

Kent Island Annual Report – 2006

Solar power, Kent Island, and global warming

Between Al Gore's movie and the Inter-governmental Panel on Climate Change, more people in the United States are beginning to wake up to the problem of global climate change. At the end of *An Inconvenient Truth*, suggestions scroll down the screen for how each person can make a difference. As I watched, I must say that I thought again and again of Kent Island. In the face of a carbon-fueled world driven by technology high and low, Kent Island serves as an example of how different things can be. Let's see how we stack up against a few of those suggestions... Thou shalt carpool. We do; ours is the Island Bound. We should turn down our thermostats by at least 2 degrees. No problem, we don't have thermostats. We should drive a fuel-efficient vehicle; why don't we just walk? Don't use incandescent lights: of course, and we will also use candles. And need I remind you that since Nat installed solar power back in 1988, the sun supplies most of our energy needs, carbon free? We aren't perfect; we don't eat enough local food, we heat with wood, and we don't keep the wagon's tires inflated at the proper pressure. However, when you step onto the wharf, or Plank Beach, you step into a way of life that exemplifies the ethic of stewardship. It is an experiment and a teaching opportunity and an example of how life can be lived and science can be done without despoiling the planet.

Kent Islanders here and there

Kent Island was well represented in Phoenix this January at the annual meeting of the *Society for Comparative and Integrative Biology*. Six students presented their work from this summer on topics ranging from barnacles (Ben Lake '08) to guillemots (Maddie Pott '06 and Emily Vaughn, Kenyon '07) to storm-petrels (Kenyon students Jenni Zangmeister '07, Jack Cerchiara '06, and Lina Moe '07). As I was touring the poster session the first night, I looked up and there was Mike Butler ('02), a one-time sparrow wrangler now

pursuing a Ph. D. at Arizona State. Mike was a co-author on Bowdoin professor Amy Johnson's talk about the biomechanics of feathers. Steve Patterson ('02) was there. He is now in the Ph.D. program at Montana, in the same lab as two other Kent Islanders, Meredith Swett ('99) and Rachel Seabury-Sprague ('01). Katie O'Reilly (U. Portland) flew in to see her one-time Kent Island assistant Alex Coverdill (Ph.D. candidate at U. Washington) give a talk on migratory behavior in white-crowned sparrows. I may have missed a few others, but Mark Haussmann (Visiting Professor and NSF Post-doc at Kenyon College) and I had our hands full just keeping up with this year's Kent Islanders. In the last 20 years, well over 50 Kent Island undergraduates have pursued advanced degrees in ecology or other biological sciences. It is hard to go a meeting and not run into several of them.

As most of you know, Kent Island wouldn't be what it is today if it were not for Alan Moses. Moses was the Grand Manan naturalist who convinced J. Sterling Rockefeller to set aside Kent Island as a sanctuary for the American Eider. His efforts led to the deeding of the island to Bowdoin College for one dollar with the stipulation that it remain forever a sanctuary. This summer, I met a friend of Alan Moses, Fisher Greene. Fisher had agreed to talk with me about Ernest Joy, the first warden on Kent Island and a great friend of Alan Moses. At the end of our conversation, Fisher told me that Allan Moses is buried in an all but unmarked grave. He and others are trying to raise \$5000 to erect a headstone in honor of this man who meant so much to Grand Manan and to Kent Island. If you would like to contribute to this worthy effort, you can send a donation to: Grand Manan Historical Society, c/o Marie Thomas, 16 Old Airport Rd., Grand Manan, New Brunswick, Canada, E5G 1A9. They are a non-profit organization and will send you a tax receipt, if requested.

Research in 2006

• Leach's Storm Petrels

Old and new. Where to begin? Two thousand six was a summer of intensive work on the storm-petrels of Kent Island. Any talk of petrels surely must start with Chuck Huntington. Chuck spent far less time on Kent Island than usual, but during the first week of June he helped Mike Hammer ('06) and Avery Forbes ('08) learn the ropes, for it was in their enthusiastic and determined hands that he left the grubbing of Petrel Path. Beginning on Chuck's traditional June 20th initiation date, they grubbed over 230 burrows, checking even those burrows given up for lost in previous years. They found 152 active burrows, which included a good number of those "forgotten" burrows and eleven brand new ones. By the time Lina Moe (Kenyon '07) arrived to study oxidative damage in petrels in July, they had found 8 birds that had been breeding for 26-31 years and another 23 individuals that had been banded by Chuck as chicks. Though new to such work, their perseverance and curiosity insured that the 53 year Petrel Path study was well served in Chuck's absence. Mike credits Avery's uncanny spatial memory for much of their success, and I am sure that Mike's great energy deserves kudos as well.

