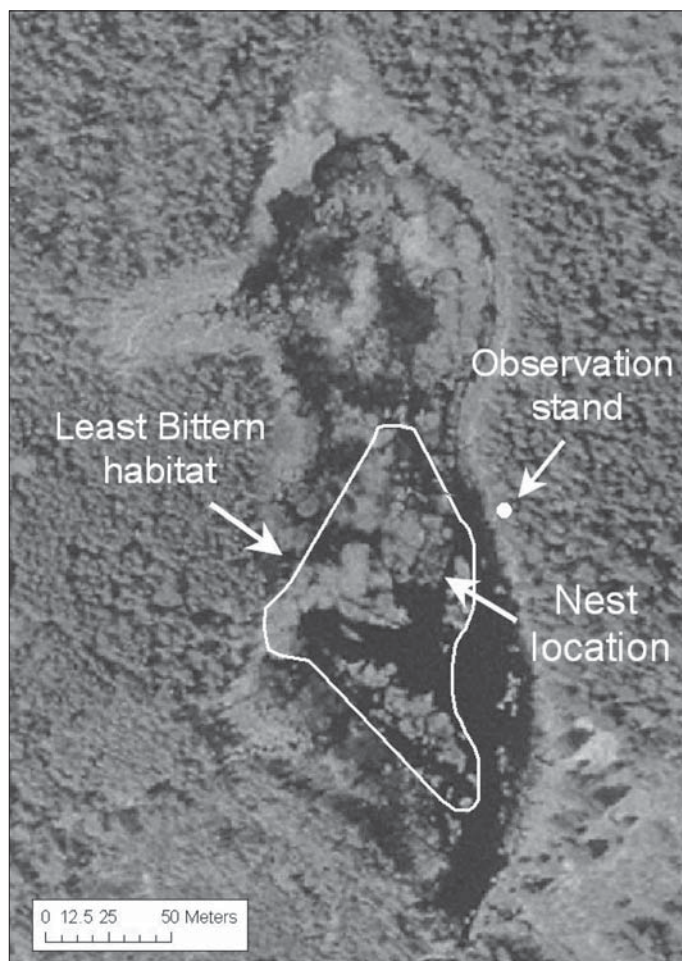


Figure 1. Aerial view of the 3.5-ha wetland near Bass Harbor marsh in Maine with delineated boundary of the area with suitable habitat for Least Bittern nesting in 2001. Orthophoto downloaded from MEGIS for use in ArcGIS 9.2 by P. Wilson.

Enough time had elapsed between our visits that the 2 hatchlings (plus potential third hatchling) could have fledged by 27 July.

Documentation of a Least Bittern nest in Maine is significant for two reasons. First, few records exist for Least Bittern nests in Maine (T. Hodgman, pers. comm.; J. Despres, Editor, *Maine Bird Notes*, Turner, ME, pers. comm.). Only two previous records of nests are published for Maine, both from Mount Desert Island (Long 1987) and both from the same small wetland, Beaverdam Pond (3.2 ha). Second, Least Bitterns may be area-sensitive and typically nest in wetlands greater in area than 3.5 ha (Brown and Dinsmore 1986). Least Bitterns are uncommon breeders in Maine, and the documented breeding range north of the study area is limited. Least Bitterns breed north of the study area in southern Québec (COSEWIC 2009), and north and east of the study area at isolated sites from northwestern interior to south coastal New Brunswick, and irregularly in Nova Scotia, where breeding is confirmed at one site (COSEWIC 2009, *Maritimes Breeding Bird Atlas* 2010). Our nest was atypically located in a relatively small wetland, whereas they usually breed in large wetlands across their range (Brown and Dinsmore 1986, Gibbs and Melvin 1990, Tyser 1983). Interestingly, the only previous nesting on Mount Desert Island was from a similarly small wetland of 3.2 ha (Long 1987). Although our observation occurred on a wetland of 3.5 ha, only the ≈ 0.7 -ha cattail-dominated portion of the wetland provided habitat suitable for a Least Bittern nest.

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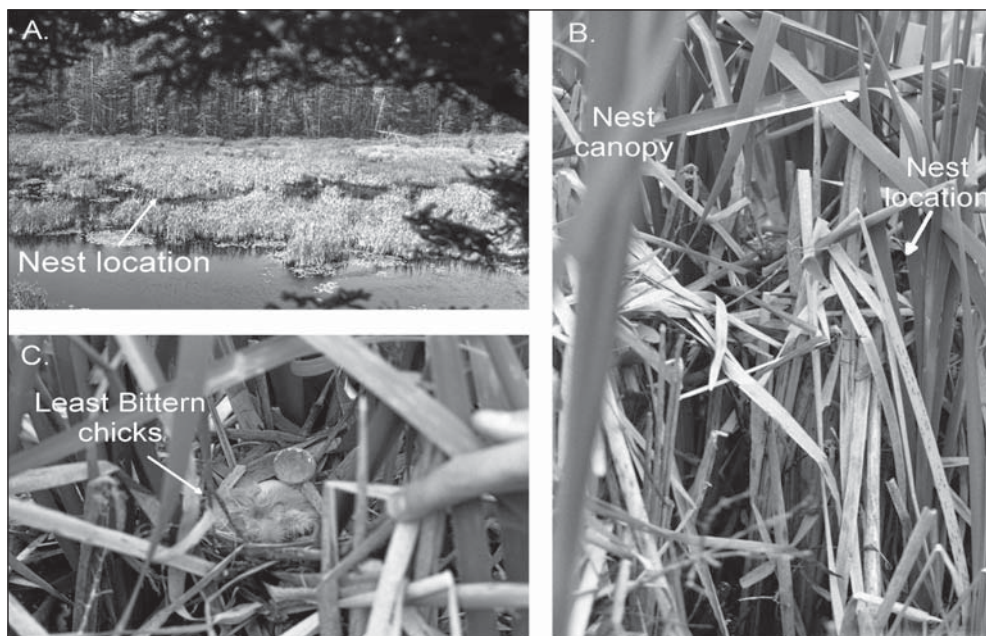


Figure 2. Photos show the location and two different views of the nest. (Clockwise from upper left): A. approximate location of Least Bittern nest in dense cattail stand as seen from the elevated platform; B. view of dense, concealing cattail vegetation at the site of the Least Bittern nest; and C. view of the 2 Least Bittern chicks, the recently vacated eggshell, and the third egg yet to hatch, mostly hidden behind the chicks. Photos © J.R. Longcore.

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