AGENDA AND SUPPORTING PAPERS
FOR COUNCIL'S APRIL MEETINGS

TO BE HELD IN THE OFFICES OF THE WEST COAST REGIONAL COUNCIL
388 MAIN SOUTH ROAD, GREYMOUTH

TUESDAY, 13 APRIL 2010

The programme for the day is:

10.30 a.m:	**Resource Management Committee Meeting**
On completion of RMC Meeting:	**Council Meeting**
Workshops:	**Ian Pankhurst - Strongman Mine Presentation** **Reconvening of Hearing for Coastal Plan Change 2**

RESOURCE MANAGEMENT COMMITTEE

THE WEST COAST REGIONAL COUNCIL

Notice is hereby given that a meeting of the **RESOURCE MANAGEMENT COMMITTEE** will be held in the Offices of the West Coast Regional Council, 388 Main South Road, Paroa, Greymouth on **Tuesday, 13th April 2010**

P.EWEN
CHAIRPERSON

S. MORAN
Planning and Environmental Manager
C. DALL
Consents and Compliance Manager

AGENDA NUMBERS	PAGE NUMBERS	BUSINESS	
1.		**APOLOGIES**	
2.		**MINUTES**	
	1 – 4	2.1	Confirmation of Minutes of Resource Management Committee Meeting – 9 March 2010
3.		**PRESENTATION**	
4.		**CHAIRMAN'S REPORT**	
5.		**REPORTS**	
		5.1	**Planning and Environmental Group**
	5 – 6	5.1.1	Planning & Environmental Manager's Monthly Report
	7 – 8	5.1.2	Contact Recreation Sampling Results for Orowaiti Lagoon & Seven Mile Creek
	9 – 15	5.1.3	Board of Inquiry's Changes to the Water National Policy Statement
	16 – 89	5.1.4	West Coast Pest Plant Strategy Review
	90	5.1.5	Regional Policy Statement Review
		5.2	**Consents and Compliance Group**
	91 – 94	5.2.1	Consents Monthly Report
	95 – 97	5.2.2	Compliance & Enforcement Monthly Report
		6.0	**GENERAL BUSINESS**

THE WEST COAST REGIONAL COUNCIL

MINUTES OF THE MEETING OF THE RESOURCE MANAGEMENT COMMITTEE HELD ON 9 MARCH 2010 AT THE OFFICES OF THE WEST COAST REGIONAL COUNCIL, 388 MAIN SOUTH ROAD, GREYMOUTH, COMMENCING AT 10.33 A.M.

PRESENT:

P. Ewen (Chairman), R. Scarlett, D. Davidson, B. Chinn, A. Robb, A. Birchfield, T. Archer, T. Scott

IN ATTENDANCE:

C. Ingle (Chief Executive Officer), S. Moran (Planning & Environmental Manager), R. Mallinson (Corporate Services Manager), C. Dall (Consents & Compliance Manager), T. Jellyman (Minutes Clerk), The Media

1. APOLOGIES

There were no apologies.

2. MINUTES

Moved (Davidson / Archer) *that the minutes of the previous Resource Management Committee meeting dated 9 February 2010, be confirmed as correct.*

Carried

Matters Arising

There were no matters arising.

3. CHAIRMAN'S REPORT

Cr Ewen reported that he, C. Ingle and N. Costley met with Transport Minister, Hon Stephen Joyce when he visited the West Coast to discuss transport matters. He stated this was a very informative meeting with the security of route through Klondyke and Arthurs Pass and single lane bridges discussed. Cr Ewen reported that the Minister was surprised that although Klondyke corner is not on our patch it is of major concern to the West Coast. Cr Ewen advised the Minister that it is in our best interests that this area is not jeopardised and that the upgrade is progressed as it has a big impact for the West Coast even though this area is included in the Canterbury Transport Plan and has a low priority for Canterbury. The Haast to Hollyford proposal was also discussed. MP Chris Auchinvole was also in attendance at this meeting.

Cr Ewen reported that he received a few phone calls from ratepayers regarding the proposed surtax on petrol for health. Cr Ewen advised that he pointed out that as a member of the Land Transport Committee the opportunity to implement this was taken away by the government and therefore was never going to happen. Cr Ewen stated it was unfortunate that it this was floated without reference back to the LTC as this could have stopped some angst in the community. He feels that other means of advocacy for health need to be investigated. Cr Ewen stated that West Coasters pay their taxes and should be getting no less of a service that what other districts are. He spoke of his personal health experiences and that when health issues are a matter of urgency the service is there. He feels that a collective response is required with this matter.

Cr Ewen reported that he has viewed the Blaketown side of the Greymouth Floodwall and feels that the upgrade is progressing well. He stated he is impressed with the new panels that have been placed in this area as they marry in well with the existing panels.

T. Scott asked what was the Transport Minister view on the likelihood of the Haast to Hollyford Road. Cr Ewen responded that he feels this wouldn't be a goer with Government and that it would need to be a private road but it is early days yet.

Moved (Ewen / Davidson) *that the Council receive this report.*

Carried

5. REPORTS

5.1 PLANNING AND ENVIRONMENTAL GROUP

5.1.1 PLANNING AND ENVIRONMENTAL MANAGER'S MONTHLY REPORT

S. Moran spoke to his report. He advised that the proposed National Environmental Standard for assessing and managing contaminants in soil is looking as though there are greater implications for district and city councils rather than regional councils. S. Moran advised that he would report on this matter at next month's meeting as submissions close on the 19th of April.

S. Moran reported that the National Environmental Standard for Electricity Transmission Activities has now come into effect. He advised that at the time staff did not consider that there were any issues with the proposed standard that would impact on our regional plan. He stated that further work might be required with the Regional Policy Statement in order to align with the National Environment Standard but this will be worked out over the coming weeks.

S. Moran reported that the Board of Inquiry report on the Proposed Freshwater National Policy Statement has now been released. He advised that this Council's submission was made to the Board of Inquiry in July last year. The Board has now reported back and the Minister has referred the report back to the Land and Water Forum for them to consider. S. Moran advised that the decision rests with the Minister for the Environment as to whether he will accept the Board's recommendations. S. Moran advised that the Land and Water Forum is due to report back in June.

Cr Ewen stated that he is concerned that we have our Regional Plans and policy statements insitu and there is a growing list of NES and NPS and he feels the templates that are being put forward may compromise the plans we already have in place. Cr Ewen stated that not all of the NES's and NPS's are applicable to the West Coast. S. Moran responded that the submissions that Council put forward to the NPS's and NES's include fact that the one size fits all scenario is not always appropriate and we try to identify examples of this in our submissions. He stated that we have been successful in this area in terms of air quality by gaining an exemption for coal burners and multi fuels. Water metering is another example of our concerns and the expectation that this would be reflected in the final standard. Cr Archer stated that if plans were to be changed again this would involve a massive consultation process and cost. Cr Birchfield stated there is no point in bringing in national standards if they are not achievable and the standard brought in should make it easier for people to comply. He asked how would an alluvial gold miner be affected. S. Moran advised that he is not yet aware of what the Board has come back with for the Freshwater NPS but there are bottom lines. C. Ingle advised that if the applicant cannot meet the national environmental standard then councils are not allowed to grant a resource consent. C. Dall stated that if the applicant can comply with the national environmental standard then the consent process should be more straightforward but this does not replace the consent process. Cr Ewen stated that his concern is that the national environmental standard is going to be tougher for the West Coast and yet the status quo is satisfactory. S. Moran stated that for water quality aspects the standard that is going to be set is for long low gradient, slow flowing rivers. This does not suit the short steep catchments on the West Coast. He stated that we are obligated to go with the new standard and unless there is some flexibility with the national environmental standard then that will be the bottom line. Cr Archer stated the problem is the continual shifting of the goalposts.

S. Moran reported that the Ministry of Civil Defence and Emergency Management issued a tsunami warning just after midnight on the 27th of February following an earthquake in Chile. He stated that there were no effects from this on the West Coast. S. Moran reported that this was a good exercise for staff in dealing with the agencies involved. He stated that there was little concern from a local level due to the direction the tsunami was coming from. Police fielded a few phone calls from concerned members of the public and our staff were in contact with the Police during this time. The warning was down graded later in the morning. S. Moran stated that response from the public in not going down to the water edge was appreciated; the warning was heeded well by the public especially in view of the fact that there have been a few similar warnings in the past.

S. Moran reported that the Coordinating Executive Group Meeting reviewed and approved the Group Plan Review at yesterday's Mayors and Chairs Forum. The plan will go out for consultation and will be publicly notified this Friday.

