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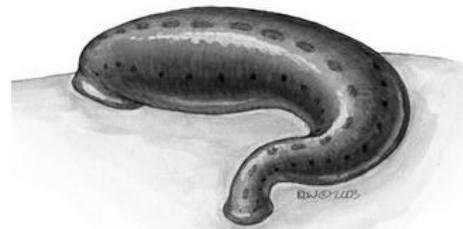
2011

Leeches in New Hampshire Waters

Leeches are extremely common

Leeches are a natural component of lake and pond ecosystems. The presence of leeches is in no way associated with polluted water. A common misconception is that only one type of leech exists – the parasitic bloodsucker, when in fact, over 650 species of leeches exist in North America. Many species of leeches can exist in any one water body. Most are predaceous, feeding on worms, snails, fish eggs and aquatic insects.

Others are scavengers, and only a small minority of leeches sucks blood from warm-blooded animals. The leeches also provide food to many aquatic predators and aquatic birds, as well as turtles, snakes and crayfish. Leeches are probably present in most New Hampshire lakes, but because they are chiefly nocturnal, they are infrequently observed. However, a bather may periodically find a leech attached to his or her body after swimming. Although they cause no physical harm, many people find an attached leech to be somewhat disconcerting.



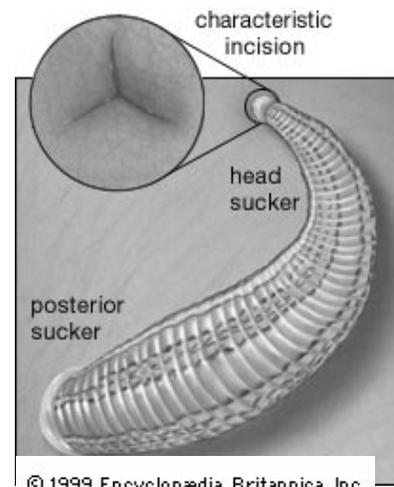
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Leeches are found in a variety of freshwater aquatic environments, including lakes, ponds, marshes, springs and slow streams. They are generally found in the area between the water's edge and two meters depth, and prefer areas protected from wave action. Greatest numbers occur in areas having stones, sticks, plants or other debris to which they can adhere and be concealed from predators and sunlight.

Water disturbances such as splashing are known to attract leeches through tactile (touch) stimulation. Leeches also have organs that use a chemical sense to find food. Blood sucking leeches may be attracted to bathing beaches, remaining hidden until lured by food.

The Northern Bloodsucker

Although as many as six different genera of leeches may take blood from a person if the opportunity arises, in New Hampshire only the northern bloodsucker or *Macrobodella decora* (North American medicinal leech) regularly takes human blood. This species is an olive green color with dark, sometimes reddish-orange, spots along the upper surface and reddish-orange underneath. *M. decora* usually feeds on fish and amphibian



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species, but will also feed on mammals. It attaches to the host with its caudal (tail) sucker and explores with its anterior end until a suitable spot is located, with preference given to cuts, abrasions, or thin-skinned areas. A painless Y-shaped incision is made with three saw-like jaws. The incision is anaesthetized with an unknown substance and the host is unaware of the leech's attachment. A salivary secretion including the anti-coagulant hirudin, which acts as a blood thinner, passes into the wound to facilitate the flow of blood. Sufficient blood is taken to distend the stomach and cause the leech to be as much as five times heavier as it was before. From the human aspect, the amount of blood taken is minimal. The leech will voluntarily drop off after completing its meal and will seek darkness and concealment. It will not feed again for weeks or perhaps months.

If the leech is allowed to complete its meal, much of the hirudin is withdrawn before dropping off. If the meal is curtailed, hirudin remains behind and the wound may continue to bleed for a short time. Some people are more sensitive to the anti-coagulant than others, just as some are more sensitive to mosquito bites. The usual reaction is an itching. Leeches apparently transmit no human diseases, although a bite could become infected just like any other open wound.

Can leeches be controlled?

There are no guaranteed, environmentally safe chemical control measures that effectively reduce leech populations. Most chemicals are lethal to fish at concentrations below what is lethal to leeches. Any chemical application to a state waterbody requires state review and permits and the probability of receiving such permits is highly unlikely. An excessive amount of lime (100 pounds per acre per day) has been reported by at least one author to temporarily discourage leeches from a localized bathing area. However, in the lake as a whole, such a treatment would actually encourage leech growth.

The easiest and safest method to reduce leech populations is to create a bait trap. Using a coffee can with small holes or fish bait bucket, place a piece of fish or red meat in the can, and remove the trap when full of leeches.

A healthy fish population will keep a good control on the leech population. Sunfish in particular are known for feeding on copious amounts of leeches.

Any water level manipulation in late fall will expose over-wintering leeches to freezing conditions but, would also increase the mortality rates of other aquatic organisms that burrow in the mud.

Leeches like to remain concealed under sticks, stones, and other debris. Cleaning a small shoreline area by removing leaf litter and other organic debris will eliminate leech habitat and help reduce the number of leeches at that location. Any extensive lakeshore cleanup may require a Wetlands permit. Because leeches are found in relatively shallow waters along the shore, the likelihood of a leech attaching to a swimmer will be reduced if swimmers spend more time in deeper waters.

For more information

For questions or concerns regarding leeches in New Hampshire waters, please contact the NH Department of Environmental Services Limnology Center at (603) 271-3414 or walter.henderson@des.nh.gov.