

Wildlife Session (Room 127):

Notes taken by Jennifer Harris, Maine DEP

34 people present at start of presentations, counted by Brad Zitske, IF&W (room monitor)

The Marine Mammal Rescue Team, Seacoast Center: Ashley Stokes, Rescue Manager

1. The program started Jan 1, 2014. The goals of organization are to minimize threat to humans and animals, educate the public, lessen the pain and suffering of animals and collect scientific data. The organization does this work in compliance with legal agency requirements, including NOAA and the federal government. The organization is located from Maine down to Virginia and Ashley works within the northeast network of marine mammal rescue. In New Hampshire (NH) alone, their territory spans the entire coast and three of the Isles of Shoals. They assist NOAA with the northern part of Massachusetts (MA) Salisbury, Newburyport, Newbury, Ipswich and Rowley. In the fall, they will formally be taking over this area. Four staff work at the science center. A vet steps in if there are complex cases and is always on call. Work is completed with the help of many volunteer field responders. The organization is responsible for the 24 hour hotline providing first response to calls of marine mammals. Staff wear bright yellow shirts so they are impossible to miss.

All marine mammals are protected by Marine Mammal Protection Act (MMPA) that was established in 1972. Staff running the hotline has to respond to every report and every call is taken into account. They get calls for different animals as well, skates, seagulls, etc. All animals have to go into the national database. What staff and volunteers see most often, is that well-meaning people interact with animals before the staff and volunteers can respond to a call, and the organization tries to minimize this interaction. It can be harmful to the animal. Although the organization does not do rehabilitation, they do transport animals to the New England Aquarium, the Mystic Aquarium and National Marine Life Center. Marine Mammals of Maine in downeast Maine just got permission to rehab a small amount of animals long term, so they will soon be transporting animals there as well. The organization does not do necropsies in house, instead they can be done at the New England Aquarium center in Quimsy, MA.

To provide a summary, last June 45 foot humpback whale necropsies were done in the field. The organization is not responsible for disposal of any of the animals and they do everything they can to work with the towns to coordinate disposal. In NH, most towns are currently working with the organization. In the off season though, responders will leave animals on site. During holidays, this is not an option though. Deceased animals are often found with their nose intact and no eyes. Staff and volunteers take measurements, determine the sex of the animal, identify the species, identify the age class and look at the teeth. They then create a photo-array and mark carcass so that if they leave the animal there and it washes out with tide and shows up somewhere else, it does not get double counted.

When they send animals for a necropsy, there is a tissue archive. Most of samples get sent out for histopathology as well as frozen. If something comes up, such as an unusual mortality event, samples

that were collected can be used as reference points. During the weanling season, pups are typically on the beach with their mothers. Responders will leave Seal resting signs next to pups for the public to see. Harbor seal pups will be with mom for three weeks. It is important to keep a safe distance, 150 feet approximately, from marine mammals. Not an option on some of the beaches b/c they are so small. So the rescuers determine what distance is safe. The organization will keep field responders in position next to a known seal for as long as necessary, but this is also dependent of inclement weather. Responders analyze animals to see if they need rehab, or what needs to be done like relocation. If relocated, the young ones get fluids and are given a flipper tag. Unfortunately, right now everywhere is full and cannot accept rescues. Sick or abandoned seals typically are found with propeller wounds near the neck and abdomen, due to the animal trying to turn away from a boat. This is hard to differentiate though from shark bites. Right now, responders are usually seeing boat strikes. Pneumonia, respiratory infections, etc. will start to show after July. Pupping season has already passed, but this is when they run into abandoned pups.

Goal of all responders is to eventually release the animal. They like the animal to get back in the water on its own, etc. They are semi-aquatic, and meant to be on beach. If rescuers need to collect a young animal, they use a towel to get them into the crate. Grey seals are more aggressive. Larger animals, they use swine herder/crowder boards to get into a crate. Rescuers will approach animals from the water, and leave the kennel door open as escape for the animal from the boards.

Example rehab, National Marine Life Center, will give fluids and time to rest before the animal is offered its first feeding. If the animal is just relocated and released, they will be tagged. Tags are given number, and hotline number on other side. Males tagged on left, females tagged on right hind flipper. Most reports occur during beach season, rely on public to call in. Harbor seals= born May\June, most common calls. October, they aren't doing really well and get calls about them.

