

## 2003 Annual Report

### Since the Last Annual Report

This year's Annual Report is dedicated to Raymond Paynter and Myhron Tate, two Kent Island legends who died in 2003 after long and rich lives. Ray Paynter ('47) directed the Bowdoin Scientific Station from 1946 to 1948, resuscitating a field station and program that had been virtually abandoned during the second World War. His seminal studies of the demography of Tree Swallows and Herring Gulls on Kent Island continue to be cited to this day (see "Publications of the Bowdoin Scientific Station"). Ray's towering achievement, however, was introducing Chuck Huntington to the island in late December, 1947, when they were both Yale graduate students. Ray went on to become Curator of Birds at Harvard's Museum of Comparative Zoology from 1963 until his retirement in 1998.

Myhron Tate served as caretaker of the Bowdoin Scientific Station for 20 years until his son Bob took over in 1983. When he wasn't working on the island or fishing, Myhron and his wife Eunice stood by the "black radio" at their Ingalls Head home for the regular 8 AM and 8 PM communications. It was Myhron who built the caretaker's cottage at the edge of the north field. Hugely respected on Grand Manan for his leadership on fishermen's rights and for his boating skills in the pre-Loran/GPS era, Myhron claimed that he'd tie up a dory even in a cow pasture (advice that one student, known as the "Kent Island streaker," failed to heed). Thick fog, inky darkness or strong winds didn't bother Myhron, but he liked to say that he didn't care for any two of them in combination.

Meredith Swett ('99) joined the ranks of Kent Island winners of prestigious National Science Foundation Graduate Fellowships. Currently a graduate student at the University of Texas, Meredith is one of more than 30 alumni/ae from Kent Island who have gone on for a masters or doctorate in ecology or related fields since 1986 (see list at the end of this year's Annual Report).

### Historical Note

One of the things that I look forward to whenever we go from Kent Island to Grand Manan (a.k.a. "the mainland") is the chance to visit with Gerald Anderson. Now 81 years old and retired from a lifetime of fishing, Gerald lived on Kent Island for six years during the 1920s. His father and uncle, Norwegian sailors who jumped ship in Canada and ended up marrying two sisters, were hired to tend a flock of 300 sheep on Kent Island, which was then owned by the McLaughlins. Together both families lived under the same small roof in the north field. A twice-daily chore was to herd the sheep off the ledges where the sheep went to graze algae before they became stranded by the rising tide. Usually a shot from a 22-caliber rifle was all it took to summon them back to land. The island's lone ram was kept penned up in what is now the dorm in order to prevent the ewes from mating prematurely and giving birth in the frigid spring. One November the ram managed to escape, only to be found dead in the marsh two days later. The following spring during an April snowstorm 100 lambs were born.

One of Gerald's responsibilities was to deliver milk by dory to a group of Passamaquoddy Indians who brought their canoes over in a boat every summer from Cobscook Bay to hunt seals around Three Islands. The Indians camped on the southwestern shore below the blue or "gunning" rock (near the beach where a right whale washed ashore in 1994); local fishermen still call the site "Camp Point." At that time Kent Island had its own school with as many as 17 pupils near the shore at the southern end of the herring weir between Kent and Hay Islands. In the 1930s and 40s, Kent and Hay Islands were known to local fishermen as "Ernest's Island" and "Henry's Island," after their inhabitants, Ernest Joy, the first caretaker of the Bowdoin Scientific Station, and Henry Ingalls. Gerald remembers Henry as a fastidious and frugal man who each season

refused to tend the weir any more once he'd made \$1000, even if the fish were still running. The way Henry figured it, "That's enough money for any man in a year."

### Summer of 2003

Anyone who has watched Russell Ingalls, caretaker of the Bowdoin Scientific Station since 1990, can appreciate the meaning of a work day. Depending upon the season, Russell harvests lobsters, sea urchins (known locally as "sea eggs"), scallops, and occasionally groundfish, although their stocks have dwindled. In 2003, on top of his relentless fishing schedule, Russell built a new house in the woods between Seal Cove and Grand Harbour, married Joan Huckins, liberated Kent Island's trails from winter tree falls, labored to keep the field station's water and electrical systems running and the buildings protected from the weather, and provided safe transport between Seal Cove and Kent Island for researchers and visitors. Laura Jefferis ('05) pitched in as "handyperson" in Russell's absence. Her favorite activities were brandishing a chainsaw or experimenting with heavy machinery. One of her more satisfying accomplishments was a major clean-up and reorganization of the shop. The muskrat den in the southeast corner vanished and long-lost items—forgotten keys, missing tools, random parts to the hand-held radio—miraculously reappeared.