Kenyon students Jenni Zangmeister ('07) and Jack Cerchiara ('06) concentrated their efforts in the Shire. They had early help from two old Kent Islanders, Katie Mauck (Oberlin '09) and Seth Murray (WPI '06). Katie, a wily veteran of numerous petrel campaigns, spent the first week of June getting them up to speed, while Seth installed the solar power system that he designed at my request to run a system of burrow monitors in the Shire. On their own, Jenni and Jack checked all 313 burrows in the Shire. They established exact lay dates for 183 eggs and gathered demographic data on all breeding adults. This hard work let us easily determine hatch date for each egg, an essential feature of the work Mark Haussmann and I have started on storm-petrels, telomeres, and individual quality.

Jenni's primary focus was on whether male and female storm-petrels show the same degree of reproductive effort. Jenni used PIT tag readers

(thanks, Seth) and iButton temperature recorders to precisely measure sex-specific parental attendance in nine burrows, from incubation to fledging. She has sexed these monomorphic birds using DNA techniques, and should soon have a clear picture of the division of labor in each of these burrows. She also used ptilochronology – the ability of an individual to re-grow lost feathers -- to compare energy expenditure by males and females during incubation. The idea is that birds with a better energy balance can regrow a feather more quickly than energetically stressed individuals. She also assessed innate immune function in these individuals using an assay brought to the island by Jack. As immune function master, Jack used a simple assay in which the bactericidal ability of a few drops of whole blood allows one to gauge the quality of that individual's innate immune system. The technique involves agar plates, an incubator, and counting colonies. Jack was in danger of needing a lab coat on KI this year.

Preliminary analyses indicate that birds in the best energetic condition (those that grew their feathers more quickly) had the strongest immune function (their blood could kill more bacteria), suggesting a trade-off between taking care of themselves and devoting energy to raising offspring. Jack's finding that immune function decreased through the incubation period seems to corroborate that. He also found evidence of immunosenescence – i.e., immune function degrades with age – in these long-lived birds.

Mark Haussmann's work on aging in birds has gained him an international reputation and recently landed him in the February issue of *National Wildlife Magazine* (see "Why Do Animals Age?"). Mark has worked at field stations all over the world and he declares Kent Island his overwhelming favorite. Good thing, for Mark spent almost three months on Kent Island this year. He arrived in July and, except for a few short breaks, didn't leave until October. With the help of Carrie Sanneman (Iowa State '05) and Annie Valuska (Kenyon '06), Mark measured chick growth rates and collected blood samples as part of our NSF-funded investigation of telomeres and individual quality in these birds. He has spent

much of this winter running telomere gels in our lab back at Kenyon. Stay tuned.

Well, I have count eleven people I mentioned working on petrels this summer. I think Chuck might tell me there were more than that, since Chuck and a whole boatload of Huntingtons spent a few days on Kent Island in early August. Obviously, one has to count the chick-banding assistance of grandchildren Maddy, Veda, and Celeste.

• Savannah Sparrows

Caitlin Jeffrey ('07) spent the first week of June at sparrow school. That is, she tried to learn all she could about finding Savannah Sparrow nests while Nat Wheelwright was on the island. They tried to cram 20 years of sparrow knowledge into seven days of field work.

One aspect of Caitlin's honors work with Nat is to examine how weather affects daily growth rates of sparrow and swallow chicks. This is a nice addition to Nat's twenty-year study of savannah sparrow breeding biology. After finding a sparrow nest, Caitlin returned daily, rain or shine, until just before fledging to measure chick weights, tarsus lengths, and wing lengths. She did the same with swallow nests. All the while, Fog Heaven collected weather data. Caitlin could then combine her chick growth data with the hourly weather data to test the hypothesis that ground foraging birds are less affected by weather conditions than are aerial feeding birds. Since Kent Island has these two well-studied populations of passerines, one a ground feeder (sparrows) and the other an aerial feeder (swallows), the island provides and excellent opportunity to test this hypothesis.