Success story = Seal Armstrong, grey seal pup, found Feb 22, 2016 in NH. Collected, but first left out to see if mom would return. Skinny, picked him up went to rehab. National Marine Life Center was used. Tube fed, so doesn't get familiar with humans and associate them with food. Once onto fish, staff play games to get their natural drive to eat fish working. Put mummichogs in pool so that they get the hunting drive. He was released May 31. Took time b/c came in anorexic.

How can the public help rescuers?: Keep back. Don't feed them. Don't pour water on them or force them back in the water. Don't take them home. Don't touch them. Call it in (603) 977-9448. (997?) No seal selfies!!! NOAA. Contribute funds, they are a non-profit. Rescuers watch for 24 hours before they decide to pull in an animal. Snow plow, the humpbackwhale, is who they did the necropsy on recently. Deemed shipstrike.

Questions and Answers:

- a. Mortality event = 2011 harbor seals. New England Aquarium. 170 in two months. Pattern to whales that did not die from ship strikes? No pattern yet but working on it. Of the ones necropsied, high number ship strike = outlier.

- b. Relocation does not mess with younger animals. They move around, harbor seals, a couple private beaches that they choose is where they are released. Chosen because private and the people there are advocates and will call it in if they see anything they are concerned about.

US Fish and Wildlife: Bri Benvenuti: Rachel Carson National Wildlife Refuge =

2. Tidal marsh biodiversity = space that links land and sea. Important habitat. Filter pollutants, nursery habitat for fish species, mitigate coasts from storm events by absorbing extra water. Only 25 species of terrestrial mammals, reptiles and breeding birds that only use tidal marshes. Challenging environment for animals to live in because they have to deal with tidal inundation that fluctuates throughout the year and salinity (have to have way of absorbing water and excreting salt). Have to be able to find shelter to protect yourself from storms and other critters. However, there is abundant food, insects, etc. and little competition between species.

Most tidal marshes are heavily fragmented and there is currently 17,000 square km of marsh worldwide. 1/3 of this is along the Atlantic coast of US. As sea levels rise the marsh cannot move inland, if sea wall exists = coastal squeeze. Anthropogenic human causes over time have caused tidal restrictions by building on top of and through marshes, i.e. roads. Water cannot fit through culverts on both sides of the road, e.g. Furbish road, so water backs up on both sides. A Furbish Road study in Wells, demonstrated change in hydrology causes can cause marsh to become deteriorated because not getting the water and sediment deposits it is used to.

Historical Agriculture in tidal marshes has also altered them. Ditching, grazing, and conversion are examples of historical agriculture. Recently, tidal marsh loss has been happening due to sea level rise. In Delaware, there is an example of tidal marsh loss at the Blackwater National wildlife refuge. Marshes along the Atlantic coast are vulnerable to this loss as well. 6-22% will experience loss by 2080 depending on what model you are interpreting.

Study performed = To address changes, the refuge has been looking at tidal marshes since 1998. In 2011 they teamed up with the Sharp (Saltmarsh Habitat and Avian Research Program), Gov non-profit and academic collaborators and the salt marsh habitat and avian research program. Correll et al. 2017 is a specialization index of birds. It describes specialists' animals that use our systems in New England (NE), because not all 25 species do. Five indicator species were chosen for this study. These were Seaside sparrow, Willet, Slatmarsh sparrow, Nelson's sparrow and Clapper rail. A few of them can use different habitats too. They counted these species over time, in different areas of the tidal marshes, sampled 3 times per year since 2011. The study ultimately achieved the goal of generating population estimates for these indicator species. For Saltmarsh sparrow, results were broken down further into the different bays and areas of NE. Most of the saltmarsh sparrows were found on coastal NJ. Willets and Seaside sparrows results showed no change throughout NE. The study did find a decline in Nelson sparrow and sclapper rail (~4% annual). The largest decline was in the Saltmarsh Sparrow (9% annual).