Mark Murray ('75), who has served in various summers since 1990 as Adjunct Professor of Insular Polytechnology (i.e., caretaker along with Russell), completed several critical projects in August. With his son, Seth, Mark worked on the boats, installed a new window in the Hodgson House, rebuilt a rotting window in the dorm, and expanded and serviced the photovoltaic system, among other accomplishments. As a gift to the island, Mark and his daughter Nina built a cedar Adirondack chair for the lab porch. "Lest you think we were all work and no play," Mark wrote after his visit, "we ate well, gabbed a lot, took long walks, picked berries, made desserts, played music and never set an alarm clock. We lived by the tides and fog."

### Research in 2003

#### • Leach's Storm-Petrels

By now the Leach's Storm-Petrels on Kent Island have become accustomed to Chuck's gentle hand reaching into their nesting burrows. Continuing a study that he began in 1954, Chuck teamed up with Bob Mauck (Kenyon College) and Kenyon College student Jenny Glazer ('04). In an effort to make Chuck's known-age population more accessible to future researchers, Jenny and Bob used a high-end Trimble global positioning system (GPS) and geographic information system (GIS) software to map all 317 active burrows in the Petrel Path study area. They also reactivated Bob Ricklefs' (University of Missouri-St. Louis) study site by the basin, marking 185 burrows and establishing a 10 m by 10 m grid system. Thanks to Jenny and Bob, we also now have detailed GIS maps for the entire island, illustrating the location of the major trails, grids, buildings and individual boxes in the Tree Swallow colony. Jenny's honors thesis will use the GIS data to quantify breeding philopatry in the population by measuring distances between nest sites for birds that change burrows. Bob and Jenny set up a circular electronic lattice (the "ring of fear") at the entrance of one burrow to record the comings and goings of individual birds. Incubation bouts of the two birds differed (2 vs. 4.5 days) and they appeared to have complementary departure and arrival times. One tended to depart at 11:30 PM and arrive several days later at about 4 AM, whereas the other tended to depart at 4 AM and arrive at 1 AM.

Starting in August, Jon Philipsborn (Kenyon College '03) took over Bob's storm-petrel study. The fog was so thick when he arrived that two weeks passed before he was able to see the water. Jon's daily duties included weighing 60 chicks to determine growth rates and taking blood samples to pinpoint the timing of the production of different hormones, particularly those that might explain the dramatic halving of weight that occurs during the week before fledging. During his two largely solitary months on the island, Jon polished his senior English thesis (a personal account of Chuck and Kent Island) and conducted periodic shorebird censuses to aid Dov Lank (Simon Fraser University) in his study of historical changes in shorebird migrations in response to recovering Peregrine Falcon populations.

University of California-Davis professor Gaby Nevitt and her two post-docs, Alexis Blackmer and Rick Van Buskirk (plus two of Gaby's nieces), were on Kent Island in various combinations from mid-July until early September, during which they performed experiments on the development of olfactory capabilities in storm-petrels. Specifically, they were interested in whether chicks imprint on odors during the incubation period. They painted about 100 eggs with the rose-like essence phenyl ethyl alcohol. Once the eggs had hatched and the chicks were 15-20 days old, Gaby, Alexis and Rick attempted to assess whether the chicks could discriminate among odors. After several unsuccessful efforts at lulling nestlings to sleep (e.g., shining a heating lamp under their tails), they discovered that gently stroking the chicks' bellies put them into a trance. If the birds snapped out of their trance in the presence of an odor such as phenyl ethyl alcohol or dimethyl sulfide (DMS) but not in the presence of other odors, that provided evidence that the chicks were able to detect it.