S. Moran reported that there were no flood events during the reporting period. He advised that staff will soon be busy with the autumn round of water quality monitoring. S. Moran drew attention to the table in his report for contact recreation sites for February. Cr Scarlett asked for the exact location of Houhou Creek. S. Moran advised that this creek is close to the oxidation ponds in Hokitika. Cr Archer asked what sort of strategic direction is in place for identifying the actual source of the high contaminant levels for the three moderate to high risk sites. S. Moran responded that it is important to build up a picture over time of what is happening. He stated that the Orowaiti Lagoon has failed regularly in the past and

following a review it is thought the one of the issues affecting water quality was septic tanks which are now going in to the town scheme and also upstream farm land uses, though recent work by farmers in the area involved putting in riparian margins and fences to address contaminant leakage. S. Moran advised that Seven Mile Creek has shown significant improvement over the last few years and has been more of an issue in the past than recently. Houhou Creek has only just started to be monitored so a trend is yet to be revealed. He advised that once a trend is picked up staff could then establish if the contamination is from humans, birds or cows. Cr Archer remains concerned that there is no strategy is in place as nobody is monitoring voluntary farm plans to establish if they have actually been implemented. C. Ingle advised that in terms of farm plans there is a "Working Together" document in place with Westland Milk Products to work through some of these issues. He advised that it is intended that a follow up audit check of farm plans for farmers in the Lake Brunner area who were involved in this project is being arranged. Orowaiti catchment farm plans could be investigated once work in the Lake Brunner catchment is complete as Lake Brunner is taking priority at the moment. C. Ingle advised that a strategy for the Orowaiti Lagoon could be prepared by staff for Council's consideration if they wish. Cr Ewen suggested that a graph be prepared for the next Council meeting of these three sites. It was noted that Houhou Creek is a new site and would not be included yet but a graph would demonstrate the trend in the Orowaiti Lagoon and Seven Mile Creek and would be information only rather than a strategy at this stage.

Moved (Ewen / Chinn) *that this report be received.*

Carried

5.2 CONSENTS AND COMPLIANCE GROUP

5.2.1 CONSENTS MONTHLY REPORT

C. Dall reported that he attended a further mediation meeting for the J. Groome appeal on the TrustPower Ltd resource consent for the Proposed Arnold Valley Hydro Power Scheme. C. Dall reported that agreement has been reached over most of the conditions except for the minimum flows for the scheme. He advised this has resulted in an Environment Court hearing which is being dealt with at the moment. C. Dall advised that he will be presenting his evidence next Monday and a final outcome is expected shortly. C. Dall reported that the consents that were granted to Hydro Developments Limited for its proposed hydropower scheme on the Stockton Plateau have received two appeals. He advised that one appeal is from Solid Energy Ltd and the other is from local residents. C. Dall reported that the appeals will be considered by teleconferences on the 14th of April. Cr Scarlett asked for an indication as to when the decision on the Mokihinui Hydro Power Scheme is likely to be released. C. Dall responded that this decision is expected by the end of this month. He advised that the CEO's of this Council and Buller District Council wrote to the Hearing Commissioners to express their disappoint with the delay of this decision. C. Ingle advised that he would email Councillors when the decision is announced.

Moved (Robb / Archer) *that the March 2010 report of the Consents Group be received.*

Carried

5.2.2 COMPLIANCE & ENFORCEMENT MONTHLY REPORT

C. Dall reported that a field day for the management of dairy effluent is to be held in the Lake Brunner Catchment, he stated this is a critical issue in this catchment.
C. Dall reported that Westroads Ltd have now provided the beach profiles for Blaketown Beach. The profiles show that the amount of gravel is above the 1994 trigger level therefore Council has allowed gravel extraction to recommence. C. Dall stated that at the time of writing this report 780m^3 of gravel has been removed.
C. Dall reported that following an incident at Pike River Coal Ltd, coal fines were discharged into Big River. He advised that further information from the company is awaited but at this stage there has been no explanation regarding this incident.
C. Dall reported that there were a number of incidents reported by Solid Energy during the reporting period but none of these were significant.
C. Dall advised that 26 complaints were received during the reporting period with a number of these still under investigation. C. Dall reported that two abatement notices and two infringement notices were issued during the reporting period.
C. Dall reported that it has been a quiet month with regard to mining and no bonds were released during the reporting period.

Cr Birchfield drew attention to the two site visits to Stafford and noted that activities were compliant both times. He feels that people should be charged for site visits if the complaint is false. Cr Archer stated that there is no mechanism for charging for false complaints. C. Dall advised that at times complaints made at this location have been substantiated but not always. He stated that complaints are prioritised and rationalised with other visits in the area and sometimes a problem is found and sometimes not.
Cr Ewen stated that everyone feels the same about complaints without foundation but we are tied by legislative requirements and we cannot recover costs until the legislation is changed. C. Dall advised that there are practical constraints that make proving a complaint to be vexatious or frivolous very difficult and this takes a lot of time and effort to prove. Cr Scarlett spoke of a previous case where a person was continually making complaints that were often found to be complaint. C. Dall advised that in this case the complainant was confined to one phone call per week. T. Scott asked if these complaints are coming from the same person each time. C. Dall responded that the majority are coming from one person. Cr Ewen stated that Cr Scarlett made a good point and that if staff are mindful of whom the complainant is then a common sense and discretionary approach is required. Cr Robb suggested that if the complaint is elaborated a little more in the report then this could be helpful especially for repetitive complaints. C. Dall agreed with this. Cr Davidson asked how long after a complaint has been laid do staff go out and inspect the site. C. Dall responded that this is considered on a case by case basis. He stated that if staff are advised that a discharge is happening right now and it is a major discharge then it is investigated urgently but judgement is required in all cases.
Cr Scarlett asked if the providing beach profiles by Westroads Ltd is an expensive exercise and do they have to provide beach profiles every year? C. Dall responded that this is costly but the surveying has been refined over the years. He advised that this occurs at least every year, if not six monthly but it does depend on what the profiles reveal.

Moved (Archer / Robb) *that the March 2010 report of the Compliance Group be received.*

Carried

6.0 GENERAL BUSINESS

There was no general business.

The meeting closed at 11.18 a.m.

.....
Chairman

.....
Date

THE WEST COAST REGIONAL COUNCIL

Prepared for: Resource Management Committee
Prepared by: S. Moran – Planning & Environmental Manager
Date: 30 March 2010

Subject: **PLANNING & ENVIRONMENTAL MANAGER'S MONTHLY REPORT**

PLANNING

Coastal Plan Change 2
The Department of Conservation sought an adjournment of the hearing to complete some additional work that they wished to present to the panel. That work will be completed shortly and the Hearing can be reconvened to receive that information then closed so that deliberations can commence and decisions made.

Guidance on National Policy Statement (NPS) on Electricity Transmission
The Ministry for the Environment has released two guidance documents, to assist regional and district councils with implementing the NPS. The NPS came into effect in April 2008, and councils must have initiated a plan change or review to incorporate it by April 2012. One document suggests how the NPS could be reflected in Regional Policy Statements (RPS), and gives examples of possible RPS policies. The second document provides guidance on managing risks of development near high-voltage transmission lines. The timeframe will be met as the RPS review has already begun.

TRANSPORT

The West Coast Road Safety Committee met on 31 March. All organisations attending the meeting have continued to undertake improvements in road safety through engineering, education, or enforcement activities (the 3 E's). The newly released Safer Journeys document produced by the Ministry of Transport will reshape the way road safety activities are delivered but will still retain the core components of the 3 E's.

The Winter Action Programme detailing activities to be undertaken over the next 6 months was finalised and reporting on the Summer Programme will be completed once final statistics are provided from the New Zealand Transport Agency. The funding envelope for the next 2 years of the 3 year programme have been finalised and the four Councils will be submitting draft funding figures into LTP online by 9 April with final figures to be submitted by 23 April. This allows for the current Road Safety Coordinator Contract with Tai Poutini Polytechnic to roll over for the remainder of the 3 year funding programme.

The next meeting has been scheduled for 28 July 2010.

RESOURCE SCIENCE

Hydrology / Flood warning
A low pressure system and associated frontal system brought a moderate burst of heavy rain the West Coast south of Otira on the 22 March 2010.This event only triggered the Whataroa River alarm, which is not a key flood warning site.

