

# Quarterly REPORT

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31 December 2013

ENVIRONMENT MANAGEMENT  
GROUP



# 1 TE UPOKO TAIAO NATURAL RESOURCE MANAGEMENT COMMITTEE

## 1.1 Environmental Policy



### Overview

The Environmental Policy Department (the Department) continues the development of the second generation regional plans, through the plan review programme.

The Ruamāhanga Whaitua Committee membership has been approved and the first of five whaitua processes to implement the National Policy Statement for Freshwater Management across the region is underway.

The Department is developing a work programme to implement the Regional Policy Statement.

### Key results

- ▶ Work has started on the implementation of the Regional Policy Statement
- ▶ Work has started on the implementation of the National Policy Statement for Freshwater Management with,
  - » the approval, at the Council meeting of 12 December, of the Ruamāhanga Whaitua Committee membership, and
  - » the commencement work for the establishment of the Hutt Valley/Wellington Harbour Whaitua
- ▶ Numerous workshops have been held with stakeholder groups on preliminary policy and rule options, as part of our work towards a release of a draft regional plan in 2014.

### Looking ahead

- ▶ Further stakeholder engagement on regional plan options is expected in early 2014, as part of our preparation for the release of a draft regional plan in 2014

- ▶ Engagement with individual landowners regarding possible ‘sites of significance’ on their land will start in early 2014
- ▶ The Ruamāhanga Whaitua Committee will hold its first meeting in February 2014

## Departmental activity

The department is currently working on the following activities to support its programmes, including;

- ▶ the continuation of the programme around the review of the regional plans
- ▶ the development of a programme of work to support the Ruamāhanga Whaitua Committee
- ▶ the establishment of the Hutt Valley/Wellington Harbour Whaitua Committee
- ▶ the establishment of a plan of work to support the development of a Regional Hazard Management Strategy, and
- ▶ the development a work plan for the implementation of the Regional Policy Statement

## Implementation programme for the NPS for Freshwater Management

This quarter has seen the shortlisting, interviewing and approval of the Ruamāhanga Whaitua Committee membership. The Ruamāhanga Whaitua Committee has 15 members drawn from the general community, territorial authorities, iwi authorities, and Greater Wellington Regional Council. The Ruamāhanga Whaitua Committee will hold its first meeting in February 2014.

## Operative Regional Policy Statement

Initial discussions have been held with the planning managers of the territorial authorities in the region to identify more clearly their information and guidance needs for giving effect to the Regional Policy Statement. Further, discussions in the New Year will establish the prioritisation and responsibility for development of the methods to support the implementation of the Regional Policy Statement and the monitoring strategy for the anticipated environmental effects resulting from its implementation.

## Regional Plan review

### General

A programme of stakeholder meetings has been held during this quarter to focus on the specifics of particular policy and rule options brought together at the end of the last triennium. These meetings are part of the ongoing stakeholder engagement process. Individual meetings with some stakeholders are also taking place to get a greater understanding of the provisions and to highlight areas of particular interest. Further stakeholder meetings will be held early in 2014.

Feedback on the provisions from all stakeholders is being collected and will be considered in the development of the Draft Regional Plan.

There were no meetings of Te Upoko Taiao held between October and December 2013.

Project briefs have been developed for non-regulatory “other methods” which will feed into the LTP process.

## Consultation and Engagement Plan

Some of the stakeholder workshops held in this quarter included:

- ▶ 3 October, Carterton, focus was on water allocation
- ▶ 10 October, Carterton, focus was on livestock exclusion from waterbodies
- ▶ 17 October, Carterton, focus was on discharges to land
- ▶ 21 October, Carterton, focus was on values of fresh and coastal water
- ▶ 26 October, Porirua, focus was on values of fresh and coastal water
- ▶ 3 December, Carterton, focus was on science used to measure water quality
- ▶ 5 December, Porirua, focus was on science used to measure water quality, and
- ▶ 17 December, Upper Hutt, focus was on water allocation.

Possible schedules for inclusion in the Draft Regional Plan, including those for sites of significance to tangata whenua and significant biodiversity values are being drafted and will form the basis of initial conversations with affected landowners, early in 2014. In November detailed discussions were held with Kitiaki Group assisting in the review of the regional plan about how the plan provisions could protect the values of sites of significance to tangata whenua.

## Interagency/Interdepartmental Cooperation and Partnerships

Staff attended a workshop on the Matrix of Good Management (MGM) sponsored by MfE and ECan. The MGM project is also sponsored in part by GWRC. The project is developing industry-agreed definitions of good management practices for each of the agricultural sectors and a “look-up table” of expected nitrogen and phosphorus loss associated with these good management practices depending on soil and climate conditions.

## Regional Council input into Statutory Planning

### District Plan Changes

#### Wellington City Council

- ▶ Proposed plan change 77 – Curtis Street Business Area

The hearing panel recommended granting this plan change, with some changes, on 10 December. Recommendations include additional provisions that address GWRC’s concerns, including to protect significant biodiversity values adjacent to the site, and to manage stormwater. The decision from Council on adopting the recommendation is currently pending.

#### Porirua City Council

- ▶ Proposed plan change 16 –Network Utilities

This Proposed District Plan Change was put forward in response to the National Environmental Standard for Electricity Generation. GWRC submitted in support of the plan change although we sought some minor amendments to ensure hazard management and flood protect infrastructure are protect. The final decision is currently pending.

#### Hutt City Council

- ▶ Proposed plan change 33 – Amendments to the extraction activity area

- ▶ This private plan change is sought to extend the operations of Belmont Quarry into an area identified as special amenity in the Hutt City District Plan. GWRC submitted in opposition to this plan change citing regionally significant biodiversity issues.

## Notified resource consents

### Hutt City Council

- ▶ Notified resource consent for a retirement village at 25 Graham Street, Petone
- ▶ This was notified resource consent for a new multi-level retirement village in Petone to be run privately. GWRC submitted in opposition to this resource consent due to concerns around the stability of adjacent Flood Protection managed stopbanks during construction.

## Natural hazards

### Research Projects

#### Porirua Fault Trace Study

Work will soon begin on identifying and updating information on the location, rupture frequency and earthquake magnitude potential of active faults running through the Porirua area. The work will be conducted by GNS Science and is being part funded by GWRC and Porirua City Council. The newly captured LiDAR data and aerial photo coverage funded by a consortium partners headed by GWRC will be used in the project.

#### Wellington Harbour Fault Investigation

Work conducted as part of the It's Our Fault project has revealed the presence of fault structures on the seabed of Wellington Harbour. Preliminary analysis of the data indicates that these may be an extension of a fault that bisects Mt Victoria. It is not known whether it is still active or what rupture magnitudes it could generate, but it has the appearance of similar structures that underlie Pegasus Bay and were implicated in the devastating Christchurch earthquakes. GWRC is providing funds to allow a more thorough analysis of these faults and the seismic hazard implications they pose Wellington City. The project will be funded over two years.

## Regional Natural Hazards Management Strategy

Work is underway to develop a regionally coordinated natural hazards strategy. The project grew out of regional plan consultation on natural hazards. The Strategy will establish a regional framework for integrated and coordinated natural hazard management planning, covering both LTP and regional and district plan responses. Its development will also be integrated with the Wellington Region Civil Defence Group Plan prepared by WREMO, assisting in addressing elements of the 'reduction' component of the 4Rs specific to the Group Plan and CDEM activities. The project is being driven by the regional planning managers group with Greater Wellington Regional Council project managing its delivery. The four city councils have agreed to be involved with strong interest from Kapiti Coast District Council. The three Wairarapa councils are keeping a watching brief on the project and retain the right to opt in at a future date. Currently, a communications plan is being developed ahead of the release of a 'request for proposals' that will call for a consultant to develop the strategy and engage community groups to provide input into its development.

## Civil Defence and Emergency Management

### Wellington region civil defence and emergency management group plan

The department continues to work with civil defence emergency management. The Wellington regional CDEM group is currently in the process of preparing a regional CDEM group plan. Environmental Policy has been involved in the process, attending workshops and reviewing documents and providing regional hazards and planning advice.

As part of the regional civil defence plan review, a new website will be launched that consolidates hazards information from around the region. Environment Policy has been providing input to the process.

### Presentations/Publications/Media

There was a lot of media surrounding the establishment of the Ruamāhanga Whaitua Committee, both on the GWRC website and in local newspapers.

Andy Dodd, the contract archaeologist who did our archaeological survey for the coastal plan review, has had an article published about the work in the most recent Archaeology in New Zealand journal.

One of the senior policy advisors spoke to a group of conservation architects and other heritage professionals about the historic heritage places identified for scheduling in the new regional plan, and the provisions that are being considered to protect their significant values. The group questioned the exclusion of a couple of sites, but did not give much feedback on the working document for discussion historic heritage provisions.