Gaby's other work deals with how seabirds use olfaction to navigate across the ocean. What would seem to be a featureless landscape is actually a textured "smellscape" generated by varying concentrations of DMS, which is emitted by patchily distributed phytoplankton. Burrow-nesters such as storm-petrels turn out to be particularly adept at tracking DMS. In an effort to capture in words the distinctive scent of storm-petrels, most Kent Islanders might say something like "musty" or "like my grandmother's attic." But when a visitor this summer asked what the birds smell like, Gaby paused before coming up with a much more evocative image: "They smell... they smell... they smell like God."

Mark Haussmann's (University of Iowa) PhD research on the age-related shrinkage of the terminal portions of chromosomes (specifically, the loss of telomeric repeats with each cell division cycle) and its relation to senescence in birds and mammals has gained international attention, with recent write-ups in *Science* (vol. 300: 1653) and *New Scientist* (May 24, 2003, p. 19). *Discover* Magazine ranked Mark's findings among the top 100 science stories of 2003. Last summer Mark and his field assistant Carrie Sanneman (University of Iowa '05) explored age-related changes in the ability of the immune system to mount a response to disease. Their

procedure was to inject PHA—phytohemagglutinin, a plant-derived antigen—into the wings of 47 Leach's Storm-Petrels and measuring their swelling the following day. Younger adults showed greater "immunocompetence" than older birds, which raises the possibility of an age-dependent decline in immune function ("immunosenescence"). They also gathered tissues from 12 birds to determine the activity of telomerase, the enzyme that effectively helps rebuild telomeres and apparently extends the lives of cells. Mark's preliminary analyses suggest that telomerase production in bone marrow declines with age in short-lived species such as Zebra Finches and Tree Swallows but not in long-lived species such as storm-petrels and Common Terns. "I was pretty psyched about this!" writes Mark. Mark hopes to expand his study next summer by looking for age-related declines in telomere length in our marked population of Savannah Sparrows.

#### • Savannah Sparrows

Last summer was the second year of Corey Freeman-Gallant's ('91) and my study of mate choice in Savannah Sparrows. Once again an incredible sparrow team helped us out. Toshi Tsunekage (Skidmore '04), Sarah States (Skidmore '04) and Iris Levin ('05) spent two months on the project, and veteran nest-finders Kevin Oh ('02) and Mike Butler ('03) were called out of retirements for several weeks in late May and early June. The DNA fingerprinting results from the blood samples we took last summer are already in, thanks to Corey and his lab technician Suzanne Sollecito's Herculean efforts: in 2003, 41% of 244 nestlings were sired by a male other than the male who socially paired with their mother.

If one of the reasons that females copulate with males other than their social mates is to gain "good genes," the "extra-pair" nestlings that result should have more effective immune systems than nestlings produced by females and their social mates. We tested this prediction by injecting the wings of nestlings with a small amount (20  $\mu$ l) of PHA in order to elicit and measure a swelling response. In 2002, we discovered that fledglings were smaller and mortality rates were higher than in normal years but we lacked a control group of nestlings that

had not been injected. Therefore, in 2003, we decided to test explicitly for a PHA effect. Sarah found that injected nestlings showed no difference in size or survival to independence compared to control birds. Her honors thesis will deal with estimating effective population size in Savannah Sparrows, a concept important in conservation and evolutionary biology because it adjusts actual population numbers by such factors as skewed sex ratios and individual variation in reproductive success. Toshi's thesis will explore whether a male's opportunities for extra-pair paternity are constrained by his need to guard his own mate from cuckoldry and by the breeding synchrony of females.

Iris's independent research focuses on the role of song in mate choice in Savannah Sparrows. Taking advantage of Clara Dixon's tapes from the mid-1960s and recordings my students and I made in the 1980s and 1990s, we can document cultural evolution in bird song over a 40-year period. Particular types of notes embedded within songs—stutters, chirps, whistles, trills—wax and wane in popularity over time (sort of like the words “groovy” or “far out” in human parlance). Last summer, we used a shotgun microphone and a digital recorder the size of a deck of cards, which was much more convenient than the traditional bulky parabolic microphone and cassette tape recorder. We were able to record and make sonograms of the songs of all 31 males breeding within the study area. Iris quantified the singing rates of different individuals over the breeding season and measured males' aggressive responses to tape-recorded “song playbacks.” Her preliminary analyses, drawing on Corey's DNA fingerprinting results, suggest that males that sang a lot had higher success fertilizing the mates of other males, whereas males that responded aggressively to playbacks were better able to protect their own paternity.

