

News Splash

The National Marine Life Center, Inc. Newsletter @ www.nmlc.org @ Vol. 10, No. 2, Summer 2006

Message From The President



Kathryn Zagzebski

I recently had the privilege of attending a Sea Turtle Husbandry Workshop in Galveston, Texas. I learned a great deal from some of the foremost sea turtle researchers and caretakers in the country. I learned about the post-hatching frenzy that young hatchlings go through in an effort to flee predators and other threats. I learned about researchers who have managed to raise leatherback turtles in captivity - a tremendous feat with these exclusively open ocean animals. I learned about veterinary challenges and diet and tagging and training and enrichment devices. It was an extremely worthwhile experience. As part of the workshop, I visited the NOAA Sea Turtle laboratory. Here, they were giving dozens of young loggerhead turtles a "head start", and also taking the opportunity to conduct research that may help future loggerheads in their species struggle for survival. As I gazed into the eyes of one tiny hatchling and imagined the challenges it would face even with its "head start", I resolved to do my part to save this youngling and every other sea turtle I encounter.

The power of an individual encounter with a wild animal cannot be overstated. These beings, so foreign and different from ourselves, nevertheless have something tremendous to offer. Wendell Berry said it best in his poem *The Peace of Wild Things*.

"When despair for the world grows in me
And I wake in the night at the least sound
In fear of what my life and my children's lives may be,
I go and lie down where the wood drake
Rests in his beauty on the water, and the great heron
feeds.

I come into the peace of wild things
Who do not tax their lives with forethought
of grief. I come into the presence of still water.
And I feel above me the day-blind stars
Waiting with their light. For a time

I rest in the grace of the world, and am free."

Let's all do our part to preserve and protect the peace of wild things.



Loggerhead hatchling in the "head start" program at the NOAA Sea Turtle laboratory.

Whale Trail Auction

Over the summer, the National Marine Life Center is hosting mammals of a different sort - two fiberglass painted right whales that are the first stop on the Cape and Islands Whale Trail.

"How I Spent My Summer Migration" depicts a juvenile right whale and his whimsical journey up the coast. Artist Melinda McAra also included conservation messages in a fun and interesting way - through postcards from "Always Right Whale" to his friends. This whale was sponsored by an anonymous donation through the Boston Foundation.

"They Just Keep Coming Back" depicts the Cape Cod Canal and the three bridges that cross it. Fourteen-year old artist Isle Keijser, the youngest artist on the trail, wanted to create a message to help the critically endangered Northern right whale, of which there remain only 350 left. Sponsored by Realtor Dale Keijser (www.4SalebyDale.com), this whale is currently up for auction, with proceeds benefitting NMLC. To bid, visit: <http://capeandislands.thewhale-trail.com/> and click on "auction."



Photo by David M. Stone

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Mission Statement

Dedicated to rehabilitating and releasing stranded whales, dolphins, seals, and sea turtles, and to advancing scientific knowledge and education in marine wildlife health and conservation.

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Brian's Song

The National Marine Life Center is proud to welcome Brian Moore as our new Animal Care Technician. Brian comes to us with many years of experience in animal care, having worked at the Alaska Sealife Center (ASLC) as an aquarist intern and life support technician while also volunteering his time in the rehabilitation and animal husbandry departments. After leaving the ASLC, Brian spent three years at the Alaska Zoo working his way up from a volunteer to a zookeeper position responsible for the care and training of numerous arctic and sub-arctic animals, including (his favorite) "Ahpun" the polar bear. In addition to contributing his husbandry experience, Brian can also tackle many of the NMLC's building maintenance and life support system tasks.

Brian graduated from Colorado State University with a Bachelor of Science degree in Zoology. During college, he worked as entomologist assisting in a study of organic pesticides on food and maintaining a traveling live arthropod collection. He spent a summer mentoring inner city kids at a camp and enjoyed teaching them various activities such as archery, fishing, canoeing, and rock climbing.

Brian has also fished professionally in the commercial salmon industry, worked at a gold camp in a remote town called Chicken (an actual gold mining town!), and served four years in the U.S. Navy. He brings great experience and enthusiasm to the NMLC - Welcome, Brian!



Brian teaches animal care volunteer Lauren Deweese about feeding turtles.
 Photo by Lori Boex.



Dr. Michele, Brian, and Danielle affix permanent tags on Kelly, in preparation for release.