Environment Policy Senior Policy Advisor (hazards) continues to be approached to speak to community and council groups on natural hazards; most recently speaking to the ELT leaders forum, Environment Group away day and Ara Tahi on the Cook Strait earthquake sequence and to the media and civil defence emergency management about the regional tsunami risk in light of the updated tsunami risk report released by GNS Science.

## Financial reports

Policy Income Statement Period ending 31 December 2013	Year To date			Full Year			Last Year	
	Actual \$000	Budget \$000	Variance \$000	Forecast \$000	Budget \$000	Variance \$000	YTD Actual \$000	FY Actual \$000
Rates & Levies	1,358	1,358	-	2,717	2,717	-	1,085	2,170
Government Grants & Subsidies	-	-	-	-	-	-	-	-
External Revenue	26	-	26	-	-	-	-	-
Investment Revenue	-	-	-	-	-	-	3	6
Internal Revenue	13	13	-	25	25	-	13	25
<b>TOTAL INCOME</b>	<b>1,397</b>	<b>1,371</b>	<b>26</b>	<b>2,742</b>	<b>2,742</b>	<b>-</b>	<b>1,101</b>	<b>2,201</b>
less:								
Personnel Costs	722	764	42	1,528	1,528	-	705	1,351
Materials,Supplies & Services	25	23	(2)	46	46	-	18	46
Travel & Transport Costs	17	3	(14)	7	7	-	16	30
Contractor & Consultants	63	269	206	287	537	250	184	320
Grants and Subsidies Expenditure	-	-	-	-	-	-	-	-
Internal Charges	118	105	(13)	210	210	-	97	195
<b>Total Direct Expenditure</b>	<b>945</b>	<b>1,164</b>	<b>219</b>	<b>2,078</b>	<b>2,328</b>	<b>250</b>	<b>1,020</b>	<b>1,942</b>
Financial Costs	-	-	-	-	-	-	-	-
Bad Debts	-	-	-	-	-	-	(3)	(3)
Corporate & Department Overheads	207	207	-	415	415	-	195	390
Depreciation	3	3	-	6	6	-	3	7
Loss(Gain) on Sale of Assets / Investments	-	-	-	-	-	-	-	-
<b>TOTAL EXPENDITURE</b>	<b>1,155</b>	<b>1,374</b>	<b>219</b>	<b>2,499</b>	<b>2,749</b>	<b>250</b>	<b>1,215</b>	<b>2,336</b>
<b>OPERATING SURPLUS(DEFICIT)</b>	<b>242</b>	<b>(3)</b>	<b>245</b>	<b>243</b>	<b>(7)</b>	<b>250</b>	<b>(114)</b>	<b>(135)</b>
Add Back Depreciation	3	3	-	6	6	-	3	7
Other Non Cash	-	-	-	-	-	-	-	-
Net Asset Acquisitions	-	-	-	-	-	-	(11)	(11)
Net External Investment Movements	-	-	-	-	-	-	-	-
<b>NET FUNDING BEFORE DEBT AND RESE</b>	<b>245</b>	<b>-</b>	<b>245</b>	<b>249</b>	<b>(1)</b>	<b>250</b>	<b>(122)</b>	<b>(139)</b>
Debt Additions / (decrease)	-	-	-	-	-	-	-	-
Debt Repaid	-	-	-	-	-	-	-	-
Net Reserves (Increase) / decrease	-	-	-	-	-	-	123	118
<b>NET FUNDING SURPLUS (DEFICIT)</b>	<b>245</b>	<b>-</b>	<b>245</b>	<b>249</b>	<b>(1)</b>	<b>250</b>	<b>1</b>	<b>(21)</b>

Policy Capital Expenditure Statement Period ending 31 December 2013	Year To date			Full Year			Last Year	
	Actual \$000	Budget \$000	Variance \$000	Forecast \$000	Budget \$000	Variance \$000	YTD Actual \$000	FY Actual \$000
Total Asset Acquisitions	-	-	-	-	-	-	11	11
Capital Project Expenditure	-	-	-	-	-	-	-	-
Asset Disposal Cash Proceeds	-	-	-	-	-	-	-	-
<b>Net Capital Expenditure</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>11</b>	<b>11</b>

## Financial variance analysis

- ▶ Policy has a net surplus of \$242k which is \$245k better than budget deficit of \$3k
- ▶ Personnel, materials & travel costs are all close to budget
- ▶ Consultants' costs are only \$63k to date and it is anticipated that unlike prior years consultants spend will be less than budget
- ▶ There is no capital budget or spend



Performance Measure	Performance Target		Comment
	Baseline	2013/14	
That the Regional Policy Statement is reviewed and adopted	The Regional Policy Statement was approved by the Council in May 2010 and is subject to a number of appeals	Establish a work programme for methods in the RPS	The RPS was made operative in March 2013 and a programme is required to progress the methods and monitoring.
That regional plans are reviewed and adopted	Review of regional plans has been underway since 2009	Review of regional plans continues	The Regional plan review continues and it is expected that a draft will be made public in 2014.

## 1.2 Environmental Regulation



### Overview

The current peak in notified and national consenting workloads continues. This quarter's major consenting work was dominated by a number of hearings held in December

Non-notified consent workload remains at a constant level, and similar to the September quarter

High enforcement and investigations load including significant inquiries and court work and the receipt of a number of appeals in the December quarter

### Key results for the year

- ▶ Consenting – ongoing replacement consenting across the region, for municipal waste water plant treatment and infrastructure overflows at South Wairarapa and Hutt Councils; and processing of high profile applications including the KCDC Water Supply Project, Winstones Dry Creek cleanfill, WCC Southern Landfill and C&D Landfill
- ▶ Roads of National Significance – Significant ongoing workload in Basins and Peka Peka to Otaki national consenting processes; and in MacKays to Peka Peka and Transmission Gully construction preparation work
- ▶ Appeals – the Carterton municipal waste water appeals were resolved without the need to go to Court
- ▶ Enforcement – Substantial enforcement case load including ongoing cases in the High Court in the Burrell's and Jefferies cases; and recent cases in Barratt block, Stolte, Collings, Steens and Donald/Hart prosecutions before the District Court
- ▶ Compliance – continued roll out of Territorial Authority regulatory forums with all local councils across the region; and compliance on large projects including Mill Creek Windfarm
- ▶ Continued roll out of programmes for land development activities including contracting out compliance monitoring, development of a forestry sector regulatory strategy, and further development of a winter works earthworks protocol
- ▶ Ongoing roll-out of the dairy effluent pond storage calculator, and continuing implementation of the water management strategy around water metering and reporting (national regulations) compliance requirements
- ▶ Substantial work to both implement the Resource Management Amendment Act (RMAA) 2013 consenting provisions, and review proposed reforms under the Government's Phase Three reforms package
- ▶ Ongoing work on major revisions of procedures manuals and further development of a revised QMS for Environmental Regulation statutory process work

## Looking ahead

- ▶ Ongoing management of core statutory work with particularly heavy loads in major enforcement investigations, ongoing water permit compliance, earthworks consenting and compliance, a range of notified consenting projects, and RoNS projects (pre-lodgement to implementation) and Board of Inquiry work
- ▶ Ongoing work with national sector groups and the Ministry for the Environment on proposed RMA reforms; and the development and implementation of processes and procedures in response to the RMAA 2013
- ▶ Regional Plan review input, incorporating significant input into draft plan provisions in 2013-14
- ▶ Continued investigation of options for replacing our incidents database
- ▶ Reviewing our Erosion & Sediment Control Guidelines
- ▶ Review of the Environmental Regulation Quality Management System

## Departmental activity

### Resource consents

#### Non-notified consents

Overall, the numbers of consents received and issued is similar compared to the same stage of 2012-13 year.