Ultimately, the study showed that the saltmarsh sparrow is now the canary of the salt marsh. The sparrow is a tidal marsh obligate, and had a population declination of 9% annually. They are the most

promiscuous birds and mating is scramble mating competition. Females provide the only parental care. Males compete to mate. They are a ground nesting bird, generating 3-4 eggs per nest. They can have more than one nest per breeding season and have low nesting success because they nest on the ground in the tidal marshes. Love to run and not to fly. Nesting cycle fits between tidal cycles, approx. 29 days as an evolutionary tactic to decrease flooding risks. However, with sea level rise this is becoming more difficult because the tidal cycle windows for nesting are declining. If eggs can stay in a nest, the female returns and warms them up. But if the eggs flood away from the nest, the female cannot get the eggs back into the nest and the offspring are not successful.

Another study was performed in the Eldridge Marsh and Scarborough marsh. The study monitored nests, and once found they monitored them for 3 days, either until they were successful or failed. Birds were captured using mist nets and the adults and nestlings were banded. Trends and overall reproduction over time were analyzed with the data collected. The study found that the average number of broods is not keeping up with what would be needed to replace adults in the marshes. Brood sizes were smaller. Population viability analysis, over time looks like... population is declining at all of the sites except one in NE.

Right now, the refuge is collaborating with RI, Parker River CT, UNC, UNH. They know more now about activities in breeding grounds. They want to gain more knowledge because previously most has been known about breeding grounds, some about wintering grounds but not much about post-breeding/migrator movements. Previously, VHF nano-tag radio transmitters have been put on birds to track their movement, looks like a backpack. Their migration is tracked from Oct 3 – Nov 16. Folks are seeing trends in the movements. Birds from Maine leave earliest to go south. Birds from Maine stop in MA on way the down and stay for a little bit. Then both MA and ME go to RI and wait for a week. Stops along path indicate areas for refueling, scouting, etc. Results from this study can help the refuge address questions such as, what areas can they protect for these birds along the migratory routes? Right now they are also trying to track northward migration.

Tidal marsh management strategies = Marshes need to be able to build elevation faster than sea level rise. They need to allow for marsh migration. This can be done by taking out sea walls where possible, as well as increase marsh elevation. GBNERR in NH is looking at abutting agriculture fields for marsh migration. A suggestion is to also cut trees along edges of marshes, accelerating the movement of marshes towards the upland. Dam removal can help too because it allows more sediment to come down the rivers and deposit over the marsh surface to replenish it. A thin layer sediment deposition method can also be performed, but this is a costly and time intensive method that will take material from dredged channels and spray it manually onto marsh surface to raise the elevation.

Q's :

- a. Nelson sparrows, higher rates of nest failure.
- b. When sparrows on Long Island, migrating south, staying in marshes. But not easy to say exactly where they are going on Island.

- c. Would they nest if there were specific nesting platforms? Answer = maybe – some preliminary research on this found it's hard to get the vegetation to grow, but sparrows have been found using natural islands in marsh.
- d. Nest cup depth, has that changed? = not related to tide height, location or predation. May be an article of how it gets measured. The canopy does influence success though. For predation, flotation, etc.

Sue Schaller, Wetlands and Wildlife Biologist, Bar Mills Ecological =

3. Sue presented on landscaping to meet the needs of people and wildlife. Single greatest cause of wetland loss is people filling their back yards. Certain species have been driven to adjust their behavior to have access to water. Connectivity and continuity of habitat is important for wildlife. Habitats can be partitioned vertically as well as horizontally.

What can you do? Answer = E.g. Biologically correct bird houses. Cornell Ornithology lab has info for how to get the specs for certain bird species. People can also buy pollinator habitats. If you add trees and shrubs to your yard, use natives and have bloom throughout the season. Pollinators suffer from pesticide use. Discourage everyone from using the Scotts 4-step process because it dumps fertilizer on property that could be lost into nearby water ways from rain events, etc. Spay and Neuter your pets. Do not release your pets into the wild! Sue does feral cat trapping. Does neutering and puts into homes. She does not put them into the wild. She also does rabies vaccinations. 80% of cats are the cats that are dumped by people. Dogs create disruption of wildlife too. Be a responsible pet owner. At least get your pets spayed or neutered!!