Caitlin reports that sparrow parents provision their chicks equally well in the sun, fog, or wind. Only precipitation significantly affects Savannah sparrow chick growth, and even that isn't too severe. Swallows, on the other hand, seem to be much more affected by changes in the weather. All swallow parents do well when the sun is shining and the weather is fine. Give them some adversity, however, and some do well while others stumble. In other words, variation in chick growth increases in bad weather for these aerial foragers. Caitlin didn't find that kind of variability in

Savannah sparrows. Apparently, they just don't care what Mother Nature throws at them.

Heather Williams, ('76 and a biology professor at Williams College) returned again in May with husband, Pat Dunlavey, to record songs as males begin to establish territories. In August, she returned again, with daughter Maria and Charlie Upton (Williams '08) for two weeks of playback experiments. Heather was struck by the extent of individual variation in how birds react to her equipment. Some fall asleep, some move continually, and a few -- such as S.RN, the oldest male on Kent Island this summer -- sit alertly, but apparently unconcerned. She wonders whether these diverse "personalities" might contribute to return rates.

• Tree Swallows

In addition to working with sparrows, Caitlin was keenly interested in the tree swallows, a population that has been studied for over 25 years. Intent on how weather has affected swallow breeding success in the last twenty years, she also served as swallow keeper in 2007. As part of her honors thesis, she will examine historical data on swallow breeding success. Nat urged her to be swallow keeper this summer in preparation for such investigations and, in his words, "to put feathers on it". She spent a great deal of time early on shoring up the swallow boxes and had them ready for occupancy. Unfortunately, they were all but empty. Yes, the long term and discouraging trend continues... of only 9 swallow nests this year, 8 hatched at least one egg. Excluding one nest that abandoned early, nests averaged 5.88 (± 0.6 STD) eggs and 5.25 (± 1.0 STD) hatchlings per nest, of which only 2.25 (± 2.7) fledged. Fledging was low due to abandonment of half the nests. Eggs and nestlings produced per nest were consistent with the 20 year averages, though fledging success was low. The skies are empty. I am afraid of what we will (or won't) see next year.

• Black Guillemots

Not since W.C. Preston's work in the 1960's have the Black Guillemots of Kent Island received so much attention. Maddie Pott ('06) came to the island knowing only that they were black and

white birds with red feet and that they nest among rocks, in burrows, or amid beach debris. Two months later, Maddie had located 93 nests and measured some aspect of breeding biology in most of them. When Preston did his oft-cited dissertation, he never worked with more than 70 in one year. I don't know about you, but I am impressed with Maddie Pott.

Maddie tested the hypothesis that if predation risk differs between nest types, guillemots ought to invest more in the eggs that are relatively safe from gull predation (rock nests and burrows) than in the riskier nests (debris). For every nest, she measured egg volume and, when possible, lay date and hatch date. Mean clutch size was 1.78. Egg volume, her primary index of investment, did not differ between nest types, though rock nests showed a great deal of variation with some of the smallest and largest egg volumes recorded. Eggs began to hatch about June 27th and hatching continued into August. Forty seven percent of all eggs hatched, with an average per-nest hatching success of 40%. Burrow nests (15%) were less successful than debris nests on the beach (57%), debris nests in the vegetation (45%) or rock nests (32%). Although the sample size is low, chick survival at the beginning of August was better for burrow nests (66%), rock nests (64%), and inland debris nests (60%) than nests in beach debris (29%). We certainly know far more about guillemot breeding biology thanks to Maddie's intrepid efforts and we plan to build on this in the future.