#### Consents summary \* Figures exclude applications to the EPA

Item	Dec Quarter 2013	Sept Quarter 2013	Dec Quarter 2012
Consents received	125	138	138
Consents issued	110	132	103

Item	2013-14 year to date	2012-13 year
Consents received	263	552
Consents issued	232	457

Item	Dec Quarter 2013	Sept Quarter 2013
Median processing time frame	18	17

Item	2013-14 year to date	2012-13 year
Median processing time frame	17	16

### Notified and limited notified consents

A high and peaking work load in assessments, pre-hearings and hearings has been completed and/or decisions released on:

- ▶ **South Wairarapa District Council – Martinborough, Featherston and Greytown wastewater treatment plants re-consenting:** As reported previously SWDC is still working to the same investigations programme timeline which will enable any associated and additional information to be provided for all three applications by 31 January 2014. Public notification of the applications is therefore expected to occur shortly after this date.
- ▶ **GWRC (Flood Protection) – Whakawiriwiri Stream works:** A hearing was held on 3-4 December 2013 and subsequently adjourned with the Commissioners requesting further information from the applicant to help form their decision. The Hearing will be closed on receipt of this further information (in early February) and a decision released soon after.
- ▶ **Matahiwi Farms Ltd – construction of a dam:** A hearing was held on 12 December 2013 and subsequently adjourned with the Commissioners requesting clarification on the applicant's evidence to help form their decision. It is anticipated that the Hearing will be closed on receipt of this further information (in early February) and a decision released soon after.
- ▶ **Hammond Limited – water take re-consenting:** A productive pre-hearing was held on 8 August 2013 with submitters who did not provide their written approval to the application. Proposed conditions were formally 'signed-off' by all the parties and a decision was made to grant the applications on 5 November 2013.
- ▶ **Masterton District Council - Te Ore Ore water race re-consenting:** An application was received and notified in October 2013 for the continued operation of the Te Ore Ore water race. Five submissions were received that were either neutral or supporting of the application. A pre-hearing meeting is likely to be held in early 2014.
- ▶ **Burrell Demolition Limited – re-consenting and demolition fill extension at C n D Landfill:** Significant time was spent on processing this joint application with WCC, with the completion of the joint officers' recommendation to the hearing panel. The officers recommended the consent

be declined as there was outstanding information in a number of critical areas. For GWRC key issues revolved around leachate capture, control and treatment. The hearing was held on 10, 11, and 13 December 2013, and adjourned for the applicant to address the outstanding matters. The hearing will reconvene on 27-28 January 2014.

- ▶ **Winstone Aggregates - Dry Creek replacement cleanfill:** A hearing was held on 1-4 October 2013 for this joint application with PCC and HCC to develop, operate and maintain a cleanfill on rural land near Judgeford, Porirua. The hearing adjourned and further information was sought. The hearing reconvened on 16-17 December and the decision is due for release on 29 January 2014.
- ▶ **Wellington City Council – Southern Landfill extension (Stage 4):** – This application has been publicly notified with 25 submissions being received. The majority of submissions oppose the application due to odour effects, ecological effects and a desire to see a focus on waste reduction over further landfill extensions. We have engaged consultants to review technical aspects of the proposal and a report will be provided on this in January 2014. A pre hearing meeting will be held with submitters in February 2014.

#### Major pre-application discussions continue for:

- ▶ **Aotea Block:** Carrus intends to lodge a global consent for the remainder of the development in relation to land use consents and discharge permits for bulk earthworks, in early 2014. This application is likely to be publicly notified.
- ▶ **Woodridge Block:** Cardno is currently preparing to lodge consent application for the remainder of the Woodridge development in relation to land use consents and discharge permits for bulk earthworks, in mid-2014. This application is likely to be publicly notified.

#### Board of Inquiry – national consenting projects

- ▶ **NZTA – Transmission Gully RoNS:** The two consortia bidding to construct and operate the Transmission Gully motorway (under a public-private partnership procurement model) submitted their tender documents to NZTA for consideration in October 2013. The successful bidder, the Wellington Gateway Partnership, was announced in late 2013. Construction is likely to start late 2014. There has been on-going engagement with both consortia who are seeking GWRC's views on a number of regulatory and landownership/management and operational matters. In the meantime, NZTA continues to undertake baseline environmental monitoring for the project. GWRC has processed variations to some conditions of the Transmission Gully consents to better align consent conditions and deal with programming issues that have arisen. Meetings have also occurred between GWRC, the four territorial authorities involved in the project and NZTA to develop a strategy to ensure coordinated, efficient and consistent certification, review, and decision-making processes associated with the project. All councils have agreed to an independent facilitator being engaged to assist in achieving this outcome. We are currently in the process of appointing a facilitator, who will be managed by GWRC.
- ▶ **NZTA/Kiwi Rail – Peka Peka to Otaki RoNS:** The hearing for the Peka Peka to Otaki expressway application occurred between 23 September and 3 October 2013. Prior to and during the hearing, a significant amount of consultation occurred with NZTA in an effort to resolve outstanding concerns with the project. As a result, counsel for GWRC was able to confirm at the close of the hearing that all outstanding concerns had been addressed to the Council's satisfaction. A decision on the application is expected soon.
- ▶ **NZTA – Basin Reserve RoNS:** The application was notified on 10 August 2013. GWRC made a submission in support of the application, primarily covering strategic and public transport matters. Regulatory and environmental matters were also covered but are considered to be minor. The GWRC team engaged in expert witness conferencing with NZTA experts in December

and GWRC evidence was submitted by the due date of 17 December 2013. The hearing is currently scheduled to start on 3 February 2014.

- ▶ **NZTA – Mt Victoria Tunnel duplication:** Pre-application consultation has commenced with NZTA on this project. NZTA are currently working up the design and consultation will be ongoing.

## Appeals, objections, and declarations

There have been a number of new appeals and declarations lodged with GWRC in the December quarter as well as work undertaken on existing appeals, objections, and declarations:

- ▶ **MacKays to Peka Peka RoNS (M2PP) appeal:** Two appeals lodged with the High Court against the M2PP were dismissed in August 2013. Save Kapiti has sought leave to appeal to the Supreme Court on the legality of the Board of Inquiry's decision. In the meantime, management plans have been certified by GWRC and KCDC, and NZTA is proceeding with enabling works this year with large scale works programmed to commence in 2014.
- ▶ **Warburton declaration:** GWRC and PCC defended a declaration sought by Mr Warburton relating to the status of a watercourse in Titahi Bay. This was heard in the Environment Court earlier in 2013. The Court found in favour of the Councils and declined the application for declarations, ruling that the watercourse in question is the outlet of a piped stormwater system which is not a river. GWRC were awarded \$14,800 in costs by the Court on 16 October 2013.
- ▶ **Alan Jefferies abatement notice appeal:** GWRC defended an appeal of abatement notices issued following the diversion of the Mangaroa River and the associated river works and placing of fill material. The notices were upheld in the Environment Court in 2012 and an appeal of the Environment Court decision was upheld by the High Court in early 2013. An application to the High Court for leave to appeal the decision to the Court of Appeal was declined on 9 September 2013. An application direct to the Court of Appeal for leave to appeal to the Court of Appeal will be heard on 10 February 2014.
- ▶ **Alan Jefferies declaration:** GWRC is defending a declaration sought by Mr Jefferies on 18 November 2013 in the Environment Court that a crossing on the Akatarawa River does not require resource consent. The Court has ordered evidence to be filed by 21 January 2014.
- ▶ **Alan Jefferies statement of claim for judicial review:** GWRC is defending a statement of claim for judicial review including damages filed in the High Court on 15 November 2013. This relates to charges laid in the Criminal Court following the diversion of the Mangaroa River (see above). The matter will be called in the High Court on 24 February 2014.
- ▶ **Capacity Infrastructure Ltd infringement notice appeal:** GWRC is defending a request for a hearing on an infringement notice issued in relation to a discharge of waste water to the Karori Stream. The matter was filed with the Wellington District Court on 12 December 2013. A date for the hearing is awaited from the Court.
- ▶ **The Age of Satya Trustee Co. Ltd abatement notice appeal:** GWRC is defending an appeal of an abatement notice filed in Environment Court on 16 December 2013 which related to depositions in the bed of a tributary of the Otaki River. We are currently awaiting orders from the Court.
- ▶ **A J Barton consent application objection:** A J Barton has objected under s357 of the RMA to GWRC's decision to return his application for a water take under s88 of the Act as there was insufficient information to process the application. A hearing is scheduled for 28 January 2014 to determine the matter.

## Consented compliance monitoring

- ▶ **Mill Creek windfarm – Makara:** The earthworks associated with the Mill Creek windfarm construction are now winding down, with all major bulk earthworks completed. The site is being progressively stabilised. The next phase will be the delivery and installation of the turbines.
- ▶ **Kapiti Coast District Council – public water supply project:** Following the consent decision in September 2013, KCDC has been working through a programme to implement these consents. The consent conditions require KCDC to carry out baseline monitoring of small coastal streams, wetlands, groundwater and of a suite of environmental parameters in the Waikanae River. This all needs to be completed before they can exercise the river recharge with groundwater. We will be reviewing and approving management plans in early 2014.
- ▶ **Masterton District Council – wastewater treatment plant upgrade:** Two significant areas of progress occurred for the Masterton wastewater treatment plant upgrade. In October 2013 MDC commenced dewatering and desludging the old oxidation ponds. Then in November 2013 the discharge of wastewater to land via the border strip irrigation scheme commenced.