Native vegetation supports wildlife, green infrastructure. If properly placed and once established, they do not need support like other plants. Ultimately, they require less care, pesticides, and less fertilizer. However, selection and proper placement are key variables to planting them.

Need to know how much sunlight the plants need: Sun, (partial-shade, deep shade, sun, etc.). Need to know what the soil is = Soil chemistry: acidic, neutral and basic. Pretty much acidic or neutral soils Sue deals with inland. Need to know if working in Coastal zone and in a dune system. In the back dune, there are examples of vegetation that tolerate salt water, however in a storm they will die, for example Bay berry. When there are low soil nutrients and tidal action in the dune system, it is hard to keep plants alive. Many people don't realize how large the dune is and if they are in it, they just think they are on the beach. They need to be aware of where the back dune vs. frontal dune is, vs. the Highest Annual Tide (HAT) line which is the edge of the coastal wetland, etc. They have to know where they are working when want to put in native plantings. For example, in the frontal dune good plants are american beach grass, beach pea (fixes nitrogen) and seaside dusty miller (sold as wormwood sometimes). Pitch pine is used where there is not usual over-wash, staghorn sumac can be used as well. But they cannot tolerate tons of salt water. Beach plum is also a suggestion. Bayberry, Virginia Rose (replaced rosa rugosa), Sweet Fern, are examples of natives that work in sunny, sandy dunes and edges. Woolly beach heather is not

invasive! Do not remove it. It lives in dry and droughty stressed locations. Please do not remove! It can survive in soils that have low nutrients.

Examples of other plants that are suggested for specific environments (can be found on Sue's slides. I tried to summarize below but could have some typos) =

- a. Sunny sandy coastal yards and gardens: Common Milkweed = supports butterflies. Shrubby cinquefoil and yucca filamentosa (sp?).
- b. Mostly sunny, coastal yards and gardens = Ninebark, Gray Panicle dogwood, New Jersey Tea (Sue hasn't been very successful at growing these).
- c. Mostly sunny, coastal yards and gardens: Meadowsweet, fragrant sumac, winterberry
- d. Sunny, partial shade, moisture soils: Jackpine, hawthorne, Linden/Basswood
- e. Wetland sites = spicebush, buttonbush, fall blooming witchhazel is native, swamp azalea
- f. Sunny, partial shade = moisture soils : Tulip tree, sassafras/mitten tree, inkberry, red twig dogwood
- g. Sunny partial shade, moisture soils = Sweet pepperbush, flowering raspberry (considering using to beat up invasive) shadbush
- h. Sunny partial shade, moisture soils: Red chokeberry, black chokeberry, bush honeysuckle
- i. Mostly sunny = turtlehead, cornus racemosa, (missed one...)
- j. Sunny moisture soils, butterfly gardens: Montauk Daisy, not native but used for butterfly gardens! False Indigo, Joe Pye Weed
- k. Sunny moisture soils and butterfly gardens gave three examples on slides
- l. Sunny partial shade, moisture soils: Elderberry, spiked gray fettle, steplebush

Where people can make a vegetated buffer, this helps the dune system. Sue gave an example behind Palace play land. Because the vegetation is now taking hold, it traps sand in front of it as well and helps the clients beach system and decreases the amount of sand that goes to the house, etc.

Invasives in Maine that shouldn't be planted: Japanese Knotweed, hard to get rid of. Bittersweet is difficult as well. Honeysuckle, Japanese barberry. Multiflora rose and rosa rugosa. Orange day lilies. Perennial pepperweed in the coastal zone, grows at saltmarsh edge and displaces seaside golden rod.

Best botanical reference Sue gave on her slides = Donald J. Leopold, Native plants of the Northeast. And the National list of plant spp that occur in wetlands, Region 1 – Northeast, Resource management group Inc, PO box 487, Grand Haven MI 49417. Also, she suggested a website called Plant native list, for New Hampshire and Maine and Vermont. It's a starter list. Just search Maine native plants.

www.plantnative.org.

Animals need food, water, space and cover. When we build in their habitat animals don't have choices. Urged everyone to plant natives, hack away at invasives. Use pesticides and fertilizers sparingly. Sue doesn't put in permanent irrigation. She tries to plant things that will succeed on their own.

