

**2019 ANNUAL REPORT – Marine Debris**  
**N.H. Coastal Marine Natural Resources and Environment Commission**  
**(COMNARE)**  
**for meetings between**  
**November 1, 2018 – November 1, 2019**

The Coastal Marine Natural Resources and Environment Commission (COMNARE or “the Commission”) was established by the NH Legislature in 2016 to (6, p.2):

- I. Investigate, monitor, and propose prevention and mitigation strategies for emerging environmental threats in coastal and Great Bay waters, including but not limited to warming of waters, ocean acidification, sedimentation, and nutrient loading, which impact fish, shellfish, and the food chain thereof.*
- II. Identify gaps and recommend improvements in water quality monitoring, including monitoring pH and evaluating its impact on the impaired waters designation of water bodies.*
- III. Recommend strategies for enhancing capacities for improving water quality.*
- IV. Examine the Blue Carbon credit program for sea grass promotion and oyster bed restoration.*
- V. Report annually on November 1 to the chairpersons of the house and senate committees with jurisdiction over issues affecting coastal marine resources and the environment, the president of the senate, the speaker of the house of representatives, and the governor*

After a first-year focus on the potential impacts of ocean acidification and second year focus on nitrogen pollution, the Commission shifted its focus in 2018-2019 to better understand the problem of marine debris as an emerging environmental threat to New Hampshire’s estuaries and coastal marine resources. Specifically, the Commission focused on two of the leading components of marine debris - marine plastics and derelict fishing gear (primarily lobster gear). As a result, the summary and recommendations provided here are limited in scope, and do not represent a comprehensive assessment of issues related to marine debris in NH.

Six speakers were invited to share their perspectives on the impacts of plastic and derelict fishing gear on NH’s coastal resources. The presentations are available on the NH Sea Grant portal for the Commission (<https://mypages.unh.edu/comnare/home>). In addition to these speakers, Dr. Gabriella Bradt, Fisheries Extension Specialist for NH Sea Grant who has

participated in several marine debris removal projects, and Erik Anderson, President of the NH Commercial Fishermen's Association, joined the Commission for marine debris discussions.

**March 18** – Bonnie Brown, UNH Department of Biological Sciences, and Representative Judith Spang

<https://mypages.unh.edu/sites/default/files/comnare/files/2019-03-18-summary.pdf>

**April 22** – Demi Fox, National Oceanographic and Atmospheric Administration (NOAA) – Overview of NOAA's Marine Debris Program

<https://mypages.unh.edu/sites/default/files/comnare/files/2019-04-22-summary.pdf>

**June 24** – Rebecca O'Brien, Surfrider NH – Marine Debris Clean ups and Research

<https://mypages.unh.edu/sites/default/files/comnare/files/2019-06-24-summary.pdf>

**Oct 21** - Jen Kennedy, Blue Ocean Society and Cheri Patterson, NH Fish & Game – Derelict Fishing Gear

<https://mypages.unh.edu/sites/default/files/comnare/files/2019-10-draft-summary.pdf>

### **SUMMARY OF FINDINGS**

Plastics have become the fastest growing pollutant in US coastal and estuarine waters, accounting for up to 80% of marine debris. Marine debris is found everywhere from the deep sea to shallow coastal and estuarine environments. Plastic is the most abundant form of marine debris with more than 8 million tons dumped in oceans every year. Larger plastic pieces are problematic because they are ingested by birds, fish and other marine life, and because they break down into tiny particles called "microplastics" that are found in just about every aquatic system studied, as well as in many organisms and humans. A number of studies indicate that microplastics damage aquatic organisms (particularly those at the top of the food web) by blocking digestive tracks, and by altering feeding and reproductive patterns.

What do we know about marine debris in NH? The Blue Ocean Society (BOS) tracks the type of debris found on their weekly cleanup events at NH beaches. At 195 clean up events, they collected 100,000 items – the top five types of debris are cigarette butts, rope, plastic pieces, foam pieces, and wrappers. Over a 12-month period they collected 5000 plastic bags and 2300 plastic straws.

BOS and NH Sea Grant have been sampling for microplastics at beaches since 2014, looking in detail at one-meter plots at five NH beaches. Most microplastics are rope filaments, foam, and plastic fragments from lobster traps. In other studies, research shows that 20% of microplastics come from derelict fishing gear, 80% comes from terrestrial sources.

There are many published reports about the prevalence of microplastics and the effects on some coastal and marine species. Yet little is known about ambient or environmentally relevant microplastic concentrations in estuarine waters or sediments including those of the Great Bay and coastal region of New Hampshire, nor about microplastic concentrations in estuarine species (e.g., oysters, lobsters, fishes) that are either residential (oyster) or migratory (fishes).