Site	Time of peak	Peak level	Warning Issued
Whataroa Rv @ SH6	22/3/10 09:45	5035mm	Acknowledged at 08:15, courtesy call given

Water Quality at Contact Recreation Sites:

Risk to Bathers[1]

Site	Nov 09	Dec 09	Jan 10	Feb 10	Mar 10
Buller River @ Marrs Beach					
Buller River @ Shingle Beach					
Orowaiti Lagoon @ Picnic Area					
Rapahoe Beach @ End of Statham St					
Seven Mile Creek @ SH6 Rapahoe					
Nelson Creek @ Swimming Hole Reserve					
Grey River @ Taylorville Swimming Hole					
Cobden Beach @ Bright St West end					
Blaketown Beach @ S Tiphead					
Lake Brunner @ Cashmere Bay Boat Ramp					
Lake Brunner @ Iveagh Bay					
Lake Brunner @ Moana					
Hokitika Beach @ Hokitika					
Kaniere River @ Kaniere Kokatahi Rd					
Lake Mahinapua @ Shanghai Bay					
Houhou Ck @ d/s SH6					

Note: Where two or more samples are taken for a site over the season, the image in the table will represent all samples if they fall within the same category. If some samples fall within a different category these will be mentioned below and the image in the table will represent the average.

January – the first Grey Rv @ Taylorville Swimming Hole sample exceeded the low risk threshold.
February – one of the three Buller Rv @ Marrs Beach samples was in the moderate – high risk category.

Key:

 Moderate to High Risk >550 *E.coli*/100ml or >280 *Enterococci*/100ml

 Low Risk 260-550 *E.coli*/100ml or 140-280 *Enterococci*/100ml

 Very Low Risk <260 *E.coli*/100ml or <140 *Enterococci*/100ml

[1] Due to the limited number of samples taken the Regional Council suggests the risk status above be used as a guide only. The current risk category assigned to a particular site is made by comparing results of individual samples to National guidelines.

RECOMMMENDATION

That this report is received.

Simon Moran
Planning and Environmental Manger

THE WEST COAST REGIONAL COUNCIL

Prepared for: Resource Management Committee
Prepared by: S. Moran – Planning & Environmental Manager
Date: 30 March 2010

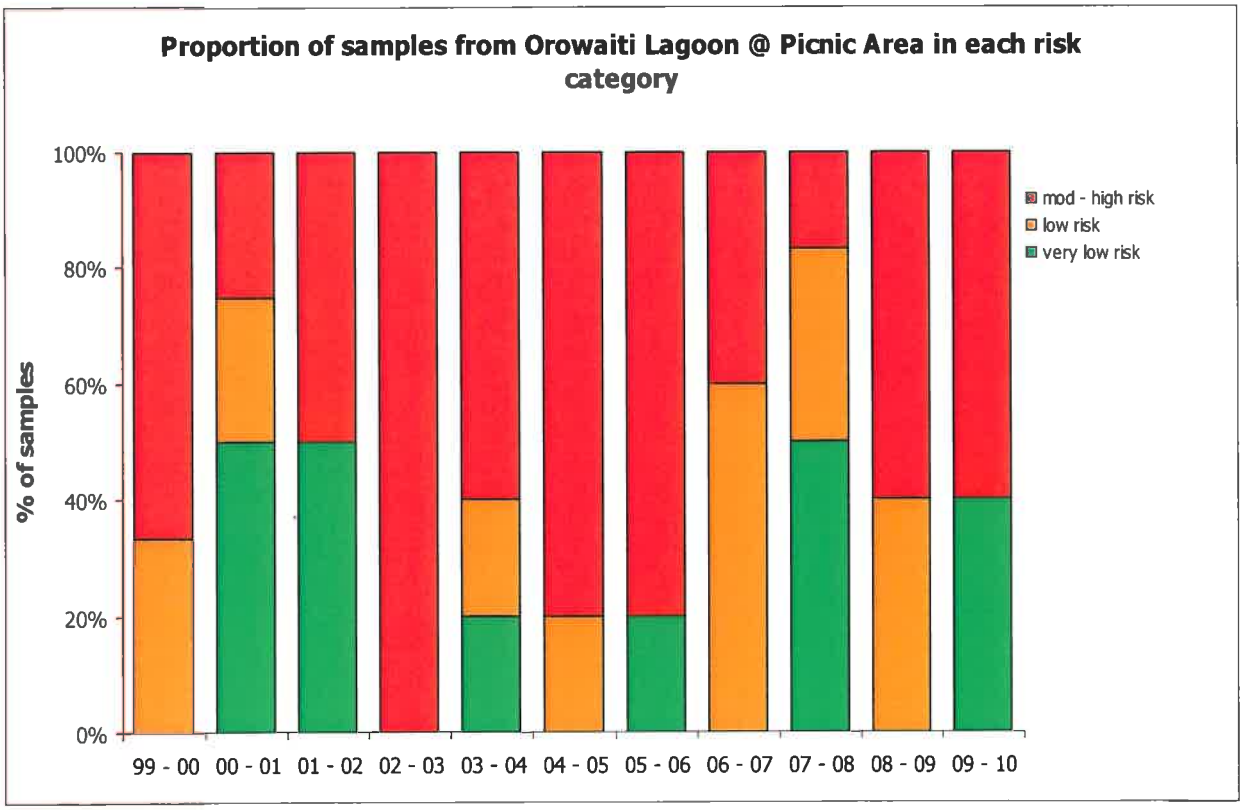
Subject: **CONTACT RECREATION SAMPLING RESULTS FOR OROWAITI LAGOON AND SEVEN MILE CREEK**

PURPOSE
To provide Council with an overview of the level of water quality at the contact recreation sampling sites on the Orowaiti Lagoon and Seven Mile Creek.

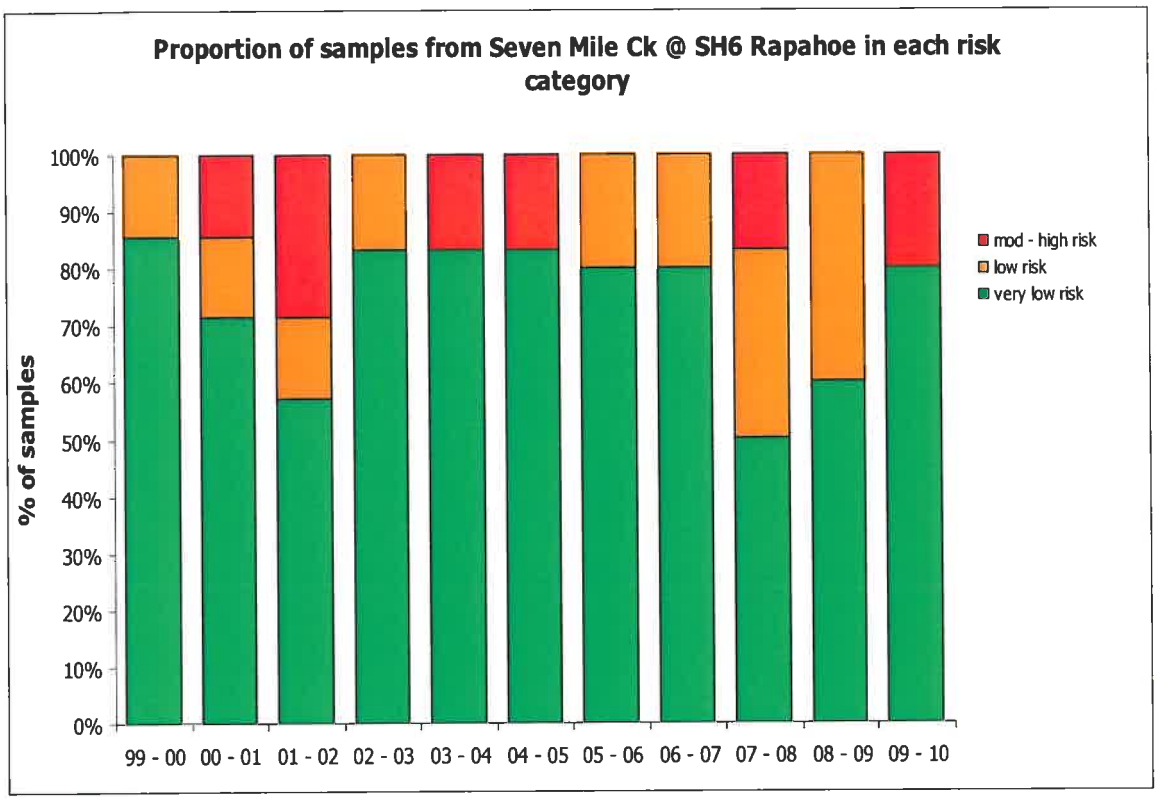
BACKGROUND
At the March Council meeting Councilors noted that there were some monitoring sites that exceed the low risk category. The two sites for which further information was requested were the Orowaiti Lagoon in Westport and Seven Mile Creek at Rapahoe.

