
ENVIRONMENTAL Fact Sheet



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FAQs about Rock Snot in New Hampshire

During the summer of 2007, the first population of *Didymo* (also called, “rock snot”) was found in the Connecticut River in Pittsburg, N.H. This non-native and invasive alga forms thick mats of felt-like growth on rocks, and can impair the recreational and ecological values of waterways in the state. Below are some frequently asked questions about rock snot, and the answers to each question.

Q. What is *Didymo*?

A. *Didymo* is the common name for *Didymosphenia geminata*, an invasive freshwater diatom (microscopic alga). *Didymo* can form extensive “blooms” on the bottoms of rocky river beds, essentially smothering aquatic life forms such as macroinvertebrates (aquatic insects), native algae, and other organisms. *Didymo* uses stalks to attach to rocks and plants in a river system. The diatom actually creates these stalks, which can form masses 3 inches to 5 inches thick on the river bottom, and trail for lengths of 2 feet to 3 feet in the current. It is actually the stalks that are more problematic than the alga. The alga will eventually die off and decompose, while these stalks tend to persist for several months on the river bottom.



Q. Where did it come from?

A. *Didymo* is generally a northern circumpolar species, found in colder, low nutrient, high clarity streams. We are noticing, however, a shift in the habitats where *Didymo* can survive now, which includes streams in warmer climates, streams with more nutrients, and streams with moderate clarities and even some tannic (tea colored) waters. *Didymo* is currently found in Europe (Scotland, Poland) and it is spreading throughout the Northwest U.S. It is also in Quebec and British Columbia. New Zealand has been particularly hard hit by the *Didymo* problem. We believe *Didymo* was introduced to this region by contaminated fishing/wading gear.



Q. Why is *Didymo* a problem?

A. *Didymo* will change the bottom appearance, structure, and food web of a stream. Ecologically, common macroinvertebrates found on the bottoms of well-oxygenated streams will

change to more worm-like and snail populated communities. Aesthetically, the brownish-white flowing masses of stalk structures are unpleasant to see and recreate in.

Q. What is the current distribution in the Northeast?

A. As of fall 2007, *Didymo* extends from just north of Lake Francis in Pittsburg, down through Northumberland, N.H. In other states, portions of the White River in Vermont downstream of the Stony Brook confluence are infested, and the Batten Kill river between Vermont and New York has some populations of *Didymo*. Most recently, the East and West Branches of the Delaware River in New York and Pennsylvania support populations of this alga.

Q. What does it look like?

A. *Didymo* is often described as looking similar to a sewage spill with wet toilet paper streaming in the waterbody. This is the result of the stalk material becoming long and shredding at the ends, and bleaching white. These mats have a slimy appearance, but are not slimy at all to the touch. Over time, the bloom may take on a brownish/floccy appearance as sediment particles become embedded within the stalks.

Q. What does it feel like?

A. *Didymo* feels like wet felt, wool, or cotton balls. It is hard to pull apart, and hard to remove from the substrate it has attached to. In contrast, most other algae species feel slimy and will slip through your fingers.

Q. Does it smell or have an odor?

A. Generally, no. There is no distinctive odor or smell associated with the alga or the stalk material.

Q. In what types of habitats/conditions is *Didymo* generally found?

A. *Didymo* is found in river systems with stable substrates such as cobble or rock bottoms. Water conditions are usually clear, cool (optimal temperature is about 60oF), have high light penetration, and lower nutrient concentrations. Flow conditions are generally moderate to moderately fast.

Q. How does *Didymo* spread?

A. This alga is so small it can go unobserved when it is a single algal cell on the bottom or in the water column. Additionally, the alga can remain viable for several weeks if kept moist. Because of this, spread of the alga is unfortunately easy. Felt soled waders are often particularly to blame, since fishermen use them to gain a grip on slippery, rocky bottomed areas. The alga easily becomes attached to the felt, and if not properly cleaned or thoroughly dried before use, the diatom can spread to another waterbody. Any other recreational equipment, including bait buckets, neoprene diving gear, water shoes/sandals, canoes, kayaks, and life jackets, to name a few.

Q. Will we ever get rid of it?

A. There is no means of “eradication” for this alga. Copper sulfate complexes can be used, but they are not 100 percent effective. Some algae will survive and float downstream and form new colonies. Many researchers across the globe are currently working on control and eradication methods, however.

Q. Can *Didymo* grow in lakes?

A. Yes, since *Didymo* is an alga, it can certainly grow in lakes, ponds, or other freshwater systems. *Didymo* generally will not reach bloom conditions in these types of systems, however. *Didymo* will mostly be a problem in river systems. In fall 2007, biologists from the N.H. Fish

and Game Department noted the presence of Didymo attached to some of the nets deployed for a period of time for fisheries sampling in Lake Francis.

Q. What do I do if I think I saw Didymo?

A. First, consult the link on the Didymo page at www.des.nh.gov/wmb/exoticspecies called “How to Tell if You May Be Seeing Didymo” to determine if the specimen is worth collecting. If yes, then collect a representative sample of what you are seeing, and send it to the N.H. Department of Environmental Services or the Vermont Department of Environmental Conservation. Addresses are listed on the identification page. Please send samples to the agency in the state where the sample was collected. Include a location description, estimate of the area that is impacted, and date/time the sample was collected. GPS coordinate are also very helpful, if you have a GPS unit handy. Samples can be folded into a business card, or placed into a jar or plastic baggie.

Q. What is the response strategy that is being taken to combat this problem species?

A. The biologists from both the Vermont and the New Hampshire environmental agencies have met and will be coordinating on strategies to track and monitor Didymo spread. Signage is available from either state agency, or by download from www.des.nh.gov/wmb/exoticspecies on the Didymo page. Laboratory personnel in each state are prepared to examine specimens that are sent in for identification. We are all now just learning how to respond and contain (if possible) this new threat to our waterbodies. More information will be posted on the New Hampshire/Vermont Didymo websites as it becomes available. A summer 2008 sampling strategy is currently being prepared.

Q. What should I do?

A. We prescribe a “CHECK and CLEAN” protocol.

CHECK – Remove all visible clumps of algae and plant material from fishing gear, waders, clothing, water shoes and sandals, canoes and kayaks, *and anything else* that has been in the water.

CLEAN – Soak and scrub all items for at least 10 minutes in *very hot water* with lots of soap. Felt-soled waders need 30 minutes!

Q. Who should I contact for more information?

A. **In New Hampshire:** contact the New Hampshire Department of Environmental Services at (603) 271-2248 or visit www.des.nh.gov/wmb/exoticspecies/.

In Vermont: contact the Vermont Department of Environmental Conservation at (802) 241-3777 or visit www.vtwaterquality.org