## Environmental incidents

221 incidents were notified and responded to in the quarter, down from 232 in the previous quarter. A summary breakdown of incidents is reported 6-weekly through the Councillor’s Bulletin.

## Enforcement

### Abatement and infringement notices

Item	June Quarter 2013	Sept Quarter 2013	Dec Quarter 2013
Abatement notices	4	9	45
Infringement notices	33	4	12

Item	2013-14 year to date	2012-13 year
Abatement notices	54	61
Infringement notices	16	53

A large number of abatement notices (45) were issued in the December quarter. The main reason for this was that a number of water use records for water take resource consents in the 2012-13

period were audited. Abatement notices were issued to consent holders in instances where non-compliance was noted due to water use records or verification certificates not been submitted, and if records submitted showed they were not complying with their consent conditions.

## Prosecutions and enforcement orders

### Significant prosecutions and enforcement order work in the last quarter includes:

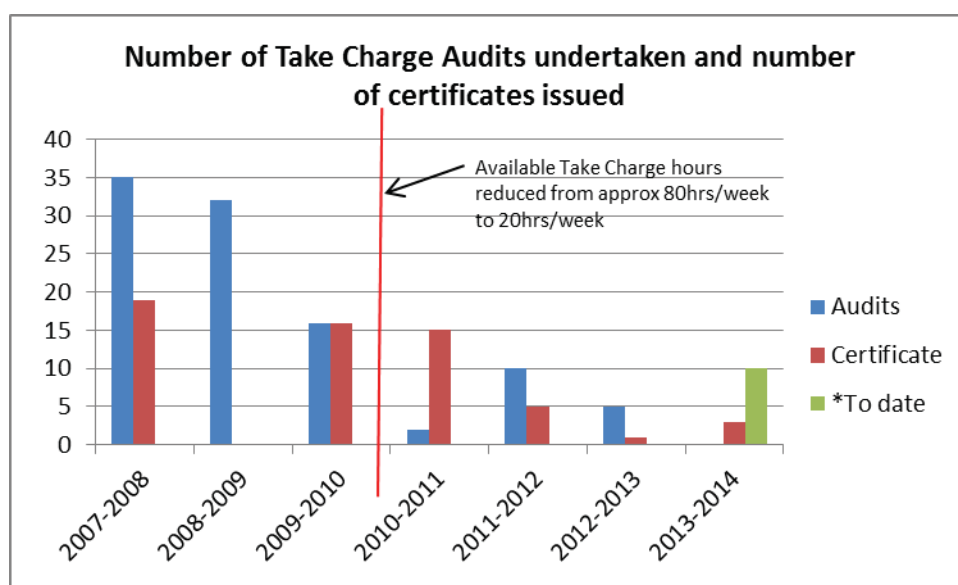
- ▶ **Alan Jefferies prosecution:** Four charges were laid in 2010 relating to the diversion of the Mangaroa River, associated river works and deposition of fill. Mr Jefferies pleaded not guilty and requested a jury trial. The matter was adjourned awaiting the outcome of the abatement notice appeal relating to the same incident (see Appeals, Objections, and Declarations). The jury trial is set down for 4-8 August 2014.
- ▶ **Alex Burrell and Burrell Demolition Ltd enforcement order and prosecution:** Following the dismissal of the appeal by the High Court in June 2012, Mr Burrell successfully gained leave of the High Court to appeal to the Court of Appeal (and seek a stay of the enforcement order). The Judge also granted a stay of the Enforcement Order with conditions that the appellant must meet including providing a management plan for the filling operation. The matter is due to be called in the Court of Appeal on 1 February 2014 to progress the matter. The prosecution related to a breach of resource consent in 2008 at C&D Landfill in Happy Valley Road. Connected to these proceedings is the processing of Mr Burrell's substantive consent application (discussed earlier in this report) to cover all existing activities and extend the fill in both height and area.
- ▶ **C & E Stolte Ltd and Clarence Stolte prosecution:** Two charges were laid in the District Court on 10 April 2013 against each of the parties relating to the discharge of dairy effluent and disturbance of the stream bed due to stock accessing Parkers Stream near Carterton. This resulted in significant environmental effects in Parkers Stream. On 2 October 2013 both parties entered pleas of not guilty. Mr Stolte has indicated he will change the pleas to guilty and has submitted a restitution proposal for consideration by GWRC. The matter has been set down in the Masterton District Court for 22 January 2014 to progress and conclude this case.
- ▶ **Ken Collings prosecution:** One charge was laid in the District Court on 13 May 2013 in relation to discharges from works on a water supply dam in the Whitemans Valley area. Mr Collings pleaded guilty and was sentenced on 21 October 2013 in the Wellington District Court. He was given a discharge without conviction and ordered to pay GWRC \$5,000.
- ▶ **P A & S C Steens Ltd (and four directors of the company) prosecution:** 19 Charges were laid in the District Court on 13 June 2013 relating to discharges of contaminants from a honey processing plant to a tributary of Solway Stream on three separate occasions; and also for a breach of abatement notices. Charges against two of the directors have since been withdrawn after new information about their involvement in the company came to light. On 4 December 2013 PA & SC Steens Ltd and Mr Steens pleaded guilty. Charges against Mrs Steens were withdrawn. Sentencing will take place in Masterton District Court on 22 January 2014.
- ▶ **Daniel Hart and Selwyn Donald prosecution:** Two charges were laid in the District Court on 28 June 2013 relating to a discharge of dairy effluent to land entering a roadside drain and local stream in the Featherston area. Mr Donald pleaded guilty on 3 October 2013 and charges against Mr Hart have been withdrawn. Sentencing will take place in Masterton District Court on 22 January 2014.
- ▶ **Henergy Cage-Free Ltd and Graeme Napier prosecution:** Four charges were laid in the District Court on 6 November 2013 relating to the discharge of poultry effluent to land and land adjacent to a tributary of the Whangaehu River. The case will be called on 22 January 2014 to progress the matter.



- ▶ **Mayall Properties Ltd and C & M Transport Ltd prosecution:** Four charges were laid in the Wellington District Court on 19 December 2013 relating to the reclamation of the bed and diversion of the Korimako Stream. This case will be called on 22 January 2014 to progress the matter.

## Take Charge Programme

The focus of the Take Charge programme continues to be the Naenae industrial area. The Take Charge Coordinator has developed a new strategy and procedure to engage businesses and increase the number participating in a Take Charge Audit. This resulted in contacting 10 businesses who all agreed to participate. In the December quarter eight new audits were undertaken, with two more scheduled to take place in January and February 2014. We have identified a further 12 businesses in Naenae industrial area where we would like to undertake Take Charge audits. Those businesses will be contacted in early 2014 with the aim of them all having a Take Charge visit by the end of March 2014.



Certificates are issued to those businesses that have met the Take Charge programme requirements and are complying with our regional rules. Certificates have been issued to:

- ▶ **Naenae Panelbeaters**
- ▶ **DIC (printing ink and chemical supplier):** DIC is the first business the Take Charge coordinator has visited where appropriate systems and best practice procedures were already in place. A certificate was issued without the business having to comply with any programme requirements.
- ▶ **Trethewey Stone:** The Take Charge coordinator has worked with Trethewey Stone since January 2013 to prevent process water from discharging to the stormwater network. Removing the discharge from the stormwater network (and ultimately the Waiwhetu Stream) involved significant on-site drainage works in order to separate the process water from site stormwater. An abatement notice was issued to ensure the works were completed in a timely manner. The process water discharge now discharges to the Hutt City waste water network. Trethewey Stone has also complied with the other Take Charge requirements.

The Take Charge coordinator has been working closely with the HCC trade waste team, ensuring that any recommendations made to businesses are consistent with HCC requirements. The trade waste team also paid for Naenae stormwater sump samples to be analysed when we were determining the

type of contaminants emanating from the industrial area. HCC records also provide valuable information for the Take Charge programme on site drainage and sewer connections.

The Take Charge Coordinator has also been liaising with Environment Canterbury in relation to an educational booklet – The Builders Pocket Guide. This educational resource will be relevant to the general public, builders, businesses and contractors as it covers areas such as sediment control, paint wash disposal, hazardous substance storage, spill management and general stormwater protection. We are looking at the viability of adapting the Guide to make it relevant to the Wellington region and investigating whether the TA's are interested in partnering with us.

## Projects work programme

We have prioritised our projects work programme for 2013-2014. Some key initiatives we have been working on in the December quarter are:

### **Review of Erosion and Sediment Control Guidelines**

We have commenced a review of the Erosion and Sediment Control Guidelines that were first published in 2002. Staff have met and discussed our process for the review and desired outcomes. We have advised key stakeholders about the review and hope to meet with them in early 2014 to discuss the Guidelines.