Maddie teamed with Emily Vaughn (Kenyon College '07) to look at variation in foot color in these remarkable birds. Marko (a.k.a. Mark Murray) crafted a photographic chamber that made it possible to take photos of a red foot against a Greta MacBeth color chart under controlled lighting. Once Emily arrived for a two week stay in July, she and Maddie captured and digitally photographed 36 adults and took a blood sample from each. Emily returned to Kenyon with the digital photographs and the blood samples from these adults. For her senior honors thesis, Emily is investigating the relationship between foot color and oxidative stress in these birds. Thus far, she has found interesting correlations between foot color and some measures of oxidative stress

(i.e., catalase activity), though not others (carotenoids, surprisingly). It also appears that foot color fades once the eggs are produced, as if they no longer have a need for such showiness.

• **Barnacles**

This year, Ben Lake ('07) took the study of barnacles to new heights. Or depths. Ben decided to investigate the energetics of barnacle foraging orientation. His curiosity was piqued by Amy Lee's ('08) finding from last year that barnacles in the Thoroughfare's one-way tidal flow were generally oriented into that flow. As part of his senior honors thesis with Amy Johnson, Ben investigated whether barnacle orientation into the current resulted in more energy efficient foraging.

He collected individual barnacles on small, pebble-sized rocks from the tidal flats between Kent and Hay Island and glued the rocks onto square 2x2cm mesh screens. This allowed him put an individual barnacle into a liquid-phase respiration chamber and completely control the barnacle's orientation with respect to the current. The respiration chamber had a small window that allowed Ben to directly observe the barnacle's feeding behavior by tracking the extension of the barnacle's cirri into the water column. The chamber measured dissolved O₂ in the water by running an electrical current through the water. Since the voltage of that current directly depended on the amount of dissolved O₂ in the water, Ben could precisely calculate the metabolic rate of a barnacle in the chamber.

After overcoming a number of practical challenges, Ben tested the hypothesis that barnacles oriented such that their cirri open directly into a current may be more energetically efficient than barnacles facing away from, or perpendicular to the prevailing current. On the behavioral level, he found no effect of barnacle orientation on how long or how frequently barnacles extended their cirri into the current. The energy costs of orientation is a different story. Barnacles facing into the current use less energy than barnacles in the other orientations. This winter, Ben has extended his investigations in Amy's lab. The story is the same and the results even more pronounced. Essentially, all of this

adds up to one thing: if you are a barnacle, you should not go with the flow.

• **Snowshoe Hares**

In addition to his barnacle work, Ben wore the mantle of Hare Hunter. In our continuing effort to save Kent Island from the hares, Ben set up traps and bait stations throughout the north half of the island: along the Eagle's Nest Trail, Ted's Path, the L-transect, throughout Petrel Path, behind the Hodgson House, the West Beach, and all across the Shire. In July, he ventured to Hay Island and set traps there. Two years of hunting and trapping has thinned their ranks. Ben reduced the hare population by ten, for a total of 14 when you count the four that Nat removed in early June. Many of those fourteen wound up as dinner.

During August and September, in addition to her work with Mark Haussmann on storm-petrels, Carrie Sanneman focused her lethal attention on the hares. The survivors had begun to reproduce. Luckily for us, Carrie attacked with extreme prejudice. By the end of September, she had trapped 35 hares, of which 13 were mature adults (9 males, 4 females) from Kent and Hay Islands. By October, hardly any baits were being touched. For the next week, she caught no more hares and saw almost no sign. It is encouraging that even with 7 traps and a plethora of bait on Hay Island (the epicenter of hare trouble), she caught only a single hare. After that one was removed, not a bait was touched on Hay. Unfortunately, on the day she left Kent Island, Carrie found a sprung trap with the bait gone and a hole in the wire big enough for a hare to squeeze through. Let us hope it was a bachelor.

The best news comes from Nat. After his trip with the Ecology class in the fall, he sent me a photo. It was taken near the north end of Petrel Path. I couldn't believe my eyes -- a thick carpet of 10" white birch seedlings -- a sight not seen on Kent Island for at least half a century. There is hope.

