

2005 New Hampshire *Alexandrium* Bloom

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The 2005 Paralytic Shellfish Poison season in New Hampshire was one of the most severe ever recorded, marked by record toxicity levels and unusually long closures. Weekly blue mussel sampling in Hampton/Seabrook Harbor began in April, with toxin levels reported as <44 micrograms toxin per 100 grams tissue. Offshore sampling at Star Island, Isles of Shoals began in the first week of May, and the high toxin level from the first sample collected at this site illustrated that an intense offshore bloom was underway. The high toxin level prompted an immediate closure of offshore waters for harvesting of all species. A strong coastal storm with sustained winds from the east affected the area on the weekend of May 7-8, and within one week, blue mussels in the Hampton/Seabrook Estuary began to show low levels of toxin. By May 18, toxin levels were rapidly rising, and the nearshore waters of the Atlantic coast and Hampton/Seabrook were closed to harvesting on May 19, 2005. Offshore mussels at Star Island also showed a rapid increase in toxin levels through May, peaking at over 1200 micrograms toxin per 100 grams of tissue in mid-June. The severe algae bloom and high toxin levels prompted sampling in other areas, particularly in the sections of the Great Bay Estuary still open for harvest. Sampling of blue mussels in Little Bay showed toxin levels rising in late May and into June, but not to levels that would warrant closure (one sample showed levels just under 80 micrograms per 100 grams, but by this time the area was under a seasonal closure for boat sewage risk, so no PSP closure was necessary). Oyster sampling in Great Bay showed no toxin in early June, but low levels of toxin were detected in mid-June. Levels at this site did not approach the mandatory closure limit. Sampling in Little Harbor was limited because a seasonal closure for boat sewage risk was in place before the PSP bloom affected nearshore areas, but sampling was conducted to track the bloom's effect on this area. Moderate toxin levels were detected in June, but had dropped to background levels when the area was next checked in October (prior to the lifting of the seasonal boat sewage risk closure).

Offshore Atlantic waters were closed to all harvesting for the period of May 5, 2005 to July 26, 2005 (85 days), interrupting offshore mussel aquaculture operations. Nearshore Atlantic waters were closed to harvesting of all species from May 19, 2005 to July 21, 2005 (64 days). The closure on Atlantic surf clam harvesting remained in effect until December 2005.

Sampling load for 2005 was 58 percent higher than that in a typical year.

Sampling at Star Island in 2006 will begin in early April, one month earlier than in previous years.