#### • Tree Swallows

The Tree Swallow population at Kent Island has been low but relatively steady in recent years. In 2003, only 26 pairs nested in the more than 100 boxes on the island; only four pairs nested in the north field. Their numbers were periodically thinned by the pair of Merlins that nested on the island. Free from her cooking duties until mid-afternoon, Lucy Van Hook ('06) spent her mornings monitoring reproduction in

the colony and banding and measuring adults and nestlings.

By carefully numbering eggs on the day they were laid (like almost all songbirds, swallows lay a single egg per day until their clutch is complete), Lucy demonstrated a decline in egg size with laying sequence. Checking nests at two-hour intervals revealed that 83% of eggs (86 of 103) hatched between 6 AM and 8 AM; the rest hatched before 10 AM. Hatching order paralleled laying order in most—but not all—nests. In 30% of nests, all the eggs hatched on the same day (despite being laid over a five- or six-day interval) and in 50% of nests the last-laid egg hatched a day later. In the remaining 20% of nests, hatching patterns were idiosyncratic, sometimes extending over three or more days. Hatching occurred several hours later on foggy, windy, or rainy mornings. Given the storms that blow year-round across the Bay of Fundy, it is a task just to keep the Tree Swallow boxes intact and the poles upright, but Lucy spent the end of the summer making certain that the colony would be in great shape for next spring.

#### • Bird Populations

The most unusual bird of the summer—and a first for the province of New Brunswick—was a Brewer's Sparrow observed by my Ornithology class on May 4 during our spring field trip. This is the second denizen of the sagebrush of the Southwest that has recently shown up on Kent Island, more than 1000 miles outside its normal range: in 1999 we netted a Sage Thrasher.

Forest bird populations on Kent Island tend to fluctuate in size; some species go locally extinct, only to become reestablished years later. Last year was no exception. After an absence of several years, White-throated Sparrows bred in small numbers. Boreal Chickadees have not reappeared since their disappearance seven years ago, and Red-breasted Nuthatches were unusually scarce. Six pairs of Black-crowned Night-Herons nested in the balsam firs northeast of the basin and a pair of Bald Eagles nested on Hay Island. There were no breeding Cliff Swallows, Red-breasted Mergansers, Spotted Sandpipers or American Oystercatchers, as there sometimes are, but at least one Killdeer and a few Bank and Barn Swallows spent the summer.

Andy Didyk (University of New Brunswick-Moncton), Al Canaris, and Mike Kinsella (University of Texas-El Paso) spent several days in August collecting Spotted Sandpipers and Ruddy Turnstones as part of a comparative study of helminths (parasitic worms) and feather lice in eastern and western populations of migratory shorebirds.

When Meg Boyle ('05) wasn't occupied with crabs (see below), she made observations on the foraging behavior and reproductive ecology of Common Eiders. Just as we'd found years earlier with Savannah Sparrows, eiders that nested near Herring Gulls actually suffered less egg predation, presumably because the gulls' defense of their own nests had the incidental effect of keeping potential eider nest predators such as crows at a distance.

As part of a quarter-century long project on environmental pollution conducted by the Canadian Wildlife Service, Deb Jeffreys and University of Toronto graduate student Jessica Head collected fresh Herring Gulls eggs for analysis. Back in the laboratory, the eggs were incubated and, just before hatching, dissected to measure the response of embryonic liver cells to contaminants such as dioxin and PCBs (polychlorinated biphenyls). Kent Island serves as a comparatively pristine control site where the gulls' immune responses can be used as a benchmark to evaluate responses of birds in heavily polluted sites such as the Great Lakes. Laura helped Deb and Jessica in the field. After they left, Laura gathered data on clutch size and hatching dates in gull nests along the shore versus in inland sites, which will be of use for future Canadian Wildlife Service studies.