Councilors wanted to review the history of monitoring at those sites and the following is an overview of the results since 1999.

RESULTS



The Orowaiti Lagoon frequently exceeds the low risk, and moderate/high risk, contact recreation categories. Sources of contamination are from dairy farming, and urban septage entering the lagoon via stormwater drains. Previous studies have postulated that most contamination comes from farming, but relative contributions from farming and urban drains have never been quantified. Faecal coliform results are inherently variable, and sampling is not particularly frequent (5 samples over the summer), so subtle changes aren't likely to be detectable. There appears to be no obvious pattern of improvement over recent time despite completion of a farm planning project spanning 2006-2008, and efforts to improve septage management.



Although water quality is predominantly satisfactory, Seven Mile Lagoon has had a long history of pathogen contamination issues and there appears to have been no obvious improvement at the lagoon. Potential sources are from Rapahoe septic tanks, the Runanga oxidation ponds discharge, and sewer leaks and overflow entering Raleigh Creek via stormwater in Dunollie and Runanga. Previous investigations indicate that the oxidation ponds are performing satisfactorily although they do provide a source of faecal pathogens, and this can never be entirely removed. It is unclear how significant Raleigh Ck and septic tank discharges may be.

RECOMMENDATION

That this report is received.

Simon Moran
Planning and Environmental Manger

THE WEST COAST REGIONAL COUNCIL

Prepared for: Resource Management Committee
Prepared by: Lillie Sadler – Policy Analyst
Date: 25 March 2010

Subject: **BOARD OF INQUIRY'S CHANGES TO THE WATER NATIONAL POLICY STATEMENT**

PURPOSE
To update the Council on the Board of Inquiry's changes to the Proposed National Policy Statement (NPS) for Freshwater Management.

BACKGROUND
Council made a submission, further submission, and gave verbal evidence via a phone conference call on the Proposed NPS for Freshwater Management. We supported some parts of the NPS, and opposed other parts. Our main areas of concern were:

- The impracticality of implementing the NPS within required timeframes;
- The potential cost of implementing some of the requirements to change RPS's and regional plans;
- Uncertainty about what standards were expected for water quality;
- Vague terminology and repetition in some objectives and policies.

REVISED NPS
The Board of Inquiry has changed the structure and content of the NPS considerably. Attached is a table with more detail on the main parts of our submission, and whether these are reflected in the revised NPS. Much of the former, complicated wording is removed, and replaced with more concise policies on the main themes, namely tangata whenua roles, integrated management, water quantity, and water quality. However, some of the new terms recommended aren't defined in the NPS, leaving uncertainty about their implementation.

The key changes in the Board's revised NPS that are relevant to the West Coast are:

- The inclusion of a new national issue and goal relating to wetlands management.
- The inclusion of a new national goal for phasing out contamination of water.
- New direction for integrated management of land and water use to take a catchment-based approach, to avoid adverse cumulative effects within the catchment.
- Three thresholds for water quality i.e. protect water of outstanding quality, enhance water that has contaminated by human use, and maintain all other water quality.
- Two new policies which would have effect immediately (once gazetted) and require consent:
    - any take, use, damming, diversion, or draining of a wetland which changes the character, intensity, scale, flows or levels, from what immediately preceded the change,
    - any change in the character, and any increase in intensity or scale of a land use or activity involving a discharge of contaminants to land or water, from what immediately preceded it.
- Removal of unrealistic timeframes for changing RPS's and regional and district plans.
- If the Council cannot fully implement any policy in the NPS by 31 December 2014, then a defined timeline for staged implementation must be developed and adopted for the full implementation of the NPS by December 2030.

The Board has provided a report explaining the reasons for their recommendations. With respect to water quality, the Board considers that: *"....a change in attitude to, and management of, contamination of fresh water is needed. Fresh water should only be used for cleaning, diluting and disposing of waste if there is a positive assurance that the life-supporting capacity of the water and associated ecosystems, and the*

potential of the water to meet reasonably foreseeable needs, will not be diminished, and will, where practicable and necessary, be enhanced."

The revised NPS also has new, specific goals, objectives and policies to phase out over-allocation, however this is not such a major issue for the West Coast compared to Canterbury.

The Board's recommendations are still with the Land and Water Forum for their comment to the Minister, so the Proposed NPS may still change.

Once the Minister has approved the Proposed NPS and it is gazetted, implementation of the NPS for this Council will be considered in more detail through the RPS review and Plan Merge processes.

RECOMMENDATION

That this report be received.

Simon Moran
Planning and Environment Manager

BOARD OF INQUIRY RESPONSE TO WCRC SUBMISSION ON WATER NPS POLICIES

What we sought in our submission	Outcome
Preamble The Preamble should be made clearer to help interpret the objectives and policies, including clarifying terms such as "the recreational aspirations of New Zealanders", and "*aspirations of all New Zealanders*". The NPS should allow flexibility in the policies, where practicable, to give councils the scope to apply the NPS, taking into account regional variations.	**Preamble** References to "recreational aspirations" and "*aspirations of all New Zealanders*" are deleted. The Preamble is substantially changed. It now gives a brief, more concise introduction, then lists National Values of Fresh Water, four National Issues about Fresh Water Management, and four National Goals. As well as the previous main themes of managing over-allocation, contaminated water, and integrated management, a new issue and goal is added: the loss of wetlands, and protecting wetlands.
Objectives – General Comments Some of the terms used should keep more in line with RMA terminology which provides for more effective, and tried and tested, interpretation. We suggested objectives could be redrafted to make them clearer.	**Objectives – General Comments** The Board accepts that the NPS should use terms that are clear in meaning, and (where practicable) consistent with meanings given to them by the RMA [26].
Old Objective 1 Retain this objective, it illustrates the intent of the Proposed NPS to be a management tool to enable communities.	**New General Objective** Absorbed into new General Objective A1 which aims to manage water in a way that maintains, restores and enhances ecological and intrinsic values while enabling use as per section 5 of the Act. The Board acknowledges that the NPS needs to be consistent with the RMA provisions, but considers that for the NPS to make a difference it needs to more than just mirror the words in the RMA [54].
Old Objective 2 The objective is too wordy and unclear, and needs to be changed to focus on integrated management of effects.	**Objective for integrated management** The objective is replaced with Objective C1, which is still about integrated management, but has a shift of focus to improving it rather than ensuring it is effective. There is also a new direction, for improving integrated management "in whole catchments".
Old Objective 3 The objective should be redrafted to reflect a relevant water quality standard according to the significance of the values or uses identified for that resource. The current wording ("....progressive enhancement of the overall quality....") is too vague as to what end-point it is trying to achieve, and is not appropriate for	**Objective E1 for water quality** The Board recognised the need to differentiate between different types of water bodies [194], and amended Objective 3 to become Objective E1. Instead of one "overall" water quality, it has three thresholds for water quality i.e. protect outstanding quality water, enhance water contaminated by human

all waterbodies. The reference to water quality suitable for swimming should be deleted.	use (although there is no definition provided of "contaminated"), and maintain all other water quality. With a national goal of phasing out contamination, the Board does not consider it necessary to include a standard such as "swimmability" in objectives or policies of the NPS [193].
Old Objective 4 This objective should be retained and the word "significant" added to qualify that the life-supporting capacity of waterbodies with higher values should be recognised and protected, rather than all waterbodies needing a high threshold of protection.	**General Objective** The general intent of the Old Objective 4 to protect the life-supporting capacity and ecological values of water resources is incorporated into the General Objective 1A, and Objectives D1, and E2. The Board has widened the scope of these objectives to include ecosystem processes and indigenous species and their associated ecosystems [153]. These values have been taken out of the old policies. The Board rejected including the term "significant ecological values" in the objectives, as this would allow for minor and de minimus effects on the environment to be ignored. Cumulative effects of doing so have contributed to the national issues that called for the NPS [149]. The matter of protecting significant ecological values rather than protecting all water values is partly addressed in the change to Objective E1.
Old Objective 5 This objective should be deleted as it is unclear, and unnecessary. It is the converse of Objectives 3 and 4 which seek to enhance water quality and protect values, particularly with respect to discharges. We also opposed the use of the words "further degradation" in this Objective.	**Objective E2 for water quality** Old Objective 5 appears to be mostly retained and renumbered Objective E2 has the same intent to control adverse effects of land use and discharges on specified water values. The Board considers that a change in attitude to, and management of, contamination of fresh water is needed. Fresh water should only be used for cleaning, diluting and disposing of waste if there is a positive assurance that the life-supporting capacity of the water and associated ecosystems, and the potential of the water to meet reasonably foreseeable needs, will not be diminished, and will, where practicable and necessary, be enhanced [199]. The reference to "further degradation" has been removed.
Old Objective 6 We sought that this Objective, for managing demands for water, be amended to make the wording clearer and simpler. Some of the proposed wording is unnecessary repetition. The matters listed in sub-clauses should be deleted as	**New objectives for water quantity** The general intent of Old Objective 6 to manage demand is deleted, and replaced with two new, more specific objectives on safeguarding specific ecological values from adverse effects of takes, damming, diversion and