### **Water use data management system**

We have been working with a couple of companies who store water use data for water take consent holders. This has resulted in the transfer of that data to GWRC's water use data management system. This ensures consent holders comply with reporting requirements of their consent and is helpful for our national water use reporting which has been requested by MfE in March 2014.

## Financial reports

Regulation Income Statement Period ending 31 December 2013	Year To date			Full Year			Last Year	
	Actual \$000	Budget \$000	Variance \$000	Forecast \$000	Budget \$000	Variance \$000	YTD Actual \$000	FY Actual \$000
Rates & Levies	1,133	1,133	-	2,265	2,265	-	1,231	2,462
Government Grants & Subsidies	-	-	-	-	-	-	23	-
External Revenue	1,085	935	150	2,071	1,871	200	807	1,524
Investment Revenue	-	-	-	-	-	-	-	-
Internal Revenue	98	63	35	125	125	-	47	86
<b>TOTAL INCOME</b>	<b>2,316</b>	<b>2,131</b>	<b>185</b>	<b>4,461</b>	<b>4,261</b>	<b>200</b>	<b>2,108</b>	<b>4,072</b>
less:								
Personnel Costs	1,309	1,220	(89)	2,440	2,440	-	1,251	2,571
Materials, Supplies & Services	39	54	15	108	108	-	47	72
Travel & Transport Costs	16	22	6	45	45	-	26	46
Contractor & Consultants	621	196	(425)	891	391	(500)	291	505
Grants and Subsidies Expenditure	-	-	-	-	-	-	-	-
Internal Charges	257	281	24	562	562	-	262	524
<b>Total Direct Expenditure</b>	<b>2,242</b>	<b>1,773</b>	<b>(469)</b>	<b>4,046</b>	<b>3,546</b>	<b>(500)</b>	<b>1,877</b>	<b>3,718</b>
Financial Costs	-	-	-	-	-	-	-	-
Bad Debts	47	-	(47)	-	-	-	(2)	2
Corporate & Department Overheads	339	339	-	678	678	-	307	614
Depreciation	15	18	3	37	37	-	17	35
Loss(Gain) on Assets	-	(20)	(20)	(20)	(20)	-	-	(17)
Loss(Gain) Investments	-	-	-	-	-	-	-	-
Loss(Gain) on Sale of Assets / Investments	-	(20)	(20)	(20)	(20)	-	-	(17)
Total Indirect Expenditure	401	337	(64)	695	695	-	322	634
<b>TOTAL EXPENDITURE</b>	<b>2,643</b>	<b>2,110</b>	<b>(533)</b>	<b>4,741</b>	<b>4,241</b>	<b>(500)</b>	<b>2,199</b>	<b>4,352</b>
<b>OPERATING SURPLUS/(DEFICIT)</b>	<b>(327)</b>	<b>21</b>	<b>(348)</b>	<b>(280)</b>	<b>20</b>	<b>(300)</b>	<b>(91)</b>	<b>(280)</b>
Add Back Depreciation	15	18	(3)	37	37	-	17	35
Other Non Cash	-	(20)	20	(20)	(20)	-	-	(17)
Net Asset Acquisitions	-	(38)	(38)	(38)	(38)	-	-	20
Net External Investment Movements	-	-	-	-	-	-	-	-
<b>NET FUNDING BEFORE DEBT &amp; RESERVE MOVEMENT</b>	<b>(312)</b>	<b>(19)</b>	<b>(369)</b>	<b>(301)</b>	<b>(1)</b>	<b>(300)</b>	<b>(74)</b>	<b>(242)</b>
Debt Additions / (decrease)	-	-	-	-	-	-	-	-
Debt Repaid	-	-	-	-	-	-	-	-
Net Reserves (Increase) / decrease	-	-	-	-	-	-	-	-
<b>NET FUNDING SURPLUS (DEFICIT)</b>	<b>(312)</b>	<b>(19)</b>	<b>(369)</b>	<b>(301)</b>	<b>(1)</b>	<b>(300)</b>	<b>(74)</b>	<b>(242)</b>

Regulation Capital Expenditure Statement Period ending 31 December 2013	Year To date			Full Year			Last Year	
	Actual \$000	Budget \$000	Variance \$000	Forecast \$000	Budget \$000	Variance \$000	YTD Actual \$000	FY Actual \$000
Total Asset Acquisitions	-	58	58	58	58	-	-	3
Capital Project Expenditure	-	-	-	-	-	-	-	-
Asset Disposal Cash Proceeds	-	(20)	(20)	(20)	(20)	-	-	(23)
<b>Net Capital Expenditure</b>	<b>-</b>	<b>38</b>	<b>38</b>	<b>38</b>	<b>38</b>	<b>-</b>	<b>-</b>	<b>(20)</b>

## Financial variance analysis

- ▶ Regulation has a net deficit of \$327k which is \$348k worse than budget with overspends in staff costs & consultants costs
- ▶ External income is \$1,085k which is \$149k more than budget due to oncharging of some consultants costs
- ▶ Regulation consultants & contractors spend of \$621k is \$425k more than budget and includes Hearing commissioners costs, contracts for earthworks monitoring, contract staff for consent processing, enforcement legal costs and technical advice for RONS projects
- ▶ Travel costs and materials are all close to budget
- ▶ The forecast consultants spend for Regulation has increased by \$500k. This is following analysis and review of consultants costs to December and reflects unbudgeted costs for Enforcement,

consultants working on RONS projects and Earthworks compliance costs. Some of the RONS costs are recoverable so the net impact is to increase the net deficit by \$300k

Performance Measure	Performance Target		Comment
	Baseline	2013/14	
Percentage of resource consents <sup>1</sup> processed within 20 working days <sup>2</sup>	98% (2010/11)	100%	100% All consents processed within statutory timeframes this quarter.
Percentage of monitoring inspections completed for resource consents with individual monitoring programmes	98% (2010/11)	100%	N/A Not assessed until year end.
Percentage of environmental incidents reported to the 24-hour incident response service investigated in accordance with legal timeframes <sup>3</sup> for enforcement	68% (2010/11)	100%	99.6% There were two exceedances this quarter.

## 1.3 Environmental Science

### Overview

Completion of ESci's departmental science strategy, and development of a GWRC research strategy in conjunction with SCEG

Ongoing collection and data management for SoE programmes, including commencement of work on reviewing SoE monitoring programmes

Continuing to provide scientific information for Wairarapa Moana, Mangatarere, Wairarapa Water Use Project and Wellington and Porirua Harbours

Provision of advice and information to internal departments, notably around future requirements to determine limits for water quality and quantity

### Key results for the year

- ▶ Completion of departmental science strategy
- ▶ Development of a project brief for reviewing the groundwater quality SoE monitoring network (Stage 1)
- ▶ Completion of the first phase of the Lake Wairarapa water balance project, report under review
- ▶ Completion of the suite of State of the Environment Annual Data Reports (will be formally published early in the new year)
- ▶ Development of a project plan in conjunction with SCEG to produce an organisational research strategy and implementation plan

### Looking ahead

- ▶ Consideration of the NPS-FW, LAWF third report and Environmental Monitoring and Reporting project into the strategic direction of science programmes
- ▶ Continued development and release of reports around flow investigations in a variety of rivers across the region, and including lake Wairarapa
- ▶ Wairarapa Moana "cleanup" programme science information needs and ongoing performance monitoring
- ▶ Redefining the Wairarapa Airsheds and consideration to the long term monitoring of the Kapiti Airshed
- ▶ Development of a monitoring programme for terrestrial biodiversity
- ▶ Development and prioritisation of science and research needs in conjunction with SCEG, Whaitua committees and end user departments, providing for an integrated science programme
- ▶ Review of SoE monitoring programmes

- ▶ Integration of Mātauranga Māori and science where appropriate and development of cultural health monitoring and indicators

## Departmental activity

### General

The more significant areas of work for the department during the quarter were:

- ▶ Completion of ESci's departmental science strategy, and development (in conjunction with SCEG) of a GWRC organisational research strategy
- ▶ Preparation of the State of the Environment Annual Data Reports and commencement of work on the 2012/12 Annual Summary Report
- ▶ Delivery of three public science seminars on toxic cyanobacteria in the Hutt River
- ▶ Work on delineation of groundwater supply well capture zones
- ▶ Ongoing work reviewing our SoE monitoring programmes
- ▶ Science presentations at external stakeholder meetings regarding water allocation and Schedule H outcomes, including completion of a technical report summarising water allocation and minimum flow recommendations, and a technical memo documenting a preliminary benchmarking exercise of the current state of the region's water bodies against Schedule H outcomes
- ▶ Determining the scope for a council-wide air and climate science needs analysis
- ▶ Ongoing collaborations with Victoria University and DoC around biodiversity monitoring
- ▶ Provision of a range of technical support to Environmental Regulation, Environmental Policy, Biodiversity, Biosecurity, Parks, Water Supply and Flood Protection departments
- ▶ The prioritisation and identification of future science needs and gaps, especially with respect to the Regional Plan review and preparing for the Ruamāhanga Whaitua Committee

A summary of work carried out in the various teams within the departments is as follows:

### Air quality and climate

#### Redefining Wairarapa airshed boundaries

The science work that will underpin an application to the Ministry for the Environment (MfE) to change the boundaries of the Wairarapa airshed is progressing well. Preliminary airshed modelling using emission estimates from the 2013 Masterton home heating survey was completed in the first quarter of the year (Jul-Sept). Work to refine the emissions estimates and to validate the modelling with ambient air monitoring data is now underway. We expect to finalise the proposed new airshed boundary early next year and then to undertake public consultation before a formal application is made to the Minister for the Environment to change the boundary by way of notice in the Gazette.

