

Kent Island Annual Report - 2005

By Land

For those of you who knew Kent Island's forest twenty or more years ago, a visit to the island now may surprise and alarm you. Old trees continue to fall every winter. That never changes. However, today there are no young trees to replace them. The forest is dying. Petrel Path looks nothing like it did when I first saw it in 1990. The big, old spruce have fallen, their roots ripped from the ground, replaced only by ferns and raspberries. Why? Snowshoe hares. Introduced to Hay Island in 1959, the hares long ago made the jump to Kent Island, presumably at low tide, and they thrive on new growth. In recent summers, student research has quantified the damage they have done to our island (e.g., Peterson et al. in the list of publications at the end of this report). The situation is dire.

This year we take back the island from the hares. Nat Wheelwright, Director Emeritus Bowdoin Scientific Station at Kent Island (DEBBSKI II), spent his sabbatical last year in New Zealand where they have a long and successful history of removing invasive species. Nat is now convinced we can eradicate the hare population on Kent Island through intensive trapping and hunting. To that end, Nat has obtained funding from the Davis Conservation Foundation to get the job done this winter. He has enlisted Russell Ingalls to oversee much of the onsite work and has begun the systematic eradication of this pest. The real push comes this winter when a series of hunters with dogs will visit Kent Island. One New Brunswick hunter reported "sign everywhere" when he arrived in November, then removed 34 hares in three days. The inclusion of dogs in the effort gives us real hope of solving the problem. As of this writing, there are almost 200 fewer hares than there were a

year ago. With the continued support of such "research" teams, this summer we hope to begin a study of our island's recovery from the devastation caused by this invasive species. If all else fails, we plan to call in Dick Cheney.

By Sea

Every year, one highlight of the summer is the two days students spend hauling traps with Russell Ingalls. By late June, lobster season is at a close. Traps must be hauled out one last time, stacked on deck, and taken ashore for the summer. I am not always sure how well the cost-benefit ratio sorts out, but Russell always invites the students to help. They pack two days worth of clothes and supplies, wake up early and stagger out to Plank Beach before dawn. They return the next evening tired, yet exhilarated, smelling of bait, with lobster and crab for everyone. This year, all eight students joined the effort. Joan Ingalls provided plenty of

In October, when Mark and Seth Murray spent a few days closing the station for the winter, three generations of Ingalls (Junior, Russell, Theron, Christopher, along with cousin Scott and friend Caleb) arrived in pursuit of hares and ducks. No one went hungry and the table fairly groaned under the provisions sent along by Joan. It is nice to be treated like family.

Research in 2005

• Leach's Storm Petrels

How many of us will spend our 85th summer banding petrels? You won't be surprised to hear that Chuck Huntington did just that. With the enthusiastic and able assistance of Flavia Chen ('08), Chuck (DEBSSKI I) continued his long-term demographic study of Leach's storm petrels, concentrating his efforts in Petrel Path where he started all of this in 1955. With the hare-induced changes in the forest, many of the burrows Chuck once checked are inaccessible or gone altogether. Still, between them, Chuck and Flavia found 125 nesting pairs and eventually banded 86 new chicks. After a summer of grubbing, Flavia wondered how the weather might affect petrel nest attendance. Comparing her daily grubbing logs to the summer's weather records, she found support for the hypothesis that petrels arrive under cover of darkness to avoid predators, an idea first proposed by Bill Gross ('37) in 1935. Specifically, she was far more likely to find a new bird in a burrow after an overcast night of low visibility than after a clear night. She also found that winds blowing up and down the Bay of Fundy increased that probability far more than did land breezes off Nova Scotia or New Brunswick.

In fact, it was an active year all around in Petrel World. Mark Haussman (currently a visiting professor at Swarthmore College) and I were awarded a three-year grant by the National Science Foundation to investigate the nature of telomere dynamics and individual quality in Leach's storm-petrels. The grant will provide funds to support student research at Kent Island and Kenyon College over the next three years and

will bring Mark to Kenyon as a post-doctoral research/teaching fellow. It also means he will be an integral part of Kent Island for the foreseeable future, which is good for everyone concerned. This year, Mark joined us for two weeks in July and we began the first phase of the work in which we sampled blood from newly hatched chicks with the help of Annie Valuska (Kenyon '06) and Ben Chan ('05).

Annie and I started the year scouring the Shire (the aptly named peninsular study site across the basin from the wharf) in search of new burrows and breeding birds. One of Annie's many redeeming qualities is the fact that her hand is narrow enough to explore a previously

differentiation. Alan Cohen (Ph.D. student with Kent Island alumnus Bob Ricklefs at the University of Missouri-St. Louis) has developed techniques to measure anti-oxidant levels in the blood of free-ranging birds. He came to Kent Island in mid-June to measure anti-oxidant levels in the blood from known-history birds. Since Kent Island is unusual in having three known-age populations (petrels, sparrows, and swallows), it was a logical choice to look for age-related trends. Although he is still investigating trends in his data, Alan reports that the storm petrels have among the lowest anti-oxidant levels of any species he has sampled to date. Petrels caught at night (presumed pre-breeders, according to Chuck) apparently have much higher anti-oxidant levels than do breeding birds caught in their burrows.

- **Savannah Sparrows**

For the first time since 1987, Kent Island's