they are already in the policies.	including draining of wetlands, and phasing out over-allocation. The sub-clauses are gone from the Objectives. The Board considered that the NPS might contain a general objective on how regional councils' function to allocate water in regional rules is exercised. However, the relevant conditions in regions and catchments may vary, and the Act entrusts to regional councils the function of specific allocations of water to types of activity [170].
Old Objective 7 This objective should be shortened to simply apply to allocated water being used efficiently. The sub clause for avoiding waste should be covered in the policies instead of in the objective. Subclauses for avoiding excessive contamination and facilitating opportunities to increase benefits from the use of freshwater should be deleted, as they are too unclear.	The Board concluded that the proposed Objective 7 is really a policy and can be omitted as an objective. The concept of avoiding wastage is covered in the new Policy D7. The other sub-clause matters are removed altogether. The general intent of the old objective is met by other objectives and policies recommended by the Board [185].
Old Objective 9 We sought that this Objective (which requires councils to do effective monitoring and reporting) be reworded to remove any problems with interpreting what is effective monitoring.	This Objective is removed entirely. The Board considers it is inappropriate to include a provision in the NPS for local authorities to perform duties already imposed by the RMA [241].
Old Policy 1: We opposed the requirement to include priorities and timetables in RPS's for when regional plans will set water standards and environmental flows. We also sought that the requirement to include a considerable number of specific matters in RPS's, e.g. identifying notable values and degraded water resources, be either deleted or changed to give councils the option to provide guidance or direction on these matters. We sought deletion of the term "degraded" in relation to water quality.	**Revised NPS:** Most of this policy is removed, and there is no requirement now to include priorities and timetables or most of the other listed matters in RPS's. There are new policies which give regional councils direction to make or change regional plans, process and review consents, and take any other actions necessary to manage water takes and discharges. There is also one policy (B1), for identifying Maori values and involving them in management and decision-making. The term "degraded" is removed.
Old Policy 2: We opposed having to notify a change to a regional plan according to a timeframe set in the RPS, and opposed having to notify a change to regional plans 40 days after the amended RPS becomes operative.	**Revised NPS:** These timeframes are removed. There is a new policy F1 for progressive implementation of the NPS if policies can't be implemented by 2014, or fully completed by 2030. If progressive implementation is undertaken, some defined time-limited stages need to be adopted and notified. Any programme of time-limited stages must be formally adopted by the council within 18 months of gazetting of the NPS, and publicly notified.

We sought deletions and changes to the requirement to include rules in regional plans specifying conditions to be placed on consents for water takes and discharges, to qualify them so they only apply in certain circumstances. There is also a requirement to include conditions on consents for the return of water to waterbodies. We sought changes to the requirement to do monitoring and reporting on parts of Policy 2, to make it part of routine section 35 monitoring.	Policy 2 is mostly removed, and parts of it are addressed under new policies for water quantity and quality. There are also two new policies which have effect immediately until other policies are given full effect to, which require consent for any water use activities which change or increase, and result in a change to flows or levels or contaminants entering water. Policies D3 and E8 require consent conditions for conserving water and protecting against contamination. Policies D1, D2, and E1 require changes to regional plans to ensure sustainable allocation, and set flows, levels, and water quality standardsOther policies specify certain approaches to be taken with water takes and discharges. The clause for the return of water to waterbodies is removed. This clause is removed. New Policy F1 clause 5 requires annual reporting if a programme of staged implementation of the NPS is undertaken.
Old Policy 3: The requirement for territorial authorities to notify changes to their district plan no later than 40 working days after changes to the relevant RPS are made operative should be deleted, as unrealistic and unachievable.	**Revised NPS:** The whole policy is removed. All requirements for action by district councils are deleted. All NPS policies require action only by regional councils.
Old Policy 4: We sought deletion or amendment of this policy which lists things to consider when incorporating this NPS into an RPS or plan, and duplicated matters under other policies.	**Revised NPS:** Some of the matters listed in old Policy 4 are addressed under other new policies. Intrinsic values of water are covered in Obj A1. Tangata whenua interests are covered in B policies. Over-allocation is covered in the D policies. Swimming values are indirectly covered in Policy E1. Other matters such as needs of primary and secondary industry, contribution of existing uses to social, economic, and cultural well-being, transition costs, and swimmability are gone.
Old Policy 5: This policy which lists integrated management matters to consider when amending district plans to incorporate the NPS, should be amended to refer to joint consent processing and hearings where land use change may affect water resources.	**Revised NPS:** This policy is gone. New Policy C1 for integrated management requires regional councils to take a catchment-based approach to managing land use effects to avoid adverse cumulative effects within the catchment.
Old Policy 6:	**Revised NPS:**

The whole policy should be deleted, it lists matters that need to be covered by conditions on consents, and on designations. It duplicates matters in other policies and is unnecessary.	Whole policy is deleted. Some matters are incorporated into Policies D5, D8, and E3 for reviewing water take permits and imposing conditions on take and discharge consents to manage over-allocation, conserve water, and protect against contamination.
Old Policy 7: This policy should be deleted; it allows councils to use non-regulatory methods to implement the NPS, and is unnecessary.	**Revised NPS:** Whole policy is gone.
Old Policy 8: This policy should be deleted; it requires councils to make available to iwi and the public a record of how the NPS is implemented. This is considered unnecessary.	**Revised NPS:** The whole policy is gone, although the concept of informing iwi is implicitly retained in the new Policy B1(b) with respect to involving tangata whenua in management and decision-making. The only requirement to make information publicly available is if regional councils can't meet timeframes in Policy F1 and have to adopt a staged implementation programme.
Old Definitions Delete the definition for "Degraded Freshwater Resources", or replace it with: ***"Further reduction in water quality" means where water bodies don't meet a RMA water quality standard that is a minimum needed to protect the identified significant values of that particular water resource."*** Delete the definitions of "Notable Values" and Outstanding Freshwater Resources", and replace with: ***"Significant Values" means important values of freshwater resources, including scientific, ecological, biodiversity, cultural, recreational (including contact recreation eg, swimming) that are identified through RMA planning or consent processes.*** Alternatively replace the definition of "Notable Values" with a caselaw definition if one exists, or criteria to guide councils on what may be considered 'significant'.	**Revised NPS:** The term "degraded" is removed and the term "contamination" is used instead, but no definition is included. The term "Notable values" is removed. "Outstanding fresh water" is mostly gone except one reference is retained in Objective E1, but no definition is included.

THE WEST COAST REGIONAL COUNCIL

Prepared for: Resource Management Committee Meeting – 13 April 2010
Prepared by: Chris Ingle – Chief Executive
Date: 1 April 2010

Subject: **WEST COAST PEST PLANT STRATEGY REVIEW**

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1. Purpose

This report recommends a process for the statutory review of the Regional Pest Plant Management Strategy, which must commence by August 2010.

2. Background

The Pest Plant Management Strategy for the West Coast was prepared five years ago and went through the submissions and hearings process required under the Biosecurity Act. It was made operative on 9 August 2005. The Biosecurity Act requires a Pest Management Strategy to be reviewed every five years, by inviting public submissions on the Strategy. The review must commence by the fifth anniversary of the operative date.

