

SHMAK Monitoring Report – Winter 2014

The Stream Health Monitoring Assessment Kit (SHMAK) is used to assess long term trends in water quality within Wenita's estate. Monitoring should be undertaken twice yearly in late spring/early summer and then again in late autumn/early winter. But is requested to be done over winter this report refers to monitoring undertaken over a period from August to October 2014.

This year 11 sites were monitored over a three month period with the result's falling into the Good to Very Good scoring which are pleasing. One site recorded Excellent and one site Very Poor. It was noticed over the sites the increase of water vegetation through most sites which may have had a bearing on some results but only a minor factor. Access to the sites is pretty good and access through the neighbours paddock to the Bungtown site was greatly appreciated. Also noticed was an increase presence of Koura (fresh water crayfish on some sites.

Better training and a more robust sampling that has been completed in the last two years will hopefully see better results come through.

It is recommend that the PH strips be replaced they have been used for X amount of time and they always seem to be coming up with the same PH levels. Replacing them may prove a more accurate result in PH testing.

SHMAK sites	2013	2014
Mt Allan- Poplar Hut	Moderate	Very Good
Mt Allan-Big Stream	Good	Good
Hope Hill-Otokia stream	Moderate	Very Good
Akatore-Taieri Beach Road	Very Poor	Good
Akatore- Centre Road	Good	Good
Akatore- Narrowdales	Very good	Excellent
Wangaloa-Wangaloa creek	-	Very Poor
Waitahuna- Bungtown stream	Good	Moderate
Berwick- West Toko	Excellent	Very Good
Berwick- Meggatburn	Very Good	Very Good
Maunguata	Excellent	Good

Site 1 – Mt Allan, Poplar Hut:

Date of Survey 25/7/2014

Result: Overall score: **Very good**

Summary: This year the Poplar site was located a bit further downstream from last year's SHMAK site. There wasn't a lot of change in terms of the surrounding vegetation and composition of the stream bed. However it was noted there was more of a presence of stream vegetation in the water itself. Last year score was Moderate a reason for the improved score this year was as years pass less disturbance from harvesting, resulted in more improvement in water quality and vegetation growth has improved the score.

Conclusion: Further Monitoring



Site 2 –Mt Allan Big Stream:

Date of Survey: 27/7/2014

Result: Overall score: **Good**

Summary: This year's SHMAK site at Big stream was moved further upstream from last year the reason being that there had been earthworks to clear out the silt and improve the flood protection so this may have affected the result of the SHMAK survey. Again not much change to the surrounding vegetation and composition of the stream bed from last year. Last year's score was Good again and factors again relation to less disturbance from harvesting shading from the willow trees and increased growth from bank vegetation. Invertebrate numbers from this year showed no major changes to last year.

Conclusion: Recommend further monitoring



Site 3 – Hopehill, Otokia Stream:

Date of Survey: 31/7/2014

Result: Overall score: **Very good**

Summary: The Hopehill site on the Otokia stream was a different contrast this year. Harvesting along the SHMAK site this year has resulted in a more exposed site and also noted increase in slash and debris in the stream. What was also noted was a lot of sediment movement from upstream. Water clarity was improved from the year before and an eel was seen present along the test site.

Conclusion: Recommend further monitoring
Second SHMAK site or move present site into native planting area



Site 4 – Akatore, Taieri Beach road:

Date of Survey 6/8/2014

Result: Overall score: **Good**

Summary: Taieri beach road site showed not much change compared to last year's site what was noted was the increased presence of water vegetation along the stream. Last year's score was Very poor all-round and there have been inconsistencies in terms of the result scores and testing methods. It has been suggested that the SHMAK site be moved as this site doesn't really represent the overall health of the stream but with a better result this year, suggest maybe to keep to the same site for next year and see what results come from that.

Conclusion: Recommend further monitoring
Keep same site for next year pending results



Site 5- Akatore, Centre Road:

Date of Survey: 27/8/2014

Result: Overall score- **Good/Very good**

Summary: Not much change to the site compared to last year with presence of good native habitat and high invertebrate presence. True right of the stream is starting to get a bit overgrown with broom but can easily be fixed.

Conclusion: Recommend further monitoring



Site 6- Akatore, Narrowdales:

Date of survey: 27/8/2014

Result: Overall score: **Excellent**

Summary: The Akatore narrowdale site continues to provide very good scores in the SHMAK scoring system. It scores highly in habitat and invertebrate presence. The only problem was the high presence of water vegetation throughout the site and made for sampling difficult what was seen was a small fish possibly a glaxias which was positive to see. Periphytons were seen present through the site which also gives a high score.

Conclusion: Recommend further monitoring



Site 7- Wangaloa, Wangaloa creek:

Date of Survey 29/8/2014

Result: Overall score- **Very Poor**

Summary: This was a test site from last year due to the fact that the previous site was difficult to access and wouldn't give an accurate result therefore the site was abandoned. This site is located in the middle of Wangaloa and would hopefully give better access and testing as it has recently been harvested a few years ago. Unfortunately the area gave a very poor result with very minor native vegetation, poor stream composition and very few invertebrate presence which was disappointing. However up to six koura (*Paranephrops zealandicus*) were found which would indicate a wider invertebrate presence throughout which is encouraging.

Conclusion: Recommend further monitoring
May look at an alternative site



Site 8- Waitahuna, Bungtown stream:

Date of Survey: 19/9/2014

Result: Overall score- Moderate

Summary: Bungtown stream didn't show much in comparison to last year in terms of habitat and condition of the stream. Last year's score was Good and drop in this year's score could have led to reduced signs of periphyton which was present throughout last year but only a small amount seen this year which

can contribute to the overall score. There had been some heavy rain in the area and flow was just beginning to stabilize which also could have been a factor. Overall the stream is in good condition.

Conclusion: Access was granted from the neighbor to access the site which was greatly appreciated as access from the forestry block has made it difficult in previous years.

- Recommend further monitoring
- Keep a good relationship with neighbour to provide access



Site 9- Berwick, West Tokomariro Branch:

Date of Survey 19/9/2014

Result: Overall result: **Very Good**

Summary: The site scored highly for stream bed composition, vegetation and invertebrate presence. 2013 scored the stream as excellent and is still very good condition. Factors that contribute to this are very few deposits, native vegetation and fewer disturbances from harvesting and improved the quality of the stream.

Conclusion: Recommend further monitoring
Improve access to the SHMAK site



Site 10- Maungatua:

Date of Survey: 2/10/2014

Result: Overall score- **Good**

Summary: This was a drop in last year's score going from an excellent to a good the reason possibly due to more increased pasture grasses and weeds, lack of stream flow that would have contributed to the reduced score. The stream bed composition felt very solid due to bedrock which can affect the score as well.

The deep slow moving nature of this stream made sampling testing at times and the narrowness and width of vegetation makes it prone to seasonal blockages which may affect monitoring scores. Due to the decrease of flow and ponding further downstream the site will be moved down stream where better flow is.

Conclusion: Recommended further monitoring

Move site downstream away from ponding as it has been suggested.

**Site 11- Berwick, Meggatburn**

Date of survey 2/10/14

Result: Overall score- **Good/Very Good**

Summary: The overall score was very good which was the same as last year's score. The site scored highly for stream bed composition, riparian vegetation and invertebrate presence. Periphyton presence was also noted in parts of the site. There was no real change in terms of condition of the stream and surrounding habitat. A small kora was observed as well.

Conclusion: Recommended further monitoring