• **Meteorological**

June was character building month on Kent Island. At least three nor'easters blew through. The wind gauge in the Warden's House registered

40mph and 44mph on June 3rd and 4th, respectively. When it passed, we breathed a sigh of relief. Not so fast. Four days later it read 56 mph. I hadn't seen such winds since I sat out Hurricane Bob in the Warden's House in September of 1991. More astounding than the wind, however, was the rain. Bob Cunningham has 56 years of June weather records and until this year, the highest recorded total rainfall for the month had been 7.66 inches in 1945, followed by 6.44 inches in 1976. This summer, the rain gauge overflowed at least twice between the 12-hour weather observations, which ought to tell you something. How does 13.02 inches sound? If wind and rain don't impress you, how about 20 days of fog, tying the record set in 1972. We emerged from June's gales wet and cold, but undaunted.

July, August, and September were tropical in comparison with a number of days in the 70's and sunshine a frequent companion. We know some of this thanks to a new Hobo Weather Station that stands a hundred meters south of Fog Heaven. The Hobo should allow us to record weather data year around on Kent Island. We are also working to make the data available to Grand Manan fisherman via the internet, since one of the local weather buoys is no longer in service. If we can do this, it means you, too, should be able to check the current weather on you favorite island whenever the mood strikes you. We will let you know when it happens.

• **Arctic Terns**

It doesn't look good for Brian Dalzell's valiant attempt to establish a tern colony on Sheep Island. The Common Tern Restoration Project had no tern warden this year. Mother Nature was on her own. It did not turn out well. When we visited the island in late June, we saw a handful of terns, but not a single nest. It was much the same when we made our annual pilgrimage to Machias Seal Island. You may remember the cacophony as you approached the mooring -- the low chainsaw sounds of the alcids, the shrieking of the terns. Not this year. Chainsaws, yes. Shrieks no. It seemed almost silent. You could walk anywhere without fear of tern attack. Complete nesting failure for the third year in a row. Hardly a tern in sight by mid-July.

Although the speculation continues to focus on the size of available herring (terns prefer small herring), no one knows for sure. I doubt that the tern failure is directly linked to the decline in tree swallows, but I can tell you that their absences in the Bay of Fundy leaves a hole in the world.

• Other Studies

Julie Ellis of Shoal's Marine Lab spent a week on the island with Sean Griffin and Andrea Bergeron wrestling herring gulls and collecting blood and fecal samples. In the grand tradition of Glen Fox and Deb Jeffries of the Canadian Wildlife Service, Julie was interested in the physiological health of Kent Island's gull population. Julie, who is now the Director of Tuft's SEANET program, reports that the Kent Island gulls may not be the archetypes we have always considered them. Preliminary results suggest that our gulls are lighter than those on Appledore Island and more likely to test positive for *Giardia lamblia* than the Shoal's population. Julie's crew arrived in time for the early June nor'easters and my recollection of them is their arrival each evening for dinner, wet and bedraggled, but still smiling.

Heather Williams, while pursuing Savannah sparrows for their songs in August, was struck by the singing of gray seals on three successive mornings. In her words, "It was enthralling - so much so that I didn't record it, sadly. To me it seemed to be the source of the legends of the sirens." One day, we may see Heather pointing a microphone toward the Moustache rather than the South Field.

Finally, it is worth reporting that Savannah sparrows and tree swallows on Kent Island are apparently fine diners. In 2005, Alan Cohen (Ph.D. student at UMSL) came to Kent Island to look at anti-oxidant levels among Kent Island birds as part of a broad-ranging study across species. Interestingly, Tree Swallows and Savannah Sparrows have a unique combination of carotenoids among the 78 species Alan has sampled. Nat points to a particular midge that is the only prey item swallows and sparrows have in common. As for storm-petrels, apparent pre-breeders caught in mist nets at night show

strikingly different anti-oxidant capacities than did breeding birds. What does it all mean? You are what you eat.

• Artist-in-Residence

Kate Hourihan ('07) arrived in June with little in the way of art supplies, hoping to use what the island would provide. Luckily, Kate is inspired by driftwood and beaches. I remember steaming into the harbor on board the Ernest Joy and seeing someone on the North Beach poking among the rocks, inspecting the flotsam and jetsam. It was Kate, of course, finding just the right medium. With the Captain Gillette as her studio and old photos of Kent Island life as her inspiration, Kate painted masterpieces on old lobster crates, wood pallets, and discarded pieces of the Rat Shack. Her art honored the history and tradition of Kent Island and she somehow encouraged the wood to help her tell each story. My favorite was of a lone oarsman and a humpback whale swimming far below, separated by weathered wood grain. When Kate wasn't working with paint and wood, she found ways to turn eel grass, rope and algae into art. In the season ending art show at the wharf, she wove her art amid the wood of the wharf, making it a part of the show. People wandered among the posts and the platforms and I was struck by the creativity of the display and the use of the space. The essence of the artist-in-residence position is total immersion and freedom to create. Kate saw it as an opportunity to learn about herself and her art, which she did.

