Unexpected and Unpredictable Jellyfish Surface in Rhode Island Lakes

COOPERATIVE EXTENSION
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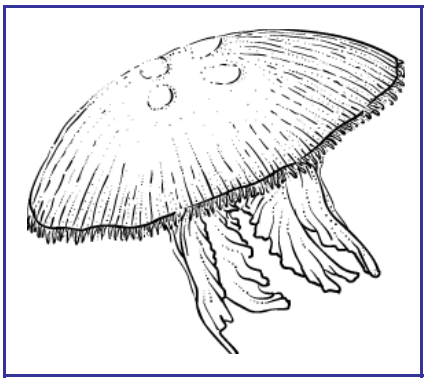
Freshwater jellyfish, *Craspedacusta sowerbyii*, were sighted in three RI lakes during the summer and fall of 1995. Only one other confirmed sighting of jellyfish was ever recorded in RI natural history, Waterman Lake in Glocester/Smithfield in 1990. In 1995, URI Watershed Watch volunteer water quality monitors were responsible for two sightings. During their weekly sampling trips in early September, monitors on Lake Mishnock in West Greenwich and on Lower Sprague Reservoir in Smithfield observed thousands of these jellyfish in their respective lakes. After reading an article about the jellyfish in a local newspaper, two 13-year-old boys reported that while canoeing in Peep Toad Pond in Scituate, they had seen jellyfish throughout most of the summer and into the fall. Soon after the news articles appeared, a shoreline resident of the Lower Sprague Reservoir reported that he had seen the jellyfish in the lake in previous years. Another account of jellyfish sightings in previous years was reported to the RI Department of Environmental Management (DEM) by a lakeside resident of Lake Mishnock. The 1995 sighting are considered official because they were verified scientifically. The reports from URI Watershed Watch monitors on these lakes enabled biologists to collect samples confirming the 1995 sightings. These monitors have the satisfaction of having contributed to the official RI natural history.



Since first documented in the United States in 1908, these unpredictable and sporadic organisms have been reported in 35 states. The jellyfish have been found in lakes, farm ponds, quiet coves of rivers, and old water-filled quarries. Like their saltwater relatives, freshwater jellyfish are translucent, bell-shaped organisms with 50-500 tentacles along the bell's edge. This stage of jellyfish life is known as the **medusa**. Medusae can grow to the size of a quarter, but those sighted in RI were only about the size of a dime. Freshwater jellyfish generally live in water of pH range 6.5-8.5. This alkaline (non-acidic) "hard" water is more common to northern RI, where most of the sightings occurred. Blooms of medusae can be seen anytime between July and October when lake water is warm and food is abundant. Their tentacles capture and sting microscopic animals, such as rotifers and brine shrimp, for food. This sting is not felt by or harmful to humans. The free-swimming medusae, which move by contracting their body, are not the favored meal of other lake organisms. Bass, for example, will ingest these jellyfish but then spit them out.

The **polyp** may be the dominant life stage of freshwater jellyfish. In this stage, the stalked polyps live in colonies usually of 2-4 individuals attached to substrates, such as lake bottoms, underwater rocks, and rooted aquatic plants. Due to their insignificant size, less than 2 mm long per individual, these microscopic polyp colonies are often overlooked. When subject to environmental stresses, possibly changes water temperature, food abundance or water depth, the polyps may break off buds that develop into the medusa form of jellyfish. During spring and summer months, polyps feed and reproduce, but the cold waters of late fall and winter cause the polyps to contract into an inactive "resting body" that is protected by a secreted sclerotized coating. This resting body also forms in response to prolonged starvation. The resting body will transform into the polyp form when more favorable conditions return to the waterbody.

Since so little of its biology is known or understood, occurrences of freshwater jellyfish are unpredictable. No one can forecast if or when another jellyfish bloom will occur in RI lakes. The new awareness of URI Watershed Watch volunteer water quality monitors and lake users will encourage rapid reporting of jellyfish sightings which may enable scientists to learn more about these elusive organisms.

For more information about freshwater jellyfish, contact Dr. Terry Peard: Dept. of Biology, Indiana University of Pennsylvania, Indiana, PA 05705, tpeard@grove.iup.edu; http://nsm1.nsm.iup.edu/tpeard/JELLYFISH.HTML

To report jellyfish sightings in RI or for more information about URI Watershed Watch, contact Linda Green at 401-874-2905, lgreen@uri.edu

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