#### Climate science needs analysis

An independent council-wide air and climate science needs analysis that interviewed 34 key staff throughout various parts of council was undertaken. The findings of this review will be used to inform the future direction and resourcing needs of the air and climate team. The team aims to develop capacity in climate science in order to meet the growing needs for localised climate

information to help manage natural resources that are likely to be affected by climate variability and future climate change.

## Aquatic ecosystems and quality

### Rivers and streams

GWRC joined with Auckland Council, Waikato Regional Council, Bay of Plenty Regional Council and Hawke's Bay Regional Council in a multi-council tender process for State of the Environment invertebrate sample processing. The joint tender process offers an opportunity to maximise consistency across council monitoring programmes as well as providing economies of scale through collectively larger sample volumes. A similar multi-council process is being explored for GWRC's river water quality analysis (the current laboratory contract expires on 30 June 2014).

Three science seminars on toxic cyanobacteria blooms in the Hutt River were held during November in the Mangaroa Valley, Upper Hutt and Lower Hutt. Upper Hutt City Council, Hutt City Council and Regional Public Health were partners in these seminars which attracted over 100 people. Called "Down the river", the seminars provided an opportunity for the public to find out more about cyanobacteria blooms, including how to keep themselves and their animals safe. Scientists from GWRC, Victoria University, Cawthron Institute and GNS Science presented the collective scientific knowledge that has been gained on cyanobacteria blooms since the first dog deaths from cyanobacteria occurred in the Hutt River in late 2005. The existing fact sheet on toxic algae was updated and made available to attendees, and has also been posted on GWRC's website.

Planning continued with respect to investigations needed to further our knowledge of the drivers of cyanobacteria blooms in the Hutt River. One such piece of work that got underway during the quarter was the collection of water samples from tributaries of the Hutt River between the Moonshine and Silverstream bridges, as well as shallow groundwater in the vicinity, to better understand nutrient inputs to the mid-reaches of the river where cyanobacteria growth tends to be greatest.

In early December, GWRC entered into a partnership with Victoria University for a summer student scholarship to trial the use of aerial photography taken from a small unmanned plane for monitoring the spatial coverage of toxic algae in the Hutt River. If successful this method could be used to help understand algal bloom issues along the entire river length rather than just at selected GWRC monitoring points. The proposed trial received good coverage in local papers during the time of the "Down the river" science seminars.

One of our freshwater scientists attended a two-day fish passage workshop held in Wellington in late November. The primary objectives of the workshop were to bring together freshwater scientists from across New Zealand to discuss fish passage problems associated with structures (<4m in height) in rivers and streams, to showcase the latest research relevant to fish passage and to provide case studies that have dealt with remediation of existing fish passage problems.

The 2012/13 Rivers State of the Environment Annual Data Report was prepared during the quarter.

### Lakes

In November monitoring equipment was deployed in Lake Kohangatera to gather information on the lake's dissolved oxygen levels needed to support a resource consent application being prepared by the Biodiversity Department to spray the infestation of *Egeria densa* (an aggressive exotic weed) in the upper open water area of Gollans Wetland.

In mid-December a workshop was held with three external coastal lake specialists to discuss a number of technical issues relating to monitoring and reporting on the region's shallow lakes for both State of the Environment monitoring and plan-effectiveness purposes. The workshop was also used to discuss ecosystem health outcomes appropriate for these lakes that could be included in Schedule H of the Regional Plan. The outcomes from this workshop are now being documented in a report.

The 2012/13 Lakes State of the Environment Annual Data Report was prepared during the quarter.

### Estuarine and marine waters

A final report was received on the five-yearly broad scale intertidal habitat mapping survey of Porirua Harbour, carried out in January 2013. The key findings were that the area of soft mud in the estuary has increased, the area of seagrass has decreased and saltmarsh area has remained stable. Areas of dense seaweed growth persist near the mouths of the Horokiri and Pauatahanui streams and this reflects continuing high inputs of nutrients. It is of some concern that the area of seagrass has declined since the last assessment in 2008 and this may be related to reduced water clarity and high fine sediment inputs to the harbour.

Our coastal scientist attended the NZ Coastal Society conference in Hokitika in November, where she delivered two presentations on the Porirua Harbour and catchment strategy and our collaborative efforts to model and manage ongoing sedimentation issues in Porirua Harbour.

Four ESci staff attended (in a voluntary capacity together with a number of other GWRC staff) the ninth community survey of cockles in Pauatahanui Inlet in December. This is the longest running and most comprehensive survey carried out by community volunteers anywhere in New Zealand, and provides an important data series for monitoring cockle populations and environmental changes in the inlet. Results of the survey will be published as an online summary report later in 2014.

The 2012/13 Coastal State of the Environment Annual Data Report was prepared during the quarter.

### Recreational water quality

The 2013/14 summer recreational water quality monitoring programme commenced in the week of 11 November. Under this programme (jointly conducted with four of the region's territorial authorities) microbiological water quality at 61 marine and 20 freshwater sites is assessed weekly through to the end of March. Assessments of cyanobacteria cover are also made at each freshwater site and, as a new initiative this summer, the amount of deposited fine sediment is also being recorded at each site in the Hutt River (fine sediment is thought to favourably influence cyanobacteria growth).

In December a meeting was held with agencies involved in recreational water quality monitoring in the Wellington region including Upper Hutt, Hutt and Porirua city councils, Kapiti Coast and Masterton district councils, Capacity, Regional Public Health and Eurofins-ELS. Two key areas of discussion at the meeting were protocols for responding to exceedances of the national microbiological water quality guidelines as well as further development of toxic algae (cyanobacteria) risk communication methods.

Health warning signs were put up at Lowry Bay on 18 December after counts of indicator bacteria exceeded the guideline for safe swimming on two consecutive days. Signs were taken down the next day as bacteria counts returned to safe levels. Capacity could find no obvious source of contamination at the site.

ESci staff were involved in discussions with Wellington City Council, Wellington Waterfront Ltd and Regional Public Health regarding the Taranaki Street dive platform site on the Wellington waterfront



which has been to subject to a public health warning since last summer. This site is being monitored by Capacity and Wellington City Council and health warning signs will stay in place until water quality at the site improves.

In late December, a medium risk warning was issued for toxic algae on the Hutt River at Silverstream Bridge. Health warning signs were erected and a media release issued. Toxic algae risk remained low at all other monitored sites.

## Terrestrial ecosystems and quality

### Contaminated land

Staff continued with general improvements and updating entries in the Selected Land Use Register (SLUR). Staff responded to public SLUR-related enquiries, sending out 49 property enquiry letters and adding 11 new sites to the database. A priority issue related to the management of clean-fills has emerged, signifying the need to clarify the Discharge to Land rules as part of the regional plan review.

We have been actively involved with the Regional Waste and Contaminated Land Forum (special interest group), providing feedback on draft proposals and support for a project to refine the MfE HAIL definitions. Staff responded to a request for information from Green Party MP Catherine Delahunty regarding the status of sites on the database and a request from the Department of Conservation for a list of all SLUR sites on DOC land in the region. We attended a second joint meeting hosted by Golder Associates with the region's territorial authorities to discuss updates in the NES. It is envisaged that this may form into a Regional Liaison group, with the aim of promoting discussions between the territorial authorities and GWRC in managing information on the SLUR database, as well as broader issues such as the implementation and refinement of the NES.

### Soil quality

Staff commenced evaluation of some of the potential land-based information needs for the Ruamāhanga Whaitua. Our soil quality scientist recently took part in a modelling workshop, where the usefulness of various models for the Ruamāhanga Whaitua were explored. A student has started work on a land use GIS layer for the Ruamahanga Valley and is liaising with Land Management and WWUP officers. She will be gathering land use information that will include data about farm types, stock numbers, land use practices and water use.