NMLC Begins Research Program with Sea Rogers Williams, VMD

Dr. C. (or "Sea") Rogers Williams recently joined the NMLC as our part-time research veterinarian on an "IPA" assignment from NOAA. Rogers received his undergraduate degree from Georgetown University and his veterinary degree from the University of Pennsylvania. He supplemented the typical core work in vet school with a field study program studying Kit foxes in Death Valley for the Smithsonian Institution, and with two short programs involving marine animals - Aqua-Med in Texas and Aqua-Vet II in Woods Hole. After two years of veterinary medicine and surgery in Erie, Pennsylvania and on Martha's Vineyard, Rogers went to the National Aquarium in Baltimore to serve a one-year clinical internship. Returning to the Vineyard Veterinary Clinic, this time as owner, Rogers has been in this private, mixed-animal, three-doctor practice for an additional eight years. He helped to found the Island Veterinary Emergency Service, and also is active in the marine animal stranding community as a primary responder for the Island. In 2003, Rogers also began working for NOAA Fisheries as a Veterinary Medical Officer at the Woods Hole Science Aquarium.

Rogers' philosophy for high quality veterinary care is a rational, diagnostic, and academic approach to problems. "Veterinarians have no crystal ball or magic wand, but are trained in the application of diagnostic based technologies and knowledge in the identification and treatment of disease and trauma," states Rogers. He continues, "sickness has no ego, and medical care is a team effort that includes all the caregivers." We are pleased to have Rogers as part of the NMLC's medical team.

Rogers' clinical interests include infectious diseases and parasite infections. He has published in the fields of cetacean physiology, aquatic ophthalmology, and infectious disease. Feeling strongly that we owe it to future generations to disseminate our findings, Rogers makes it a priority to identify publishable information, to work at a publishable level in all cases, and to present information in a variety of formats including case reports, peer reviewed journal articles, web based information access, and presentations at relevant meetings. At the NMLC, Rogers is working on creating a medical database to streamline medical care and make it easier for future research. He is also helping work on Smarty's case. Finally, he is building partnerships and identifying research opportunities for the NMLC. Thoughtful scientific research to benefit our patients as well as learn more about marine wildlife health and conservation is an important part of the NMLC's mission, and we welcome Rogers to initiate this goal.



Rogers ultrasounds a sea turtle at the NOAA Woods Hole Science Aquarium.

Wish List for Animal Care

If you have any of these items available to donate, please contact Danielle O'Neil, Animal Care Supervisor, at (508) 743-9888 or doneil@nmlc.org. Your gifts help us provide the best possible care for our patients. Thank you!

- ~ Small "Pony" Oxygen tank, E cylinder size with regulator and cart
- ~ Electric clothes dryer
- ~ Small gram scale
- ~ Gas anesthesia machine
- ~ Portable vital signs monitor
- ~ Centrifuge
- ~ Autoclave for surgical tools
- ~ Laundry detergent and bleach
- ~ Hand sanitizer
- ~ Gift certificates for Stop and Shop, WalMart, PetCo, PetSmart, Amazon.com and Home Depot for animal care supplies
- ~ Plastic cutting boards for food preparation
- ~ Flashlights and batteries
- ~ New rubber boots (galoshes)
- ~ Rolling handcarts (Rubbermaid)
- ~ Hand trucks
- ~ Stainless medical exam table
- ~ Submersible fish pond pump
- ~ Rubbermaid storage cabinets
- ~ Portable tent/canopy to cover equipment
- ~ I-Stat handheld machine
- ~ Sterile Syringes; 3cc, 6cc, 12cc
- ~ Stethoscope
- ~ 18 inch & 24 inch metal hemostats
- ~ Tape measures
- ~ Hammers
- ~ Bolt cutters
- ~ Stainless or plastic boat hook
- ~ Boxes of trash bags-all sizes
- ~ Toner for Epson Stylus Color 1160, HP DeskJet 5650 and HP Deskjet 3650
- ~ Reams of white recycled paper
- ~ Pentium computer & monitor

Smarty's Story

By: Michele A. Sims, D.V.M., Associate Veterinarian

At the time of this newsletter, I am happy to report that six out of our seven Kemp's ridley sea turtles are healthy and ready for release when ocean water temperatures permit. Our seventh turtle, "Smarty," is recovering from inflammation of both elbows which has been making swimming difficult for her. Smarty is actually too young to determine what sex he/she is, but we at NMLC have affectionately referred to her as a girl and for simplicity's sake, I will continue to do so in this report.

