

# BUGS BELOW ZERO

Winter-active aquatic insects, including stoneflies, mayflies, caddisflies and non-biting midges, are able to survive below-zero temperatures and can often be found on snowbanks! They are also a vitally important food for trout and other fish over winter and are sensitive to warming winter temperatures.



## What are macroinvertebrates?

Macroinvertebrates are aquatic insects and other animals without a backbone.

Often, they are larvae (immatures) in streams and then grow up to be winged adults that can be seen on land.

## How are summer and winter stream food webs different?

In summer, warm sunlight results in plant and algal growth for herbivores to eat, and predators eat the other animals.

In winter, the daylight is short, fewer plants grow, and herbivores go into a resting state.

## What is a stream food web?

A system of interlocking food chains that show "who eats who" in a stream community.

Major players in a stream food web are primary producers (plants and algae), herbivores (eat the plants), detritivores (eat decaying material), and predators (eat other animals).

To learn more and get involved, visit our website [www.bugsbelowzero.com](http://www.bugsbelowzero.com).



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Science stories and outreach projects like Bugs Below Zero are created by Agricultural Education, Communication & Marketing (AECM) students at the University of Minnesota. See [UMNAgricast.com](http://UMNAgricast.com) for more information and examples.