Section 88 of the Biosecurity Act states:

> *Where a pest management strategy has been in force for 5 years or more and it is more than 5 years since the strategy has been reviewed in accordance with this section, the Minister or regional council must proceed to review the strategy in accordance with this section and may, following the review, amend or revoke the strategy in accordance with this section, or leave the strategy unchanged; and this review is a cost of the strategy.*
>
> *A review of a regional pest management strategy is commenced by a proposal notified in accordance with section 78 and the provisions of sections 79 to 83 apply to that review with any necessary modifications.*
>
> *A proposal must state whether it is proposed that the strategy be amended or revoked or left unchanged, the proposed amendments, if any, in full, and the reasons for the proposed result of the review.*

3. The Current Pest Plant Management Strategy for the West Coast

The current strategy contains objectives and rules for 24 pest plants:

- Four boundary control pests (Gorse, Broom, Ragwort and Giant Buttercup). These rules only apply upon complaint of an affected neighbouring land occupier and only when that neighbour's side of the boundary is clear of the same weed.
- Four total control pests (Nodding Thistle, Spartina, Coltsfoot and African Feather Grass). Total control rules apply to all land occupiers in any West Coast location.
- Sixteen progressive control pests (Giant and Asiatic Knotweed, Wild Ginger, Gunnera, Purple Pampas, Japanese and Himalayan Honeysuckle, Spanish Heath, Old Man's Beard, Yellow Flag Iris, Tradescantia, German Ivy, Rhododendron Ponticum, Darwin's Barberry, Parrots Feather and Elaeagnus). Progressive control rules apply only to Crown land occupiers within certain mapped areas.

The Council has been implementing the Strategy using regulatory tools in the Biosecurity Act. Given the low number of complaints received the cost in terms of staff time has been minimal. In progressive control areas the Department of Conservation have been controlling pest plants on Crown land as their budgets allow, and on neighbouring private land if the landowner agrees. A Department officer has also been assisting with control of total control

pests and has been responding to pest plants on sale at nurseries (i.e. those on the national pest plant accord list).

4. The Application of the Rules over the last four years

Between 15 and 33 pest plant enquiries are received every year. Most enquiries relate to weeds that are not declared regional pests and many are enquiries about what control methods to use to kill certain plant species. The number of enquiries that relate to Strategy rules are between 2 and 6 per year. Almost all of these relate to boundary control pests (mostly gorse and ragwort) and almost all were resolved between neighbours without Council having to use its powers under the Biosecurity Act. Council has only exercised a formal notice of direction twice since the Strategy was made operative in August 2005, and not at all in the past three years.

This suggests that the main effect of the boundary control rules has been as a deterrent. Once a neighbour knows there is a rule requiring a pest plant to be controlled along a property boundary they generally comply with the rule rather than waiting for the Council to take formal action against them. This is good for the Council because it means the cost in terms of staff time exercising enforcement action is minimal.

However, there has also been some frustration expressed with the boundary control rule 'by complaint only' approach, by those that feel a rule should apply regardless of whether somebody complains or not. Others complain who are not immediate neighbours but feel affected by a pest plant on another person's nearby land.

5. Other Methods in the Strategy

Council staff have also participated in the national 'weedbusters' project work, in partnership with Conservation Department staff and interest groups. This work has supported community led efforts to control weeds using a 'site led' rather than a 'weed led' approach.

Council also provides assistance with identifying weed species, and on effective control methods. The Council website contains advice sheets on several common West Coast weed species. It is likely that this informal approach to weed management has been beneficial and because it is low cost, it is suggested that these methods be continued.

6. The Strategy Objectives for Pest Plants

6.1 The objective for the Boundary Control pest plants is the same for all four plants:

"To minimise (the pest plant) spreading from properties whose boundaries are infested to properties whose boundaries are clear"

In the absence of any detailed survey information, it is presumed that the rules have had some effect in achieving this objective; if not by neighbour complaint then by voluntary compliance by neighbours in order to avoid a formal complaint being lodged.

There is an additional part to the objective for ragwort which mentions minimising spread down waterways. Council has not done any work on this aspect of plant spread and has relied only on the rule to control spread. It is not known to what extent ragwort may spread using creeks as a dispersal method.

6.2 There is a different objective for each of the four Total Control pest plants:

"To maintain the West Coast free of any significant Nodding Thistle infestations"

Two enquiries were received about nodding thistle during the past five years. For both instances the plants were sprayed and the site has been monitored since then.

"To eradicate existing infestations of Africa Feather Grass within 10 years and to effectively control and contain new infestations to prevent spread"

Two enquiries were received about African Feather Grass in Westport in 2009 and local DoC officers responded to these. Ongoing monitoring of these areas has occurred annually. It is too early to tell if eradication is complete but the work so far seems encouraging.

"To eradicate Coltsfoot infestations within five years"

Known areas of this weed at Otira and Rocky Point have been controlled by DoC and no live plant has been seen in the past 2 years. While these sites are still monitored by Department of Conservation staff, we can assume this objective has been achieved.

"To eradicate Spartina from the West Coast within five years"

The one known area of this weed at Oparara Estuary has been controlled by DoC and no live plant has been seen for 4 years. The site is still monitored by Department of Conservation staff. This Objective has therefore been achieved.

6.3 The Progressive Control Objective is the same for all plants:

"To maintain and enhance scenic, biodiversity and natural character values in the progressive control areas by managing the pest plants specified for each area to reduce the level of infestation within each area and prevent new infestations occurring."

The Department of Conservation has substantially increased its annual pest plant control programmes within the progressive control areas, compared to the programmes that were in place prior to the Strategy. It is difficult to assess to what extent the scenic and biodiversity and natural character values of these locations have benefitted as a result of the additional work undertaken. However recent report from DoC suggests that they believe that "overall excellent progress has been made in all progressive control areas listed in the Strategy".

7. Overall Assessment of Strategy Effectiveness

The Council has taken an approach to pest plant management that has resulted in a very low cost to the ratepayer. The projected cost of the Strategy was expected to be $26,000 per year, whereas actual costs have been less than $10,000 per annum.

The Strategy has provided an effective tool for landowners to resolve neighbour issues for the four boundary control pests, with a regulatory backstop if issues cannot be resolved amicably. It is likely that the many issues between neighbours have been resolved simply because the parties know the rules exist, and could be enforced if needed, and this in itself serves as an incentive for these issues to be resolved without Council having to become involved.

In terms of total control pests, two of the objectives have been fully achieved and the other two have also been achieved to date but are still being monitored. In the case of African Feather Grass the objective has another five years to run.

For Progressive control areas, the Department of Conservation believes progress has been excellent. Council has not undertaken any monitoring to verify this.

8. Possible Changes to the Strategy: Adding further Total Control pests

The Department of Conservation recommends that Council extends the total control rules to include dense oxygen weed (*egaria densa*) white edged nightshade (*solanum marginatum*) woolly nightshade (*solanum mauritianum*) cape ivy (*senecio angulatus*) and cathedral bells (*cobaea scandens*). The reason given is that all these species are thought to occur at a very few sites in the region and no new sites have been found since 2005. Parrots feather (*myriophyllum aquaticum*) is a pond plant that would also benefit from being included as a total control pest plant.

Staff have not verified whether any or all of the above pest plants are in fact very low incidence and it is likely that there are actually a greater number of sites on the West Coast than DoC are aware of.

The Landcare Research report also recommends new total control plants to be included in the Strategy. Appendix 1 has a summary description of the findings of this report. That report suggests that several pest plants are not present on the West Coast or have been eradicated, but may re-invade (bushy asparagus, similax, woolly nightshade, tree privet) and it recommends these plants be listed as total control pest plants to prevent reinvasion in future.

Likely Cost to Council

If further total control plants are added the additional cost to council is likely to be minimal. Because the plants are uncommon enforcing the rules is not likely to result in a lot of work. Any compliance work associated with actual plant spraying and follow-up control work while enforcing the rules is cost-recoverable.

9. Possible Changes to the Strategy: Changes to Progressive Control Areas

The Department of Conservation recommend that the rules for progressive control areas should now be applied to private landowners within these areas as well as the Crown. In some instances DoC have controlled all the pest plants on Crown land but because it also occurs on private land and some individuals are reluctant to allow DoC staff to control the plants on their land, this defeats the purpose.

For example in the Coast Road progressive control area (SH6 Rapahoe to Westport) some landowners continue to harbour Wild Ginger and Gunnera on their land. Gunnera has been controlled at all known sites on public land as well as many private properties. Wild ginger has been reduced to low densities on public land and this work is continuing to progress.

Several other species are at very low densities along the Coast Road and have potential to have significant impacts. It is suggested that Japanese honeysuckle *(Lonicera japonica)*, Elaeagnus *(Elaeagnus x Reflexa)*, chocolate vine *(Akebia quinata)* and banana passionfruit *(Passiflora tripartita)* all of which are highly invasive climbers and currently at only a few sites are added to the list of species for the Coast Road Progressive Control Area.