Grand Manan ornithologist Brian Dalzell spent a second summer on the Common Tern Restoration Project on Sheep Island. Sheep now has its own "downtown," with a newly constructed camp, a 14-foot heated travel trailer, and an outhouse. To keep predatory gulls at bay, Brian fired noise-makers from late April until the first terns arrived on May 13. He also brought a rabbit hound to the island to chase gulls, but "the dog disliked the exploding scare cartridges and eventually swam off the island to nearby Kent Island, where it was found and rescued a week later." At first we were confused to hear terns calling incessantly through the fog, until we realized that Brian had set up a solar-powered sound system with recorded tern calls. Brian credits the taped calls for part of the 150%

increase in the number of breeding terns (45 pairs nested in two waves) and the successful fledging of at least 25 chicks in 2003.

### • Plant Populations

Plants on isolated islands often lack many of the insect pollinators that commonly visit mainland plants. Following up on work done by Tim Smith ('94), Andy Zink ('94), and Sarah Rodgers ('02), Erin Dukeshire ('05) set out to test whether plant populations on Kent Island had traits that indicated that they were less reliant on insect-pollination than were Grand Manan or Blacks Harbour plants of the same species. Bunchberries, goldthreads, starflowers, and Canada mayflowers did not appear to differ in floral morphology between sites. However, in accordance with our predictions, flowers in two lily species did have significantly longer anthers and shorter petals (*Smilacina stellata*) or greater anther:petal ratios (*S. trifolia*) on Kent Island than on Grand Manan.

Because we had previously shown that blue flag iris (*Iris versicolor*) could produce viable seeds in the absence of pollinators, Erin took the question one step further, asking whether fruit set could occur in the absence of pollen. Her experiment involved "castrating" 40 flowers by cutting off their stamens before the flowers opened and then bagging the flowers to exclude insects. Another treatment involved "spaying" 40 flowers (excising the stigmatic surface). Returning on the September ecology class field trip to collect fruit capsules, Erin discovered that all the plants that were denied pollen eventually aborted their capsules. Thus, irises on Kent Island are self-compatible but require some type of pollen-transfer, whether it be by insect, wind or mechanical contact.

### • Mammal Populations

Our battle against snowshoe hares continues. The introduced hares, which cause major damage to the forest by browsing seedlings and halting forest succession, rebounded after last year's shooting and trapping campaign, although their numbers were clearly diminished (c. 75%). Just in case we needed any more encouragement, Ed Minot sent us various recipes for preparing hare. Genie Wheelwright erected "hare weirs," elaborate networks of fences and traps. Laura and Lucy plan to make a fur-lined polar fleece

from the pelts of 16 hares that they skinned. The New Brunswick Beagle Club tentatively plans to spend a few days on the island this winter to help with our eradication/ecological restoration campaign.

### • Marine Biology

Bowdoin Professor Lindsay Whitlow, an expert on the ecology of green crabs (*Carcinus maenas*) in Maine, was curious about behavioral and morphological differences in the species at the northern edge of its range in eastern North America. Accidentally introduced from Europe about 150 years ago, green crabs have only recently become common in the Bay of Fundy—Russell recalls that only five years ago it was a novelty to capture the crabs in lobster traps, whereas now they abound. Working with Lindsay, Meg decided to establish “pitfall traps” (buckets buried to the brim in the sand in the intertidal zone) to sample crabs on the west beach and near the Hay Island weir. She found no differences in symmetry (based on the ratio of left to right claw length) between sexes or sites, although males tended to have bigger carapaces than females. Crabs on the west beach were significantly smaller and more likely to have their appendages intact (overall, 1/3 of all crabs were missing one or more legs), a pattern Meg attributed to the greater protection provided by the rocky western shore as opposed to the open northern end.

Because green crabs are major predators on soft-shelled clams (*Mya arenaria*), Lindsay and visiting students Sarah Fick ('04) and Amy Hodges ('04) measured the densities, sizes and burrowing depths of clams off the north beach which they will compare with commercially harvested populations in Maine and with archaeological specimens from the 1000-year-old middens at Bowdoin's Coastal Studies Center.

