

ILLUSTRATING THE READING STANDARD

“Estuary Health Check” *School Journal*, Part 4 Number 3, 2008

Noun frequency level: 11–13

The students in a year 7 and 8 class are conducting a long-term, integrated curriculum inquiry into the relevance of the local stream to their community, both historically and currently. Two of the learning areas involved in the inquiry are social studies (the local iwi use of the waterway) and science (the effect of local industry pollution on the animal and plant life in the stream). This text is one of many read by the students that explore actions taken by others to evaluate (and counter) the impact of civilisation on their local waterways. It relates to the key competency of participating and contributing.

The article “Estuary Health Check” uses photographs and text to describe the process used for ongoing monitoring of cockle numbers, to explain how cockles contribute to healthy estuaries, to outline the causes of the initial decline in cockle numbers in the Pāuatahanui Inlet, to describe how collected data is used, and to suggest some possible next steps to improve the health of the estuary.

The teacher chose “Estuary Health Check” because of its relevance and its challenges. The concept of a waterway being healthy is complex. The students need to: draw together and synthesise information from the various text types within the article (recount, explanatory text, instructions with numbered photographs, description, and scientific report); interpret the content-specific vocabulary to understand why and how the estuary health check is conducted; and draw conclusions about the bigger picture implications of “healthy water” and a sustainable environment.

The following example illustrates aspects of the task and text and demonstrates how a student engages with both task and text to meet the reading demands of the curriculum. A number of such examples would be used to inform the overall teacher judgment for this student.

Cockle counting is a good way to measure the estuary’s health ...

Cockles make up 80 percent of all living things in the Pāuatahanui Inlet. A study in the 1970s estimated that a third of the incoming tide passed through the gills of cockles. That’s a lot of water! As they filter the water, the cockles help to clean it. Cockles also provide food for fish and shore birds, like the oystercatcher and pied stilt.

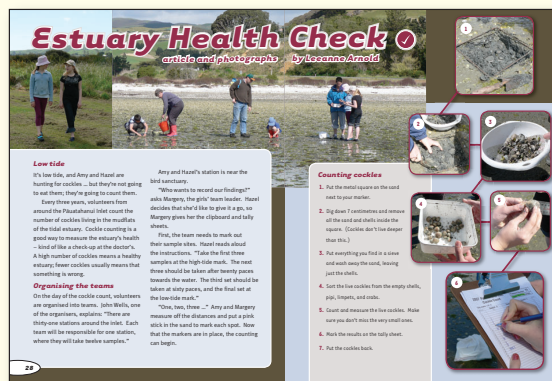
Between the first cockle count in 1976 and the next in 1992, the number of cockles in the Pāuatahanui Inlet decreased by more than half.

Today, there are houses all along one side of the inlet. When people shift earth and fell trees to make subdivisions, soil gets washed into stormwater drains and streams. From the streams and drains, this soil flows into estuaries and the sea. Scientists know that large amounts of soil can smother animals living on the seabed.



... the cockle population seems to have stabilised. However, cockle numbers haven’t increased. This is a worry because a low cockle count can affect all parts of the environment.

The student refers to the purpose for reading – to find out what makes an estuary healthy or unhealthy. With prompting, he previews the text and notices the different text types (the recount of the cockle counting process, the instructions with photos, and the facts and information about estuaries and the current cockle population). He chooses to look under the headings and scans for information related to the purpose for reading. After reading these sections, he summarises the connections between key pieces of information and then synthesises the information to conclude that cockles are vital to the health of this estuary because they are the main source of water filtration and provide food for the estuary fish and bird life. He later goes to the NIWA website to access up-to-date information and data on the cockle count.



With prompting, he integrates ideas from different parts of the text (such as “Scientists know that large amounts of soil can smother animals living on the seabed” and “cockle numbers haven’t increased”) to draw the conclusion that the health of the estuary is extremely fragile. He returns to the first two pages and synthesises the information about the cockle count and the health of the estuary, and he comes to a conclusion that people in the community can have an impact in addressing environmental problems.

Next, he uses his prior knowledge of the ecology context and the information in the text to connect to his class inquiry and to the information they have gathered (including that from the Regional Council website) about the health of their local stream. Finally, in discussion with others, he asks questions based on his new learning about what actions may be needed to improve the stream’s “health” and how to involve others in the community in these actions.