The Department of Conservation recommends that Council now applies the rules in these progressive control areas to all land occupiers. However another approach would be to apply rules to private land occupiers but only for particular plants and only in those control areas where there has been reluctance to control particular weeds. For example rules could be applied within the Coast Road progressive control area for Wild Ginger and Gunnera only. This approach would mean the regulatory impact would be minimised and the potential cost impact on Council (who will need to enforce the rule) will also be minimised. These two pests may also need to be regulated in the Cape Foulwind and Karamea–Little Wanganui Progressive control area for similar reasons.

Likely cost to Council

Applying rules to private landowners may result in higher enforcement costs if landowners within these areas continue to resist weed control. However the number of individuals

involved is understood to be small. If the rule extends to all pest plants that DoC are targeting, and to all Progressive Control Areas, the potential cost is a lot larger.

10. Other Landcare Trust Report recommendations

The Landcare report also recommends adding a new category of 'containment' pest plants. Sweet Reed Grass is one of a list of 28 species that is an agricultural weed and appears to be a developing problem in both Kokatahi and Waitaha. Council may wish to consider undertaking surveillance work on that species at this stage.

The Landcare report also recommends the Council appoints a biosecurity officer, undertakes more surveillance of agricultural pest plants and keeps records of where these plants occur, and undertakes regular visits to these sites. This will result in additional costs and this will be looked at before the next annual plan round to see if it is feasible.

Likely Cost to Council

Adding further containment pest plants may result in a lot more work in investigating the reported sightings of such plants, identifying land occupiers and enforcing the rules. Rules cannot always be enforced against the Crown and this may cause frustration for private landowners who will be forced to comply, when nearby Crown land is not necessarily perceived as being compliant. A positive cost – benefit of including these plants is by no means certain and therefore the Section 72 tests are not met, in my opinion.

11. Options for Revising the Strategy & Process from here

If the Council wishes to continue to administer a pest strategy it should notify a Pest Strategy for public submissions by August 2010. Assuming the Council feels the Strategy has been relatively successful, it is recommended that planning staff be asked to re-notify it for submissions using the current Strategy as the notified document, but with amendments to recognise progress made to date and additions and amendments as recommended above.

Alternative approaches could include

1. Decide not to have a strategy at all;
2. Propose the current Strategy with no change; or
3. Make further changes additional to those recommended above.

12. Regulatory impact

The impact of including new total control pest plants that are currently absent or those in very small numbers on local land occupiers is likely to be fairly minor. Only a very few landowners who harbour these plants will be affected and the cost to them for controlling the plants should be very minor.

The impact of adding the recommended rules to private land occupiers in progressive control areas is also likely to be minor.

The impact of adding a number of containment plants is unknown but potentially could to cost land occupiers considerably more to comply with. The benefits of this are unknown and are unlikely to outweigh the costs.

RECOMMENDATION

1. *It is recommended the Council move to notify an amended Pest Plant Strategy for the West Coast, prior to August 2010.*

2. *It is recommended the Council include the new total control weeds as indicated in section 8 of this report.*

3. *It is recommended the Council include the amendments to the progressive control areas as suggested in section 9 of this report.*

4. *It is recommended the Council consider resourcing a new project to assess and contain sweet reed grass and other agricultural weeds on the West Coast, for possible inclusion in the next strategy review in 2015.*

Chris Ingle
Chief Executive

Appendix 1: Advice from the 2 Landcare Research Reports (attached)
In April 2007 Landcare Research completed a short report which reviewed the current Pest Plant Strategy for the West Coast and suggested changes to the Strategy. The report title is *"Emergent Weed Issues for the West Coast Regional Council and their prospects for biocontrol"*. It looked at the risk of emerging weed species and assessed the different management approaches that could be used to address that risk. The report is attached.

The report suggests that the West Coast has escaped the more serious weed invasions experienced in other regions not because of climatic differences but because of the very low density of human habitation on the West Coast. Much is made of the reliance of tourism on natural areas remaining 'natural looking' and relatively weed free.

Clearly the main weed threats are to Conservation values and the report conceded that it may be more appropriate for the Conservation Department to resource the major share of addressing the threat of new weeds becoming established on the West Coast, however some weeds are purely agricultural and the authors felt it was appropriate for the Council to provide some of the resource needed, particularly for enforcement matters (which cannot be done by anyone other than a warranted council officer).

There are recommendations for additional total control pest plants to be added to the strategy, including several that are not present or have been eradicated, but may re-invade (bushy asparagus, similax, woolly nightshade, tree privet) plus spartina and nodding thistle which are already in the strategy

New eradication class pests might include cape ivy, lantana, darwin's barberry, white edged nightshade, cathedral bells, heather and egaria (dense oxygen weed).

The report then lists 28 plants the authors feel could be included as 'containment' weeds. Sweet Reed Grass is one that does deserve mention as a plant that should be contained and further investigated in terms of its risks and its likely cost to control and contain.

The report recommends a biosecurity officer be appointed by Council, prior to Strategy review. I do not consider that such an appointment is necessary, but existing staff may need to be trained and resourced to undertake weed inspection tasks.

The report suggests that Council needs to collect and hold better information about agricultural weeds and their location and level of infestation. Council could ask VCS to undertake work this year to confirm the extent of weeds that are of greatest concern to the agricultural sector. Sweet Reed Grass may be one of these.

A companion report (also attached) looks at options to expand biocontrol agents on the West Coast. It is hoped that eventually these insects will reduce the vigour of well established weeds like ragwort, gorse and broom.

This second Landcare report makes recommendations to harvest and distribute biocontrol insects at various locations. It is uncertain what benefits this would yield in practice but council could allocate some funding to the highest priority actions. The ragwort control trust undertakes much work in this area already, but only for ragwort. The other main biocontrol targets are Gorse and Broom.

Emerging Weed Issues for the West Coast Regional Council and Their Prospects for Biocontrol

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Landcare Research Contract Report: LC0607/109

PREPARED FOR:
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Contents

Summary

Project and Client

This report on weed issues, especially those relating to emerging weeds, was prepared for the West Coast Regional Council (WCRC) by Landcare Research, in January–April 2007. This information will feed into the pest plant strategy review process and help the council to ensure that its pest plant management strategy has objectives that are able to deliver maximum benefits to the region.

Objective

- To identify and explain the potential 'weediness' of plants that are an agricultural or biodiversity threat, particularly emerging weeds, and to recommend appropriate pest categories.

Main Findings

- The particular characteristics of the West Coast that make it vulnerable to weed invasions and the imperatives for action against them are the wide range of climates and dependence on agriculture and tourism.
- There are many species threatening agriculture and biodiversity and appropriate pest categories ae recommended.
- A summary of the prospects for biocontrol of selected weed species on the West Coast is also provided.

Recommendation

- A Biosecurity Officer should be appointed during the life of the present West Coast Regional Pest Management Strategy in time to become involved in the next one.

1. Introduction

This report on weed issues, especially those relating to emerging weeds, was prepared for the West Coast Regional Council (WCRC) by Landcare Research, in January–April 2007.

The Regional Pest Plant Management Strategy (RPMS) for the West Coast was approved by WCRC and became operative on 9 August 2005. It covers the entire West Coast Region and is effective for a period of 5 years. (This shall be referred to as the WCRPMS hereafter.)

The information the council had at the time of preparing the strategy on new and emerging weed problems was incomplete. The information in this report will feed into the pest plant strategy review process and help WCRC to ensure that its pest plant management strategy has objectives that are able to deliver maximum benefits to the region.

2. Objective

- To identify and explain the potential 'weediness' of plants that are an agricultural or biodiversity threat, particularly emerging weeds, and to recommend appropriate pest categories.

3. Methods and Data Sources

The primary data sources used were:

- Species listed in the West Coast RPMS (2005)
- Species list of naturalised plants on the West Coast provided by Thomas Belton, DOC
- Weediness scores from the DOC Weeds database (Clayson Howell, DOC, Sep. 2006)
- List of species found in all other RPMS in New Zealand up until 2001 (data provided by Ian Popay, DOC)
- Plants on the National Pest Plant Accord (NPPA)
- The number of weed lists the species is on overseas was derived from scanning Randall (2002).

Peter Williams visited the West Coast for 2 days in January 2007 and inspected weed infestations south of Punakaiki with Department of Conservation (DOC) and WCRC staff. In the following two weeks, while on other fieldwork, he made other observations.

This report should be read in close conjunction with 'Guidelines for determining and naming categories of plants in regional pest management strategies' Williams (2007) because principles discussed there, such as feasibility of eradication, stages of the Invasion Curve etc., are not repeated here.