### • Meteorology and Geology

Bob Cunningham and his son Peter set up the weather station shortly after most of us arrived May 26 (Corey and the “sparrow team” had gone up five days earlier to get a jump on banding birds and collecting blood samples.) With Bob giving commands from the Warden's House couch, Peter and I were charged with erecting the white weather boxes. Alas, we forgot

the minor detail of guy wires. A few days later when the gale hit with 55 mph winds, the box tumbled. Although the hygrothermograph was a casualty, the Campbell datalogger survived, collecting and storing meteorological data at 10-second intervals all summer. In addition, we took our customary instantaneous meteorological measurements twice daily. It was a cool spring, which was reflected in delayed hatching in several species (the first storm-petrel hatchling was not discovered until July 11, egg-laying in Common Terns was delayed 7-10 days compared to last year, and Herring Gull eggs continued to hatch as late as mid-July). June was spectacularly sunny but July, with 25 foggy days, turned out to be the second foggiest month on record (1967, with 29, will be hard to best).

Robin Black, a geology graduate student from Acadia University, conducted a two-day survey of Three Islands and the surrounding ledges. He reported that the archipelago's geology was not particularly unusual for the region—gabbro, diabase, granite, some limestone—but that the ages of some of the islands' rocks were estimated to be approximately 610 million years old.

### Artist-in-Residence

Laura experimented with a variety of media as artist-in-residence. She carved spruce spoons and steamed slender branches to bend into bracelets. Using pencil and oil paints, she created close-up “landscapes” of natural objects. One foggy afternoon she gave an art lesson on the lawn in front of the dorm, where we sketched whale vertebrae, wooden crab boxes, tangled ropes, and sprays of grass. At the end of the summer her work (including a tapestry of hare pelts) and that of her students were displayed in an art opening in the ground floor gallery of the Captain Gillett.

### Life on Kent Island

Cooking for an average of 15 people a night is hard enough, but trying to please a vegan, three ordinary vegetarians, several committed carnivores and a lactose-intolerant would make most of us throw in the dish towel. Now imagine that the propane chest freezer “had the biscuit” (to use a Grand Manan expression) and had to be hauled unceremoniously off the island, then the propane refrigerator spontaneously and

irreparably turned itself into a freezer. (We were eventually able to replace one of them with a super-efficient SunDancer locker fridge-freezer whose energy requirements are the equivalent of a 75-W light bulb.) Unphased, Lucy whipped up delicious and timely meals on a regular basis, spiced with her inimitable theatrics and wit. Her motto and advice to future cooks: “Be brazen and bold!” Favorite dishes included calzones, lasagna, pizza, chili and beans, with vegan-friendly applesauce-based desserts of layer cakes, pies and cookies. Toshi’s labors in the garden (as usual, protected in a cold frame from the Bay of Fundy’s cool nights until mid-July) yielded fresh lettuce and radishes. Celebrating the skewed (7:1) sex ratio of students on the island last summer, Lucy put together the first PG-13 “Kent Island Girls Calendar,” illustrated by Bob Mauck’s digital photographs.

Last summer I picked up a few more boating tips while captaining our boat, the *Ernest Joy*. Beware: inside Three Islands harbor about 10 m west of “Howard’s Rock” there is a rock newly decorated with dark blue paint that is now known as “Nat’s Rock.” (I swear it didn’t use to be there!)

During the annual July 4 beach clean-up, Genie and I fell in love with a slick blue rock shaped like a stubby surfboard and decided it would make a perfect table top for the campfire site north of the dorm. The only problem was that it lay in the upper intertidal zone about a mile from downtown. After rounding up a few “volunteers” and the bucket-loader, we headed south of Camp Point to fetch it. As usual the gulls overhead hollered at us, and one of them let loose a big package that hit the rock, narrowly missing us as we scrambled to dodge it. We assumed it was—well, anyone reading this report knows what we assumed. But it wasn’t. It turned out to be a baby eider, dropped from the open sky like the Coke bottle in the movie “The Gods Must Be Crazy,” and it was still alive despite his crash landing. After letting “Sammy” (as Iris named him) catch his breath and giving him a quick swimming lesson in the basin, we deposited him among a crèche of other ducklings.

On Canada Day Russell and Joan hosted all of us for a barbecue. Inspired by Mark Wilcox’s success on the greasy pole and goaded on by the students, I tried it for the first time. I ended up in the frigid creek, of course, along with Toshi, Erin and Lucy. (Advice to future greasy polers:

veteran Beaver Mullin told me my technique was all wrong; apparently balance and control are more important than launch speed.)