Derelict fishing gear, both recreational and commercial, is a problem in the water where it lies abandoned as well as on the beaches where some of it is deposited during storms. In the water, the gear may still trap marine life and continue to break apart; on land the gear creates plastic and metal waste: it is heavy, potentially dangerous, and challenging to dispose of. Current state law considers all fishing gear to be private property - even when it is abandoned - so it cannot be collected without a NH Fish & Game Conservation Officer on site.

Since 2015, NHFG has had a contract with NOAA Fisheries to maintain a 30-yard dumpster in Seabrook where fishing gear can be deposited or reclaimed and is hauled four times each year to Covanta Industrial Waste Management to become part of a recycling stream between Covanta and Schnitzer Steel. In addition, NHFG, Sea Grant, NHDES, and the lobster community conduct an annual coast clean-up in April each year since 2007. The state supports this annual coastal clean-up event through an annual \$5000 grant, but a more sustainable source of funding is needed.

### **RECOMMENDATIONS**

1. NHSG and other organizations should work with NH DES on the 10-year Solid Waste Reduction Plan to include marine plastics in its scope.
  2. Single use plastic including bags, utensils, straws and polystyrene foam is a significant source of plastic pollution on NH's shores and in the marine environment. NH should adopt statewide bans on such products and enable local municipalities to further restrict the use of products that are non-recyclable or non-compostable.
  3. Given the challenges and increasing cost of recycling and solid waste disposal<sup>1</sup> NH should collaborate with neighboring states to adopt through legislation an "Extended Producer Responsibility" policy that shifts the cost of plastic disposal, to the companies that produce it.
  4. Container-deposit laws are well-proven to be an effective approach to reducing beverage-related trash and a significant percentage of recoverable material from
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municipalities' waste stream.<sup>1</sup> NH should consider a bottle bill in conjunction with expanded solid waste reduction initiatives.

5. NH DES, NH Fish and Game, NH Sea Grant, UNH and other state organizations should seek support to further research on ambient microplastic levels, pathways for microplastic transfer through ecosystems, impacts of microplastics on the marine food chain, including plankton, and potential human health impacts from consumption of fish and shellfish.
6. Smoking on state and municipal salt-water beaches should be banned to eliminate the presence of cigarette butts. A ban should be coupled with a broader education campaign about how cigarette butts impact our beaches and coastal waters. Under House Bill 139, 2019, rulemaking should proceed to ban smoking on salt-water state beaches. Further bans should be considered at the municipal level.
7. Currently there is effective interagency coordination to address the marine debris problem within NH including NH Commercial Fishermen's Association (and other fishermen's groups), NH Division of Ports and Harbors, Municipal Public Works Departments, NH Sea Grant, NH Fish and Game, NOAA Fisheries, Department of Natural and Cultural Resources, and NHDES. These collaborative efforts should continue to be supported and enhanced when possible.
8. NH organizations and agencies should explore more opportunities to coordinate and implement NOAA's, three-state Gulf of Maine Marine Debris Action Plan.<sup>2</sup>
9. With respect to derelict fishing gear
  - The commission recommends the reintroduction of Senate Bill 712 Derelict Fishing Gear
  - The commission recommends the reintroduction of Senate Bill 728, the Coastal Program Bill.
  - The State of NH should seek and/or provide funding to conduct marine surveys to identify hot spots of ghost gear and provide for their removal.
  - Work with the fishing industry to explore methods for improving compliance with existing laws such as RSA 163 and RSA 211:31 to prevent intentional cutting or abandonment of fishing gear and to encourage proper disposal of derelict gear.
  - NH Fish and Game should coordinate with the fishing and aquaculture community to develop recommendations requiring harvesters to reduce, collect and dispose of derelict gear.
  - Explore establishing standards for plastic coating and other plastic components of lobster traps that will be more durable and resist degradation.

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<sup>1</sup> (<http://www.container-recycling.org/index.php/issues/bottle-bills>)

<sup>2</sup> <https://marinedebris.noaa.gov/regional-action-plan/gulf-maine-marine-debris-action-plan>

## **REFERENCES and RESOURCES**

November 1, 2019 Report of the Committee to Study Recycling Streams and Solid Waste Management in New Hampshire, HB617, Chapter 265, Laws of 2019

*The Gulf of Maine Marine Debris Action Plan* was created by a voluntary, collaborative effort of 30 organizations from the United States and Canada to address marine debris through coordinated actions, encompassing work that will be undertaken in 2019 - 2024.