

Purpose: To investigate the distribution of *Potamopyrgus antipodarum* in the Waihopai River.

Student 6: High Not Achieved
NZQA Intended for teacher use only

Aim:

To find out if the speed of the water affects the number of fresh water snails (*Potamopyrgus antipodarum*) present in the Waihopai River between Queen’s drive and the Waihopai Dam.

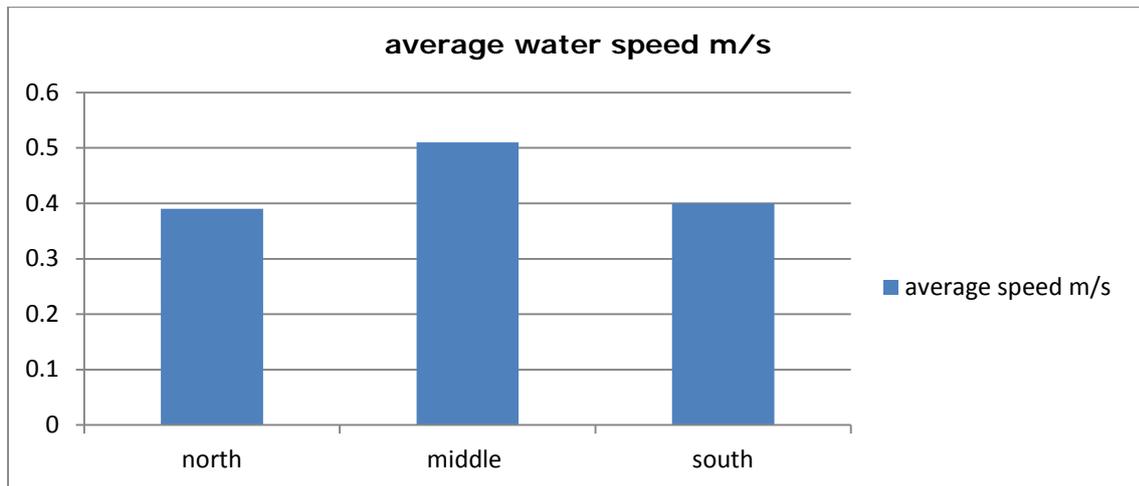
Hypothesis:

The sides of the river will have more snails (*Potamopyrgus antipodarum*) present than the middle of the river where the speed of the river is faster, because the speed of the current affects the habitat of the snail’s food source.

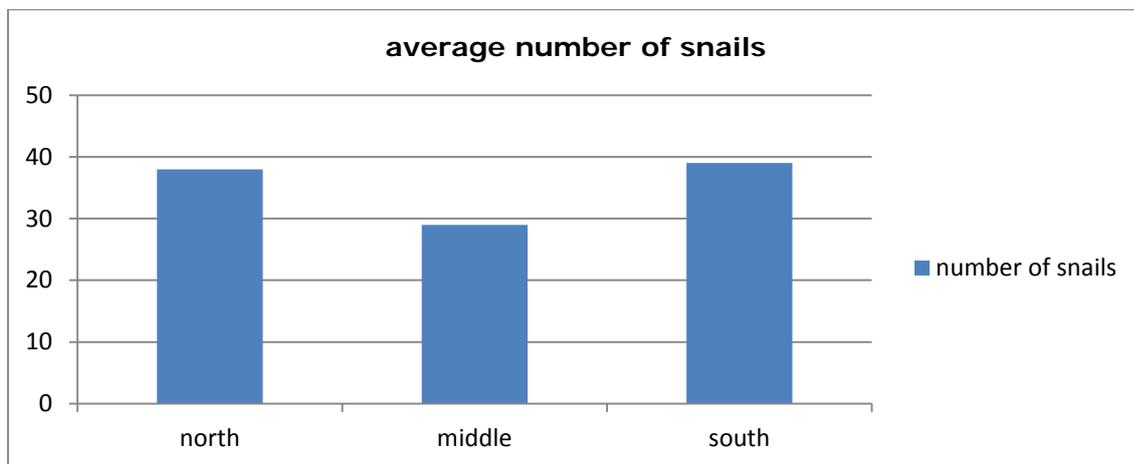
1

Position in river	Average speed (m/s)	Average number of snails
North side	0.39	38
Middle	0.51	29
South side	0.40	39

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Conclusion:

The speed of the water is fastest in the middle of the stream and the slowest on the sides. There are more snails (*Potamopyrgus antipodarum*) on the edges of the stream.

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So my results show that as the speed of the water increases the number of snails present decrease.

4

Discussion:

My three sites are on the Waihopai River between the Queen's Drive Bridge and the dam near Bainfield road. This part of the river has been straightened by humans, so the river is almost dead straight.

There are more snails present at the sides of the river compared to the middle of the river. There is not a huge difference between the number of snails on the south side of the river and the number snails on the north side of the river. The water speed therefore must have the most effect on the snail population.

3

This pattern is similar to what other students in my class found, for example, student C and student D who did similar investigations.

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The New Zealand freshwater snail has a preference for sediment-contaminated cobbles and the presence of filamentous green algae (Suren, 2005). I feel this is why *Potamopyrgus antipodarum* population is determined by the river's velocity.

5

Potamopyrgus antipodarum found in the Waihopai River is a freshwater snail native to New Zealand. It can inhabit a wide range of ecosystems, including rivers, reservoirs, lakes, and estuaries. They may establish large populations that can make up over 95% of the invertebrates in a river and compete with or displace native molluscs and macro-invertebrates. They can spread rapidly in introduced areas and are able to withstand desiccation, a variety of temperatures, and are small enough that many types of water users could be the source of introduction to new areas.

The Waihopai River has a large amount of algae present. This is because there is a large amount of nutrients flowing through the water due to intensive land use in the waihopai catchment. This provides growing conditions to algae so lots of it grows. This means lots of snails.

3

My data is reliable because there was a clear trend found. This trend was clearly seen at all of the sites. The trend I found is also supported by other students' finds, proving that my data is reliable