Streams and their biota are sensitive to changes in riparian vegetation: when streamside vegetation is altered so too are the streams. (When we alter streamside vegetation we are altering the streams) In forested headwater streams, light availability is mediated almost entirely by the canopy structure of stream-side vegetation (citation). The riparian canopy structure of headwater streams in the Pacific Northwest have undergone considerable alterations during the past century, from years of heavy harvesting to our current state of dense second-growth vegetation. Primary production becomes light limited under dense canopy cover and limits basal resources available to higher trophic level organisms such as grazing macroinvertebrates. Earlier research has shown that relieving light limitation by removing all, or nearly all, of the riparian forest can result in an increase in algae and stream invertebrate scrapers (citation). Conversely, studies have shown that severely limiting light can lead to a decrease in algae and scraper abundances (citation). There have been relatively few publications that examine the effects of small, local changes in light input that more accurately reflect natural and anthropogenic disturbance patterns.

Intro:

* Streams are affected by riparian vegetation. Headwater streams are light limited because of the vegetation. Studies have examined high and low light availability, but not small and local changes in light availability.
* When a tree falls along a stream in the forest… when someone wants a nice view of the creek.
* Basal resources available to inverts. Algae as a better food source. Community dynamics.
* Fish feeding
* Our attempt to investigate

Methods

Results

Discussion

Over the last century, many riparian forests in the Pacific Northwest were heavily harvested, leaving dense second-growth vegetation for the time being. Under current conditions we would expect dense closed canopies, little primary production, and a low abundance of invertebrates that feed on stream algae.

Stream light availability is an important factor influencing aquatic food webs. In forested headwaters, stream algal production is highly light-limited, and an increase in light often enhances benthic algal growth, which in turn increases food availability for primary consumers in the stream. In headwater streams, light availability is mediated almost entirely by the canopy structure of stream-side vegetation.