Smarty is one of the first three Kemp's ridleys to arrive here at the National Marine Life Center. She stranded at First Encounter Beach in Eastham, Massachusetts on November 12th, 2005 suffering from being cold stunned. Cold stunning occurs when a sea turtle fails to make its migration south before the ocean temperature becomes too cold for this cold-blooded reptile to maintain its appropriate core body temperature. Cold stunning can result in frostbite lesions, pneumonia, and even trauma when the animals are rendered unable to swim and slammed with the tides against rocks and other debris. Sadly, it can also result in death.

Smarty was initially treated at the New England Aquarium's Critical Care Unit. Once stable for several weeks at the Aquarium, Smarty was transferred to NMLC on December 5th, 2005. Upon admit at NMLC, she weighed 2.5 kilograms (kg) (5.5



Ultrasound of Smarty's right elbow.

pounds), and had some mild, superficial lesions on her carapace and flippers. Otherwise, she looked fairly healthy. Smarty has been one of our best eaters and, of all the turtles, most easily acclimated to her new surroundings. She continued to eat competitively and gain weight to the point that she was beginning to look a bit overweight at 6.7 kg (14.7 pounds) and was placed on reduced calorie diet in mid-April.

On April 24th, Smarty began to develop swelling of her elbow joints and lost interest in food. Radiographs at that time revealed soft tissue swelling around both elbow joints. We were unsure whether she had injured herself or was possibly suffering from a bacterial or fungal infection. She was placed on antibiotics, antifungal medications, and an anti-inflammatory drug to help ease her pain and inflammation. Over the next week, she continued to lose much of her normal range of motion in her left elbow joint and some in her right. Repeat radiographs two

weeks later revealed lytic lesions in her left radius, ulna, and humerus.

In an effort to characterize and monitor Smarty's health and the progression of her lesions, we took cultures of her joints.

So far, these cultures are negative for bacteria and fungal

organisms. We take radiographs of Smarty's joints every two weeks and blood samples monthly. On several occasions, we have taken ultrasound scans of her elbow joints. In conducting these diagnostic tests, we have also performed radiographs, blood work, and ultrasounds on the other turtle patients both to check for lesions and to establish baseline normals for comparison. While these tests were helpful, we still needed more information. On May 30th, in cooperation with Woods Hole Oceanographic Institution, we took a CT scan of Smarty to gain additional information about her joint lesions. On June 2nd, we took Smarty to the Large Animal Hospital at Tufts Cummings School of Veterinary Medicine for a nuclear scintigraphy procedure.

During nuclear scintigraphy, a radioisotope is injected intravenously and follows a progression of absorption into the bloodstream, into soft tissue, and into bone. Images are then taken at the time of interest, which in our

Smarty's Story, continued:

case was during bone uptake. These images will show areas of high metabolic activity and can often reveal the exact location and intensity of a lesion. Smarty is scheduled to have a repeat CT and nuclear scintigraphy in August to help us determine how well she is healing and if she will be able to be released this year.

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Currently, Smarty has regained her healthy appetite and is also regaining mobility in both of her elbow joints. She weighs in at a slightly pudgy 7.2 kg (15.8 pounds). Our hope is that she will be well enough for release later this summer. If so, we would like to place a small satellite tag on her so we will be able track her progress in the wild. We are currently raising funds to purchase the tag (approximately \$4000 for



Dr. Michele & Danielle placing Smarty in the CT scanner at WHOI. Photo by Rogers.

the tag and satellite download time). To donate, visit us online at www.nmlc.org.

Swelling of the joints in conjunction with lytic lesions of the bone is a syndrome that has been reported in other Kemp's ridley sea turtles that have cold stunned. This syndrome can present at any time up to several months after the initial cold stunning event.

Sometimes the syndrome has been associated with bacterial infections, but often the cause is unknown. These lesions can, and in many cases will spontaneously resolve with or without antibiotic or antifungal therapy. Turtles who have recovered from this have been satellite tagged and gone on to thrive after release.

We at the National Marine Life Center, in conjunction with our partners in the stranding network such as the New England Aquarium and the Woods Hole Science Aquarium, are working to characterize the cause of these lesions by continuing to pursue imaging modalities and other diagnostics with Smarty as well as with any future cases that may arise. Hopefully one day we will understand the causes of this puzzling disease and be able to treat it more effectively.