An information fact sheet on soil moisture holding characteristics for the Tauherenikau Racecourse site was prepared for the Waimoana field day.

ESci staff investigated soil quality and soil contaminants associated with use of an on-farm airstrip fertiliser bin at Belmont Regional Park with Nick Kim from Massey University and land monitoring forum staff.

### Groundwater quality

Quarterly Groundwater Quality State of the Environment (GQSoE) sampling runs were completed in December, along with sampling of some shallow groundwater bores in Upper Hutt taken for the investigation of groundwater nutrient inputs and cyanobacteria growth in the Hutt River.

Progress is being made on the GQSoE network review with a consultant recently engaged to calculate individual source capture zones for all bores in the current GQSoE network.

## Terrestrial biodiversity

The latest national Biodiversity Working Group meeting was held in December. A number of the national terrestrial biodiversity indicators are now being finalised and GWRC is providing input to this work. Input is also being provided to national research programmes and database proposals.

Windy weather conditions hampered the completion of the bird counts for Project Kaka (a collaborative project with DoC). Bird surveys were also recently completed under contract to WCC and UHCC. GWRC has been designing a rodent monitoring program for WCC for suburban backyards within a 1km radius of Zealandia. It is an interesting challenge as there are no established protocols for this type of suburban monitoring. The second year of a three-year study of lizards at Baring Head has been completed. A total of 4 copper skinks, 112 common skinks, 77 common geckos and 29 ground weta were recorded. The capture rates for copper skinks and common geckos were significantly higher this year. The highest occupancy rates for both surveys were found on the coastal platform and the escarpments.

Post-release monitoring of the NI robins translocated to Wainuiomata Mainland Island has been underway since early September. Six pairs of birds were located by staff and volunteers (the latter providing over 260 hours of search effort). Each of these pairs made at least one nesting attempt and a total of nine chicks have successfully fledged from four nests.

## Hydrology

Spring across the region continued the winter trend of being fairly warm and with above average rainfall. There were a number of small flood events throughout October that triggered river alarms in the main rivers in Wairarapa, Hutt Valley and Kapiti Coast. These types of events are typical for this time of year. Generally the magnitude of the events was around that expected to occur with a return period of between one and two years. Prior to Christmas river flow levels across the region were starting to get low but significant rain over the Christmas break has helped to raise the base flow levels in most areas.

Hydrology staff have been involved in a number of workshops and stakeholder meetings related to the Regional Plan Working Document for Discussion. Our Senior Groundwater Scientist was also involved in a three day workshop investigating the usefulness of various models for answering questions likely to be raised during the whitua process. This workshop involved a number of the leading modelling experts in New Zealand and from overseas and proved to be extremely valuable.

## Monitoring

The Hydrology team's monitoring officers have been busy with regular monitoring and catching up on the backlog of work created by the disruption following the earthquakes and moving offices. New storage and workshop facilities at Shed 39 are almost complete and the team is very much looking forward to settling into these new and vastly superior facilities.

## Investigations

Preliminary findings of the Lake Wairarapa water balance project (described in the last quarterly report) were presented at a Wairarapa Moana workshop in December and the annual NZ Hydrological Society conference in November. Feedback from these forums, as well as from an independent peer review of the report, will be used to help shape the next stages of the water balance project. A formal project plan will be developed in the coming quarter and work will focus on refining the existing findings as well as reviewing the original objectives in light of likely Ruamāhanga Whitua information needs.

Other work that is indirectly related to the water balance project has also been progressing, including measurement of flows in a number of the pump drains on the eastern side of the lake. Preliminary findings from this investigation were also presented at the Wairarapa Moana workshop in December. ESci also assisted a Victoria University student to scope up a Master's study that will help develop our understanding of the hydrological link between Lake Wairarapa and edge wetlands. GWRC will continue to assist with this project through throughout summer.

## Science strategy and information

Our external Science Advisory Group (SAG) has been established and met in November for first time. This group will not only provide expertise to our science programmes, but also establish links into their research organisations providing greater collaborative opportunities. The next meeting of this group is likely to be March 2014.

The department's draft science strategy (presented to the rest of the department in August) was forwarded to representatives of the Environment Group and SAG for comment. It has now been finalised and a strategy document, video and posters been produced. ESci team leaders are having brainstorming session in January to initiate the development of an implementation plan to achieve the goals and objectives outlined in the strategy.

A project plan has now been prepared in conjunction with SCEG to produce an organisational research strategy and is waiting sign off. The working group representatives from each department have been agreed and workshops will be held in next quarter to commence work on the development of the research strategy.

There has been a strong focus on improving our science communications, both internally and externally. During the quarter we:

- ▶ Contributed to the video presentation made at Group Away Day in October. This presentation showcased a variety of our science activities and investigations and was very well received by the Group
- ▶ Contributed to the development of an information fact sheet on soil moisture characteristics prepared for the Waimoana field day
- ▶ Started work on the 2012/13 Annual Summary Report (note that the design work for this report has been outsourced to Capiche). The report is due to be published at the end of January 2014

Our Senior Analyst extracted and compiled the data for the various Annual Data Reports produced by the other ESci teams, as well the data used in the benchmarking exercise presented at the water quality stakeholder workshops held in Carterton and Porirua in December.

Work continues in preparation for the Ruamāhanga Whaitua Committee, with the present focus on pulling together our current science knowledge of the catchment and identifying and prioritising information gaps. Planning is underway to produce the information (in an informative but concise way) that the whaitua is likely to require when it commences.

## Other significant projects

### Wairarapa Moana

ESci continues to play a key role in the Wairarapa Moana project and is heavily involved in the FreshStart for Freshwater Programme. Members of the Terrestrial and Aquatic Ecology and Quality teams are part of the Technical Advisory Group and involved in all three arms of the project; lake-edge wetland restoration, Land Environment Plans and monitoring.

Staff took part in a field day on soil moisture where farmers were shown how to interpret the irrigation needs of the soil types they have present on their farms. We prepared an information fact sheet on soil moisture holding characteristics for the Tauherenikau Racecourse meteorological station site in preparation for the field day. Science team members also gave presentations and participated in an information-sharing session about Wairarapa Moana held in December.

Hydrology monitoring officers have developed a system to measure and calibrate the flows from the pump on Landcorp's Te Hopai farm as it has been difficult to estimate flows into Matthew's Lagoon to date. The data will assist NIWA with modelling runoff from the Matthew's Lagoon catchment in order to determine how altered/created wetlands could improve water quality.

A census of bitterns around Lake Wairarapa was completed in October. A total of 20 booming male bitterns were counted. Estimates of bittern populations are based on doubling the number of booming males as it is assumed that each male is paired with at least one female. This means that there should be 40 bitterns living in the wetlands around the lake. A population of 50 birds is needed for a self-sustaining population, and it is hoped that the recently initiated pest control in the Boggy Pond area will improve breeding success. A session with national bittern experts was convened by our contractor (John Cheyne) at Boggy Pond in November. A BBQ and talk for interested farmers, care-groups and members of the public was also held that day.

An exotic fish removal trial is planned to begin in January in Barton's Lagoon as part of the FreshStart program. This trial aims to determine the effect of removing exotic fish species such as perch, trout and rudd on the abundance and diversity of native fish species. Fish and Game are supporting the trial and will provide an observer during the trapping sessions.

## Technical support for other departments

Considerable technical support was provided to other GWRC departments/groups during the quarter:

### Environmental Regulation

- ▶ Technical advice was provided on various resource consent applications, the most significant of which was an application by Matahiwi Farms Limited to dam two unnamed tributaries of the Wakamoekau Creek. The hearing was held in December and two of our scientists provided technical advice relating to hydrology and aquatic ecology.
- ▶ The resource consent application for the KCDC public water supply project that staff have previously provided technical advice on was granted by the commissioners in September and no appeals were lodged. Since that time staff have been providing further advice to assist KCDC to develop the monitoring plans required under conditions of the consent. This consent is likely to remain a significant piece of work for staff for some time.
- ▶ Assistance was provided to NZTA to find an appropriate mitigation site for the loss of totara trees in the Te Horo remnants resulting from the Peka Peka to Otaki roading proposal. Our land contamination scientist also provided input on Peka Peka to Otaki and Transmission Gully management plans and monitoring reports.
- ▶ Feedback on the ecological impacts of the Kapiti Airport extension on wetlands was provided, while previous advice on the effects of a proposed road in the Fairview Farm development has resulted in a road realignment.
- ▶ Technical advice was provided on the C&D landfill/Dry Creek cleanfill, with the adaptive monitoring plan being implemented by Royal Wellington Golf Course relating to the renewal of their irrigation abstraction consent.