David Webster (’57) visited the island to gather material for a historical video about the Bowdoin Scientific Station. The project is not yet complete but anyone interested in a copy may contact David at [dzwsr@yahoo.com](mailto:dzwsr@yahoo.com). Other visitors included regulars Ross, Susie and Katie Mauck, eight Huntingtons, Suzanne Sollecito, Alaskan smoke-jumper Roger Skarlie (who put his skills to work clearing around the Hodgson House), University of Iowa ornithologist David Vleck, Colby College evolutionist Judy Stone and Randy Downer and their children, Megan Luce, and Brunswick residents Stella Walsh and Maurice Dauphin. The Joyce family won the prize for the longest distance traveled to reach Kent Island. They came from their home in Monteverde, Costa Rica and within a day they were swimming (albeit briefly) in the tidepool at the southern end.

The foggy weather prevented us from seeing whales in 2003, but Russell recruited Laura, Lucy, Jenny and Meg to help him and Mark pull up his traps at the end of lobster season. Other summer activities included reading in the Dingleberry, the composition of numerous songs, volleyball and of course the hidey game. The end of the summer song was sung to the tune of “Jamaica Farewell.” Except for Jon, the last visitors were students from my fall ecology class and Bowdoin French professor Charlotte Daniels.

### **Addenda to the List of Publications from the Bowdoin Scientific Station and to the Website**

More than 160 scientific articles have been published in professional journals based on research on Kent Island. Papers with authors who were undergraduates at the Bowdoin Scientific Station are indicated by asterisks. Numbers in parentheses represent Contribution Numbers from the Bowdoin Scientific Station. The complete list of publications can be found on the Kent Island web page ([www.academic.bowdoin.edu/kent\\_island/public.shtml](http://www.academic.bowdoin.edu/kent_island/public.shtml)).

The Kent Island website is undergoing a major renovation. Annual Reports are now available online going back to the very first one Bill Gross wrote in 1934. You can also see group pictures from 1986-2003 and a slide movie of the island

that Bob Mauck presented to Genie and me on the occasion of my stepping down as director of the Bowdoin Scientific Station after 17 years. Bob, who directed the field station during the summers of 2000 and 2001, will take over the helm for next summer. Sometime this winter we hope to make available on the web electronic (pdf) files of all the scientific publications based on research at the Bowdoin Scientific Station.

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Nathaniel T. Wheelwright  
Director, Bowdoin Scientific Station  
December 29, 2003

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- \*Wheelwright, N.T., and R. Seabury. 2003. Fifty-fifty offspring sex ratios in Savannah Sparrows. *Auk* 120: 171-179.
- Haussmann, M.F., D.W. Winkler, K.M. O'Reilly, C.E. Huntington, I.C.T. Nisbet, and C.M. Vleck. 2003. Telomeres shorten more slowly in long-lived birds and mammals than in short-lived ones. *Proceedings of the Royal Society of London (B)* 270: 1387-1392.
- \*Wheelwright, N.T., K.A. Tice, and C.R. Freeman-Gallant. 2003. Post-fledging parental care in Savannah Sparrows: sex, size and survival. *Animal Behaviour* 65: 435-443.
- \*Lank, D.B., R. W. Butler, J. Ireland and R. C. Ydenberg. 2003. Effects of predation danger on migration strategies of sandpipers. *Oikos* 103: 303-319.
- Wheelwright, N.T., and J.J. Templeton. 2003. Development of foraging skills and the transition to independence in juvenile Savannah Sparrows. *Condor* 105: 279-287.
- Blackmer, A.L., J. T. Ackerman, and G.A. Nevitt. 2004. Effect of investigator disturbance on hatching success and nest-site fidelity in a long-lived seabird, Leach's storm-petrel. *Biological Conservation* 116: 141-148. (160)
- \*Peterson, T.S., A. Uesugi, and J. Lichter. Tree recruitment limitation by introduced snowshoe hare on Kent Island, New Brunswick. *Canadian Journal of Forest Research*. In press.
- \*Freeman-Gallant, C.R., M. Meguerdichian, N. T. Wheelwright, and S.V. Sollecito. 2003. Social pairing and female mating fidelity predicted by restriction fragment length polymorphism similarity at the major histocompatibility complex in a songbird. *Molecular Ecology* 12: 3077-3083.
- Mauck, R.M., C.E. Huntington, and T.C. Grubb, Jr. Age-specific reproductive success: evidence for the Selection Hypothesis. *Evolution*. In press. (157)