Smarty's nuclear scintigraphy scan.

ENCOUNTERS: Visit to a Marine Animal Rehabilitation Hospital

By: James A. Zagzebski

The magnificent Kemp's ridley turtle surfaced in the large circular pool, just four feet from me. The name given to him by his caregivers is "Smarty." For a brief moment Smarty and I made eye contact, he likely just checking to see whether I might be coaxed into tossing a few more herring bits his way, and I wondering "Who are you?" "How did you get here?" Smarty had been separated from the other sea turtles in the enclosure because he was gaining weight too fast - at the expense of his companions. But my mind wandered from the immediate surroundings, wondering how far he had traveled in his short life time, picturing the scientific charts used to illustrate ridley migration patterns, and imagining the life experiences an animal that spends most of its time submerged must have gained.

Biologists know where Smarty likely began his epic journey, a journey that eventually brought him to the National Marine Life Center here in Buzzards Bay. NMLC staff estimate Smarty was born in the spring of 2004. A Google search discloses web sites reporting most Kemp's ridleys hatch on a beach in northern Mexico. Currently, there are only about 900 nesting female Kemp's ridleys. Although each female lays 200-300 eggs per year, only 1 in 1,000 of these eggs survives to become an adult sea turtle. Natural predators take their toll, gradually dwindling a cadre of 1,000 down to a single animal like Smarty. Some predators simply rob eggs from the nests crudely carved in the sand, while others pluck the young hatchlings as they race to the safer waters of the Gulf. Likely, others gulp up young turtles in the months before their carapace grows firm and offers protection

from larger sea creatures.

Smarty and his ancestors have survived this difficult life journey for centuries, but now they are in danger of becoming extinct! The delicate balance that has resulted in an intact species, in spite of dismal youth mortality rates, has been upset by the presence of man. We stack the deck, so to speak. Our species is very clever at poaching and is very efficient at dispatching critters who otherwise might have a more than fighting chance of escaping their natural predators. Even without trying to harm them, people's actions take a toll, where their fishing nets continue to capture - and drown - Kemp's ridley and other sea turtles. Careless dumping of garbage in the oceans further injures or kills innocent animals.

Scientists believe Smarty and his fellow survivors followed the warm Gulf Stream waters around the Florida peninsula and then up the Atlantic coast. A few lingered too long off the coast of upper Cape Cod last Fall, and were "cold stunned." The story has been documented wonderfully by NMLC staff.

Now, seven of these sea turtles effortlessly swim about in the center pools. The only sounds are of occasional splashes when one surfaces for air, and of course the constant droning of NMLC's life support system pumps, cleaning and filtering the sea water. Even voices are subdued, a reminder that this is a rehab facility and that the sea turtle's presence here is only temporary. But seeing and working with these creatures in real life, even though their stay may be brief, is a reminder of the importance of the work the staff at the National Marine Life Center carries out. Hopefully, this work can offset some



Smarty surfaces in the NMLC rehab pool.
Photo by David M. Stone.

of our own careless behavior regarding the oceans and animal life, and the scientists at the center and other facilities can gain insight from their studies of these animals that will expand the knowledge needed to live in harmony with sea turtles.

Soon, Smarty and his companions will return to the sea, perhaps entering the water along a beach not too far from here in Buzzards Bay. Anyone who has ever "rescued" any small painted or snapping turtle (the kind we have back home in Wisconsin) knows that the animals will not linger very long on the beach; their instincts will literally drive them to the salt water as quickly as possible. Some lucky volunteers will have the chance to carry Smarty's cage to the water's edge. If it's you, please be sure to watch whether Smarty interrupts his journey into the water, to turn briefly back and maybe even make eye contact. If this happens, it might be his way of saying "that's the end of today's lesson. Now go, do good work ... and try to give a few other critters the chance you gave me."

James is a Physics Professor in Wisconsin.

Community Support



The Sea Cadets presented NMLC with the "Bravo Zulu" award, in recognition of our mutual partnership.

On May 6th, a group of Sea Cadets from the U.S. Naval Sea Cadet Corps, Gosnold Division

came to the National Marine Life Center for a work detail. This time around, they helped organize our storage area, plant our gardens and planters, and put a new coat of paint on our picnic table. Thanks to their hard work, our Marine Animal Discovery Center is fresh and inviting for our summer visitors. Since 1958, the Naval Sea Cadet Corps has been committed to providing American youth with a drug and alcohol free environment to foster their leadership abilities, broaden their horizons through hands-on training, and guide them to becoming mature young adults. We are grateful to the Cadets for their continued dedication and community service to the NMLC!