Mike Hammer and Avery Forbes came to Kent island wearing many hats. In addition to their cooking and petrel duties, each found time for art. Mike brought his wood-working tools to the island, complete with a lathe that could only be run when the sun was shining. He was ever on the lookout for wood of the shape and heft he needed. The wooden bowls he fashioned from ash and birch are now part of our permanent collection. Avery's lasting contribution was the Kent Island Tarot, specifically the 22 cards of the Major Arcana, each represented by a Kent Island icon. The Tower -- the outhouse, of course, complete with one flag down. The Devil? The Snowshoe Hare. The Fool -- what else but the Herring Gull?

At my request she has framed a set of them and they will hang in the Dingleberry alongside the other Kent Island arcana.

• **Insular Polytechnology**

Have you ever stayed in the Rat Shack, that modest building hauled up on shore 20 years ago by Glendon Flagg for use in winter muskrat hunting? Nat paid \$50 to make it Kent Island's in perpetuity. Since then, many of you have enjoyed the weeping walls, the gulls nesting under the floor, and the gnats covering the window on a sunny day. If you are over six feet tall, you may also have enjoyed the roofing nails that protruded from the ceiling. This year, Marko looked at the rotting walls and the sagging floor and decided it was time to bring the Rat Shack up to code. He ripped out much of the north wall to see what could be salvaged. Then another wall. Eventually, only the bed and some floor joists remained. Scrounging materials, Marko worked his magic. It now stands clean and dry with headroom and handmade windows, just waiting for shingles in the spring. The cost? Sixty-four dollars and 98 cents in materials from Home Hardware. Let's see, that makes for a total of \$114.98 for prime waterfront property. The Kent Island Way.

In other battles against entropy, the rusted and leaking basin for the solar shower was replaced with a new stainless steel basin that the original owner had found no longer useful. Marko fashioned arched rafters to support it, hewn from a massive cedar washed up on the beach. Both the Captain Gillette and the Upper Lab were re-covered in the now official Kent Island red shingles, replacing the black ones laid down in 1991 and 1987, respectively. The elegant lines of the wharf were restored when Mark replaced the middle sections, thereby re-aligning the old planking with the new Gibraltar-like end section.

Finally, we upgraded the octogenarian transport system. The Kubota's forklift has a luxury option – a removable, padded chair, complete with seat belts and Susie Mauck's hand-sewn seat cover. It is fair to say that Bob Cunningham rode in style on his way from the wharf to Fog Heaven this year.

• **Life on Kent Island**

They say that too many cooks spoil the broth. Perhaps, but this year we had three and the broth was excellent. Mike and Avery were the main cooks, but Kate volunteered, too. Apparently, there is something about the artistic temperament and cooking. Two teamed to cook per night, so we had 3 combinations of two cooks and it made for delightful and varied platters. Pizza rustica with home-made dough and individually baked on a ceramic pizza dish was Mike's specialty. Exquisite, if not fast-food. He was also known for his hasenpfeffer, or snowshoe hare stew – another good use of available resources. Avery admits to some trepidation at the thought of cooking for so many people for so long, but with help from the The Clueless Vegetarian and The Joy of Cooking she shined. It should also be noted that Avery made a fine New Brunswick Cream Pie and Kent Island Upside Down Cake. Kate reports that cooking was a blast thanks to her fellow cooks and she enjoyed the challenge of pleasing carnivores with tofu creations.