- ▶ Other work for the EReg during the quarter included the provision of technical input on various consent monitoring reports, including review of annual monitoring reports for wastewater and landfill discharges in the Wairarapa, and a review of the Makara Estuary monitoring report associated with the Mill Creek wind farm consent.

## Environmental Policy

- ▶ A number of scientists were involved in delivering presentations at stakeholder workshops convened by EPol on water allocation and Schedule H provisions set out in the Regional Plan: Working Document for Discussion. A report compiled in conjunction with EPol staff and summarising water allocation and minimum flow recommendations was circulated to relevant stakeholders. A technical memo was also completed and circulated to stakeholders documenting a preliminary benchmarking exercise of the current state of the region's water bodies (primarily rivers, lakes, groundwater and coastal waters) against the proposed numerical outcomes set out in Schedule H.
- ▶ Staff were involved in convening an expert panel to identify sites of significance for rare and threatened birds for the next Regional Plan. These experts have now peer-reviewed the report prepared by our Terrestrial Ecologist and have identified the most significant sites for scheduling purposes.
- ▶ Preliminary discussions were held and documented for EPol staff on possible criteria that could be used to identify rivers and lakes in the region with outstanding ecological values.

## Flood Protection

- ▶ ESci staff continued to provide input and advice in relation to the potential environmental effects from a variety of routine flood protection and land management activities. This work has contributed to Flood Protection's resource consent applications to undertake works in rivers in the western half of the region, which were lodged during the quarter.

## Biodiversity

- ▶ Technical support is being provided on a resource consent application being drafted by the Biodiversity department for the spray application of herbicide at Lake Kohangatera (in East Harbour Regional Park) to manage the infestation of *Egeria densa*, an aggressive exotic weed.
- ▶ A trial of wax tags versus traps for possum monitoring was completed in the Akatarawa Forest in October, as part of a post-monitor of the 1080 operation. The results were 1.5% for wax tags and 0.4% RTC for traps. The wax tag technique is much cheaper than use of traps, but needs initial calibration.
- ▶ Six KNE areas were monitored for rodents and small animals in November. Rat tracking rates were below 5% in the two mainland island areas (Wainuiomata and East Harbour), as well as at Baring Head and Battle Hill. Korokoro Valley and Queen Elizabeth Park had high rat tracking rates (20% and 40% respectively), while hedgehog tracking was very high at Baring Head (78% of tunnels).
- ▶ Ecologists are providing feedback on the KNE plans currently being produced by the Biodiversity Department.

## Parks

- ▶ Permanent vegetation plots in Belmont Regional Park and in Battle Hill bush have been re-measured. These plots provide information about the health of the forests. Good regeneration of seedlings and a lack of animal browse were recorded in Belmont Regional Park, while the diversity of species recorded had increased in all plots.

- ▶ Spring bird counts have been completed in Korokoro Valley, Tunnel Gully, Queen Elizabeth Park and Battle Hill bush reserve.
- ▶ Staff attended a hearing on Hayward's cleanfill proposal in Belmont Regional Park and provided advice to the Parks planner regarding mitigation requirements. Assessments were made of the clearance of a blockage at Lake Kohangatera and the impacts of a track being built at the Wainuiomata boat house.
- ▶ Five permits for the collection of natural materials from or research in GW's parks and forests have been processed. One was for a commercial nursery to collect seed, while the others were for research projects.

## Biosecurity

- ▶ ESci will be gathering data to assist Biosecurity and AgResearch to develop CLIMEX models for four weed species (purple loosestrife, moth plant, Bathurst bur and Madeira vine). The models predict the types of habitats in the region where the emerging weed species may be found, and will assist surveillance efforts.

## Staff changes

Two students have been hired recently to assist with field work and to provide extra resources for gathering information for the whitua and updating the SLUR database.

Recruitment is underway for a newly created internship with local iwi. The position is an Environmental Monitoring Officer kaitiaki a iwi. Recruitment for the current vacancy in the Air and Climate team is expected to start soon now that the needs analysis and review of positional requirements has been completed.

The department is also exploring possibilities for secondments from central government and CRI's.

## Financial reports

Science Income Statement Period ending 31 December 2013	Year To date			Full Year			Last Year	
	Actual \$000	Budget \$000	Variance \$000	Forecast \$000	Budget \$000	Variance \$000	YTD Actual \$000	FY Actual \$000
Rates & Levies	2,523	2,523	-	5,045	5,045	-	2,396	4,793
Government Grants & Subsidies	-	-	-	-	-	-	-	-
External Revenue	11	5	6	10	10	-	31	71
Investment Revenue	2	-	2	-	-	-	2	4
Internal Revenue	133	123	10	245	245	-	118	312
<b>TOTAL INCOME</b>	<b>2,669</b>	<b>2,651</b>	<b>18</b>	<b>5,300</b>	<b>5,300</b>	<b>-</b>	<b>2,547</b>	<b>5,180</b>
less:								
Personnel Costs	1,367	1,269	(98)	2,688	2,538	(150)	1,091	2,313
Materials,Supplies & Services	174	139	(35)	277	277	-	217	376
Travel & Transport Costs	54	46	(8)	91	91	-	33	124
Contractor & Consultants	412	488	76	1,047	977	(70)	416	945
Grants and Subsidies Expenditure	-	-	-	-	-	-	-	-
Internal Charges	274	233	(41)	466	466	-	220	441
<b>Total Direct Expenditure</b>	<b>2,281</b>	<b>2,175</b>	<b>(106)</b>	<b>4,569</b>	<b>4,349</b>	<b>(220)</b>	<b>1,977</b>	<b>4,199</b>
Financial Costs	8	7	(1)	14	14	-	12	23
Bad Debts	2	-	(2)	-	-	-	-	-
Corporate & Department Overheads	385	385	-	770	770	-	338	677
Depreciation	138	161	23	321	321	-	141	281
Loss(Gain) on Sale of Assets / Investments	-	-	-	-	-	-	(10)	(15)
<b>TOTAL EXPENDITURE</b>	<b>2,814</b>	<b>2,728</b>	<b>(86)</b>	<b>5,674</b>	<b>5,454</b>	<b>(220)</b>	<b>2,458</b>	<b>5,165</b>
<b>OPERATING SURPLUS/(DEFICIT)</b>	<b>(145)</b>	<b>(77)</b>	<b>(68)</b>	<b>(374)</b>	<b>(154)</b>	<b>(220)</b>	<b>89</b>	<b>15</b>
Add Back Depreciation	138	161	(23)	321	321	-	141	281
Other Non Cash	-	-	-	-	-	-	(10)	(15)
Net Asset Acquisitions	(20)	-	(20)	(105)	(105)	-	(3)	(142)
Net External Investment Movements	-	-	-	-	-	-	-	-
<b>NET FUNDING BEFORE DEBT &amp; REVENUE</b>	<b>(27)</b>	<b>84</b>	<b>(111)</b>	<b>(158)</b>	<b>62</b>	<b>(220)</b>	<b>217</b>	<b>139</b>
Debt Additions / (decrease)	-	-	-	-	-	-	-	50
Debt Repaid	(34)	(32)	(2)	(63)	(63)	-	(47)	(96)
Net Reserves (Increase) / decrease	(2)	-	(2)	-	-	-	(2)	(4)
<b>NET FUNDING SURPLUS (DEFICIT)</b>	<b>(63)</b>	<b>52</b>	<b>(115)</b>	<b>(221)</b>	<b>(1)</b>	<b>(220)</b>	<b>168</b>	<b>89</b>

Science Capital Expenditure Statement Period ending 31 December 2013	Year To date			Full Year			Last Year	
	Actual \$000	Budget \$000	Variance \$000	Forecast \$000	Budget \$000	Variance \$000	YTD Actual \$000	FY Actual \$000
Total Asset Acquisitions	27	-	(27)	105	105	-	13	124
Capital Project Expenditure	(10)	-	10	-	-	-	-	49
Asset Disposal Cash Proceeds	-	-	-	-	-	-	(10)	(38)
<b>Net Capital Expenditure</b>	<b>17</b>	<b>-</b>	<b>(17)</b>	<b>105</b>	<b>105</b>	<b>-</b>	<b>3</b>	<b>135</b>

## Financial variance analysis

- ▶ E Science has a net deficit of \$146k which is \$68k worse than budget
- ▶ Direct costs are \$106k over budget of which staff costs are \$98k of this variance
- ▶ Capital spend for the quarter is \$20k on monitoring equipment offset by reversal of year end accruals of \$31k

Performance Measure	Performance Target		Comment
	Baseline	2013/14	
Number of state of the environment report cards downloaded on the Greater Wellington website	1929 (2010/11)	Increase on previous year	This information is not currently available.