On June 10th, the Small Animals Program at Bristol County Agricultural High School held a dog wash to benefit the National Marine Life Center. Led by teacher Eve Lippold, the students washed numerous dogs and raised \$145! The students had learned about the NMLC through a lecture given at their high school and through a subsequent tour of NMLC. After seeing the lecture, another student in the Natural Resources Program took it upon herself to collect change to make an additional donation! The mission of Bristol County Agricultural High School is to provide students with an opportunity to acquire a high quality vocational/technical, academic, and social education in preparation for a changing world. We hope that exposure to marine wildlife rehabilitation at NMLC will offer students an educational experience as well as an interesting career alternative.



Bristol Aggie students wash dogs to benefit NMLC.



Eric rakes and weeds our whale garden.

For four weeks this spring, during May and early June, NMLC was pleased to host Eric

Anderson, a community service volunteer from Cape Cod Academy. Seniors at Cape Cod Academy are required to complete 80 hours of community service in order to graduate, and Eric chose to work at NMLC. Not afraid to get dirty, Eric cleaned and painted our second bathroom, painted the filtration room, helped get the Discovery Center ready for our summer season, and even assisted with an outreach event. Eric also helped out around the office with a myriad of small but necessary chores such as vacuuming, folding and stuffing newsletters, and trash/recycling duty. We were pleased to offer Eric the opportunity to shadow the animal care staff during a couple of turtle feedings, so he could learn more about marine animal rehabilitation. Thank you, Eric!

Join the National Marine Life Center's Ocean Legacy Society

Through the years, several friends of NMLC have included us in their wills or trusts. If you are thinking about making a planned gift to NMLC, please let us know! Honoring NMLC with a gift through your will makes you a member of The Ocean Legacy Society, established to recognize donors who have made life income gifts or have remembered us in their estate plans. Members receive select mailings and an invitation to a special event. Most importantly, your membership helps ensure that the highest level of rehabilitation is provided to the animals we care for. Your support also helps us provide important environmental education programs and continue important research projects.

We would like to welcome you as a member of the Ocean Legacy Society!



Valentine. Photo by David M. Stone

- Yes! I have included NMLC in my estate plan.
- Please send me more information about including NMLC in my estate plan.
- Please send me information about life income gifts.

Name: _____
 Address: _____
 City: _____ State: _____ Zip: _____
 Telephone: _____ E-mail Address: _____

Summer Educational Offerings

Join us in the NMLC's Marine Animal Discovery Center for an education program! Please call (508) 743-9888, or refer to our website at www.nmlc.org for more information. RSVP recommended. Suggested donation \$3 per person per program. All donations will be put towards our educational programs and our marine animal rehabilitation efforts.

- Mondays:** Lecture Series, 7 pm
- Tuesdays:** Fins & Flippers Club - Story Time, 10 am
- Wednesdays:** Marine Friends Project, 10 am
- Thursdays:** Fins & Flippers Club - Arts & Crafts, 10 am
- Fridays:** Turtle TLC, 12 noon
- Saturdays:** Do-It-Yourself Arts & Crafts, 10 am to 5 pm
- Sundays:** Do-It-Yourself Arts & Crafts, 10 am to 5 pm



Painting a t-shirt during Fins & Flippers.

The **Monday Night Lecture Series** presents information on a variety of topics relevant to marine animals and the ocean environment. Recommended for older teenagers and adults.

The **Fins & Flippers Club** provides a weekly themed story time on Tuesdays and arts and crafts time on Thursdays. Recommended for younger children, ages 4 to 8.

The **Marine Friends Project** provides a weekly themed program about ocean conservation and how young people can help. Recommended for older children, ages 8 to 14.

Turtle TLC is an opportunity to meet the NMLC animal care staff and learn more about our patients. Recommended for all ages.

Do-It-Yourself Arts & Crafts are available on the weekend, to enhance your visit to the NMLC's Marine Animal Discovery Center. Recommended for younger children, and kids of all ages.

Many of these programs are available as private educational programs or birthday parties at your venue or ours. Call Joanne Nicholson to schedule a program for your school, club, or community group.

*Photo by David M. Stone
Artist: Melinda McAra
"How I Spent My Summer Migration"*



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