

Annual Report of the Bowdoin Scientific Station 1998

Since the Last Annual Report

On January 1, 1948, Ernest Joy inaugurated a new guest book for Kent Island. Fifty-one years later, the worn brown ledger (signed by most readers of the Annual Report of the Bowdoin Scientific Station) is almost full. The first entry is that of Raymond Paynter, Bowdoin alumnus ('47), former Field Director of the Bowdoin Scientific Station (1946-8), and current Curator of Birds at Harvard's Museum of Comparative Zoology. The second signature is Chuck Huntington's. The guest book shows that Chuck has spent a part of every month of the year on Kent Island, a distinction shared by Ernest Joy, Bob Cunningham, and not too many other hearty souls since Florence Brown's house in the north field burned to the ground in 1926. Curious about the biology of Kent Island during the winter, I took advantage of a sabbatical leave to experience a bit of January, February and March on the island. Bob Mauck (Kenyon College) and Chuck joined me on the late January trip. On the crossing from Seal Cove to the island, Russell Ingalls took us dragging for sea urchins, known locally as "sea eggs." With just a few gulls soaring soundlessly through clear frigid skies over the tawny bare fields and Common Eiders nowhere to be seen, Kent Island felt familiar but strangely unfamiliar at the same time. It was, in Bob's words, "sort of like seeing your wife with a wig on." By late March, when I returned, the gulls were hurling full-throated. Five hundred Brant grazed on eelgrass in Three Islands Harbor, and there were huge flocks of American Robins and Dark-eyed Juncos. Despite five inches of lingering snow, Song Sparrows and Winter Wrens were singing.

The Summer of 1998

Russell Ingalls opened the station shortly before I took myself out in the Ernest Joy out on May 26. The summer crew of students led by Chuck and Bob Cunningham appeared the next day on Russell's boat, Misty Maid. That night, high water wasn't until 1 AM so we reassembled at the wharf after midnight to unload food, belongings, and scientific gear in the dark. Kevin Haskins ('99) served ably as handyman and helped coordinate chores on the island. Our group

not replaced.

their song are inherited or learned from their fathers. The next step in our study will be to determine if females avoid mating with males whose songs are similar to the females' fathers.

In a variety of shorebirds and songbirds, individuals that invest relatively heavily in caring for young tend to have low levels of both corticosterone and testosterone. Since 1996, Katie and I have teamed up to test whether the same negative correlation between parental care and hormone levels exists in male Savannah Sparrows, which show a range of parental behavior. Males active in nestling-feeding proved-9 (g) he.

Harbour, and 0% in Back Bay).

A number of mushrooms that were conspicuously absent in 1997 were abundant in 1998, including *Amanita muscaria*, *Boletus edulis*, and *B. badius*.

-Marine Ecology

Kyle and Paul Nguyen ('98) studied the role of disturbance in maintaining species diversity in the intertidal zone. After removing all algae and invertebrates from 25 quadrats (25x25 cm square) at various sites around the island, they monitored recolonization. The first species to appear were filamentous red algae; green algae were also quick to colonize bare patches. Kyle and Paul also quantified the percent cover of intertidal organisms around the entire island. The elaborate wave meters they brought to measure wave exposure worked, sort of: within a few tides, the wild Bay of Fundy waters carried off all of the meters from exposed sites.

-Insect and Spider Ecology

In 1997, Kyle Apigian ('98) documented differences in habitat use by a guild of ground beetles (Carabidae). The beetles have subsequently been identified. Kent Island has 16 species of ground beetles representing 11 genera:

acidity and chemistry of New England fog. Proceedings of the First International Conference on Fog and Fog Collection, Vancouver, Canada. (143)

Cunningham, R.M. 1998. Fog studies in the Bay of Fundy over a span of 60 years. Proceedings of the First International Conference on Fog and Fog Collection, Vancouver, Canada (138).

Nevitt, G. 1998. Foraging by sea birds on an olfactory landscape. *American Scientist* 46-53-87.

**Freeman-Gallant, C.R. 1998. Fitness consequences of male parental care in Savannah sparrows. *Behavioral Ecology* 9: 486-492. (127)

**Wheelwright, N.T., T.M. Smith, and R.A. Zink. Self-pollination in an island plant community. *American Midland Naturalist* (in review). (120)

**Freeman-Gallant, C.R., and N.T. Wheelwright.