Youth enlivened the island this year, with 6-month-old Kate Haussmann (Kenyon 2028?) raising the cuteness index on the island to near toxic levels. Kate and her mother Emily spent much of July, August, and September helping Mark with his research. I believe Kate is the youngest long-term resident since Ross Mauck was 8 months old in 1993. Ross, along with friend Nick Scott Smith, supplied the island with thirteen-year-old-boy kind of energy. With the help of Susie, they produced a video of KI life to show Nick's mother back in Ohio. In a letter to ex-Kent Islander Lela Stanley ('05), Ross Mauck noted that many of the students were just like Marko -- seriously into coffee and crosswords.

Other new visitors included Jesse Rickard, a home schooled student from an organic farm in Ohio. Jesse accompanied Lina and Emily from Kenyon and provided the legwork to run samples back to the lab for processing in a timely fashion. Jamie and Glenn Forbes made the trek to visit daughter Avery, as did Caitlin's parents, Marilyn and Steve Jeffrey. Steve followed his visit with a package containing a wealth of information about

Kent Island's geologic history. Apparently, I had underwhelmed with my knowledge in that area.

There were a number of recaptures this year, too. Sonja Tate visited for a day, seeing again the sights and sounds she remembered from the days when Myhron was caretaker. On Grand Manan, Peter Cunningham had a successful run at the Grand Manan Art Gallery with his photographic celebration of all things Grand Manan. Fortunately for us, it brought Peter to the Bay for most of July and to Kent Island more than usual. Peter and technical assistant Ola Kwiatkowska of Wroclaw, Poland, joined us for the World's Most Memorable Whale Watch in late July. Smooth seas, high clouds, and a slight sea haze set the stage for an adult humpback whale to frolic with the Island Bound for over an hour. Awestruck doesn't begin to cover our reaction. Russell declared he had never seen anything quite like it.

At the Canada Day celebration in Seal Cove, we learned the value of never-say-die. The dory competition provided the stuff of fable. Each entry is a single dory with one man on the oars, the other pulling and baiting traps. Each heat is a two-boat race. Chris Ingalls and friend H.R. Cassabaum won the first heat going away. Next up was Theron on stroke and cousin Scott on traps. Theron jumped out ahead, pulling hard, then disaster struck. An oar snapped, the boat wheeled, full stop. Game over, right? Maybe, but there is no give up in Theron Ingalls. No matter that the other team had a 100 meter lead and both oars in the water. Theron jumped in the bow and paddled with the one oar he had left, losing ground with every stroke. I admired his perseverance, but held out little hope. Did Theron really believe there was a point to continuing? Then, without warning, Mark Wilcox in the other boat lost an oar. It floated away, out of Mark's reach. Theron kept on paddling. Paddled right by them. Scott pulled and baited the trap. They paddled back. Winners. That sort of mentality must come in handy mid-winter when it is blowing a gale and the ice is flying in the Bay of Fundy. An object lesson for us all.

Addenda to the List of Publications from the Bowdoin Scientific Station

The complete list of more than 155 scientific publications can be found on the Kent Island web page (www.academic.bowdoin.edu/kent_island/public.shtml).

Freeman-Gallant, C.R., N.T. Wheelwright, K.E. Meiklejohn, and S.V. Sollecito. 2006. Genetic similarity, extra-pair paternity and offspring quality in Savannah Sparrows. *Behavioral Ecology* 17: 952-958.

Hausmann, M.F., D.W. Winkler, C.E. Huntington, I. C. T. Nisbet & C. M. Vleck. 2007. Telomerase activity is maintained throughout the lifespan of long-lived birds. *Functional Ecology*. In review.

Mauck, R.A., K. Matson, J. Glazer, and R.E. Ricklefs. 2007. Incubation depresses immune function in Leach's storm-petrel (*Oceanodroma leucorhoa*). *Functional Ecology*, in Review.

Wheelwright, N.T., M.B. Swett, I.I. Levin, D.E. Kroodsma, C.R. Freeman-Gallant, and H. Williams. 2007. The influence of different tutor types on song learning in a natural bird population. *Animal Behaviour*. In review.

Wheelwright, N.T., and J.D. Rising. 2007. Savannah Sparrow (*Passerculus sandwichensis*). *The Birds of North America Online* (A. Poole, Ed.). Ithaca: Cornell Laboratory of Ornithology. 90 p. In press.

Robert A. Mauck
Director, Bowdoin Scientific Station
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