UNDERGRADUATE STUDENTS WHO SPENT A SUMMER  
 AT THE BOWDOIN SCIENTIFIC STATION SINCE 1986  
 AND CONTINUED THEIR STUDIES IN ECOLOGY OR RELATED FIELDS  
 AT THE GRADUATE LEVEL

<i>Name</i>	<i>Summer at Kent Is.</i>	<i>Graduate Program</i>	<i>Degree</i>
Mike Butler	2002	Boise State University	MS
Kevin Oh	2000	University of Arizona	PhD
Laura Minich	2000, 2001	University of New Brunswick	PhD
Akane Uesugi	2000	Hokkaido University	<b>MS</b>
		University of Michigan	PhD
Rachel Seabury	1999	University of Texas	PhD
Marci Brandenburg	1999	Ohio University	PhD
Claire Varian	1999	Washington State University	PhD
Kelly Harkless <sup>1</sup>	1999	Duke University	<b>MS</b>
Kyle Apigian	1997	University of California-Berkeley	PhD
Sarah Bartos <sup>2</sup>	1997	Washington State University	<b>MS</b>
Maria Stanko	1996	Rutgers University	PhD
Joe Fontaine	1996	University of Colorado	<b>MS</b>
		Oregon State University	PhD
Jason Johnston	1996	University of Delaware	<b>MS</b>
		University of Maine	PhD
Meredith Swett	1996	University of Texas	PhD
Andrea Kudrez	1995	Cornell University	PhD
Beth Archie	1995	Duke University	PhD
Mike Palmer <sup>3</sup>	1995	University of Kansas	<b>PhD</b>
Chris Maranto	1995	University of California-Irvine	<b>MS</b>
		University of Washington	PhD
Marney Pratt <sup>a</sup>	1995	Duke University	<b>PhD</b>
Alex Wild	1994	University of California-Berkeley	PhD
Pamela Yeh <sup>4</sup>	1994	University of California-San Diego	PhD
Andy Zink <sup>b</sup>	1994	Cornell University	<b>PhD</b>
Josh Lawler <sup>c</sup>	1992	Utah State University	<b>MS</b>
		University of Maine	<b>PhD</b>
Justin Schuetz	1992	Cornell University	<b>PhD</b>
Sarah Haggerty	1991	University of Massachusetts-Amherst	PhD
Amy Lewis	1991	Pennsylvania State University	<b>MS</b>
		South Dakota State University	PhD
Geoff Trussell <sup>d</sup>	1989, 1990	University of New Hampshire	<b>PhD</b>
Corey Freeman <sup>e</sup>	1988, 1990	Cornell University	<b>PhD</b>
Cheryl Schultz <sup>f</sup>	1988, 1990	University of Washington	<b>PhD</b>
Chris Filardi	1988	University of Washington	<b>PhD</b>
Joanna Leary	1988	Utah State University	<b>MS</b>
Peter Hodum <sup>g</sup>	1987	University of California-Davis	<b>PhD</b>
Kirsten Silvius <sup>h</sup>	1986	University of Florida	<b>PhD</b>

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- <sup>1</sup> undergraduate at Kenyon College
  - <sup>2</sup> undergraduate at Bates College
  - <sup>3</sup> undergraduate at Hartwick College
  - <sup>4</sup> undergraduate at Harvard College

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Current professional positions:

- <sup>a</sup> Coastal Studies Center Scholar-in-Residence, Bowdoin College
- <sup>b</sup> post-doctoral fellow, University of California-Davis
- <sup>c</sup> researcher, U.S. Environmental Protection Agency, Corvallis
- <sup>d</sup> professor at Northeastern University
- <sup>e</sup> professor at Skidmore College
- <sup>f</sup> professor at Washington State University
- <sup>g</sup> professor at University of California-Long Beach
- <sup>h</sup> professor at State University of New York--Syracuse

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***bold:*** degree completed

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Please send corrections and addenda to Nat Wheelwright (nwheelwr@bowdoin.edu)