The primary data were combined into a spreadsheet. From personal knowledge and the notes provided by Belton, species were classified into three groups:

- Species known to have been present in the wild on the West Coast but which have been eradicated
- Species with very small infestations or infrequent casual infestations considered to be Invasion Curve Stage 2 (See Appendix 1)
- Species with numerous spreading populations beyond Invasion Curve Stage 2

This list was then screened for the worst weeds: (a) that might warrant eradication on a regional scale or (b) that are too widespread to be eradicated but might warrant regionally co-ordinated containment programmes.

Explanation is given in Williams (2007) for suggesting there be three major categories of Pest Plants for RPMSs and one for Potential Pest Plants:

- **Exclusion**, for those species especially threatening the region but not necessarily known to be present in the wild.
- **Eradication,** for those species of sufficiently high risk and yet of low abundance where eradication is considered possible. Control, for likely success, must be the responsibility of the authorities and not merely the property owner.
- **Containment**, for species that are too widespread for eradication but which require control at some scale over all or part of the region.
- **Potential Pests,** for species not yet classified as pests (or unwanted organisms as NPPA species) but which the council wishes to gather more information during the life of the strategy.

As a means of determining the possible candidates for **Eradication** the data were sorted to show whether there are species on the West Coast with *all* of the following:

- known to be on an RPMS elsewhere in New Zealand.
- at their initial invasion stages (i.e. Invasion Curve Stage 2).
- among the worst weeds from an environmental perspective (>25 DOC weed score).
- known to be on many weed lists overseas (>10 lists in Randall (2002)).

As a means of determining species that could be considered candidates for **Containment** to which various rules might apply, the data were sorted according to whether they had *all* of the following:

- known to be on an RPMS elsewhere in New Zealand.
- with expanding or stable populations too great to undertake regional eradication (i.e. Invasion Stage >2).
- among the worst weeds from an environmental perspective (>25 DOC weed score).
- known to be on many weed lists overseas (>10 lists in Randall (2002)).

For the highest ranking of these two groups, or for other specified reasons, a selection of weeds was assessed for biological success and weediness scores (Esler et al. 1993). Well-known weeds such as gorse and ragwort, or those already scored by Esler et al. (1993), were generally excluded from this analysis although their scores may be repeated here.

4. Results and Discussion

4.1 The West Coast RPMS

Plants declared to be pests in the WCRPMS are listed in Table 1 under three categories defined by their respective rules.

1. **Total control** (TC) – pest plants required to be destroyed at any location in the West Coast region.

2. **Boundary control** (BC) – pest plants required to be destroyed within a specified distance of an occupier's property boundary where the neighbouring property margin is free of that pest plant.

3. **Progressive control** (PC) – pest plants required to be destroyed by occupiers of Crown land.

Progressive-control rules are applied to six areas (Table 1). It is expected these rules will be applied in 5 years' time to all occupiers in areas Maruia Valley, Haast, Karamea–Little Wanganui, and Cape Foulwind. No explanation is given as to why two other areas are excluded.

In addition, all plants on the National Pest Plant Accord list are designated as Unwanted Organisms and are banned from sale, propagation and distribution in New Zealand. For a list of these plants see the Ministry of Agriculture and Forestry website (www.biosecurity.govt.nz).

A further category in the WCRPMS to which no rules apply (other than NPPA restrictions, where applicable), is Surveillance Plants, which are those species the council is co-operating on with DOC.

Some categories of rules in the present WCRPMS apply only to some landowners but in 5 years' time many of these are expected to apply to all landowners (WCRPMS, p. 13)

Table 1 Pest Plants in the WCRPMS. Other categories not shown are Surveillance Plants to which no rules are attached, and National Pest Plant Accord plants.

Common name	Scientific name	Effect strategy	Whole region	Map no. and area as defined in the strategy					
				1	2	3	4	5	6
Nodding thistle	*Carduus nutans*	TC[1]	x						
African feather grass	*Pennisetum macrourum*	TC	x						
Spartina	*Spartina spp.*	TC	x						
Broom	a) *Cytisus scoparius*	BC[2]	x						
	b) *Cytisus scoparius*	PC[3]		x	x	x			
Gorse	a)*Ulex* spp.	BC	x						
	b) *Ulex* spp.	PC		x	x				
Ragwort	*Senecio jacobaeae*	BC	x						
Giant buttercup	*Ranunculus acris*	BC	x						
Himalayan honeysuckle	*Leycesteria formosa*	PC				x			
Purple pampas	*Cortaderia jubata*	PC				x			
Giant knotweed	*Reynoutria sachalinensis*	PC				x	x		
Asiatic knotweed	*Fallopia japonica*	PC				x	x		x
Spanish heath	*Erica lusitanica*	PC				x	x	x	
Wild ginger	*Hedychium gardnerianum, H .flavescens*	PC				x	x		x
Chilean rhubarb	*Gunnera tinctoria*	PC				x	x	x	x
Elaeagnus	*Elaeagnus ×reflexa*	PC					x		
Parrot's feather	*Myriophyllum aquaticum*	PC					x		
Old man's beard	*Clematis vitalba*	PC					x		x
Darwins barberry	*Berberis darwinii*	PC							x
German ivy	*Senecio mikanoides*	PC							x
Japanese honeysuckle	*Lonicera japonica*	PC							x
Rhododendron	*Rhododendron ponticum*	PC							x
Tradescantia	*Tradescantia fluminensis*	PC							x
Yellow flag iris	*Iris pseudacorus*	PC							x

1. Maruia Valley (Lewis Pass to Warwick Junction)
2. Haast Valley
3. Runganga to Buller River
4. Karamea to Little Wanganui
5. Cape Foulwind
6. Southwest of Mikonui River

TC[1] Total control
BC[2] Boundary control
PC[3] Progressive control

4.2 West Coast conditions

Some aspects of the West Coast predispose it to weed invasions while others mean it is relatively lightly invaded.

Factors operating to facilitate weed invasions are the extremely wide climatic range from north to south. This means that most species that could be grown in New Zealand could be grown on the Coast; there are bananas at Karamea. Further, the large areas of marginal land

closely juxtaposed with human habitations and their associated gardens facilitate weed invasions, as is amply demonstrated by the spread of wild ginger north of Westport in recent decades. The reduction in sheep and dry stock and recent intensification of dairying in Westland may also have resulted in a change in weed populations.

On the other hand, human population density is low overall, so that the absolute number of opportunities for invasions is relatively low compared with some other areas of New Zealand. This cannot be stressed enough, because it is the main reason many weeds are still only at very low numbers on the West Coast compared with other areas of New Zealand (Fig. 1). But the population decline on the West Coast has ceased, and between the 2001 census and the 2006 census the region grew at between 0.1 and 7.5%, which is about the median for New Zealand as a whole (www.stats.govt.nz). This will result in an increasing number of people and gardens, from whence most environmental weeds originate. Furthermore, the West Coast population is mostly confined to the narrow coastal strip and more to the north of the region than in the south. As a result, the pressures associated with human habitations are still relatively localised. This also can be expected to change as habitations spread along the coast, especially in the milder north. There is a very close association between the weediness of coastal reserves and the number of houses nearby (Sullivan et al. 2005). Education and restrictions on what people can or should plant will be critical to preventing weed invasions.

The pattern of human population, geology, and land use on the West Coast results in gradients of weed distributions that make the West Coast particularly suitable for managing the landscape and weeds on a sub-regional basis. This means that for certain weeds more intensive rules should apply in some regions than in others.

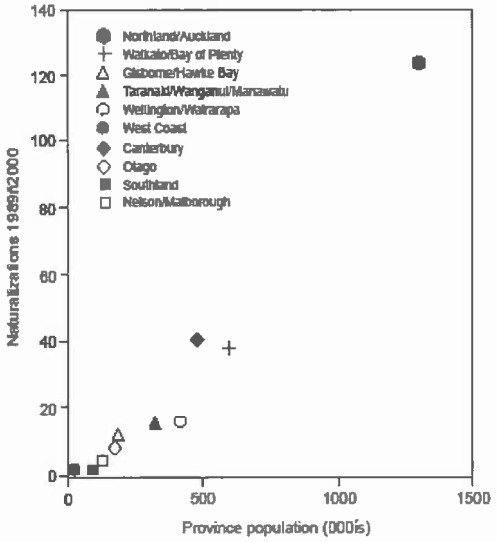

Fig. 1 Number of first naturalisations recorded from each of 10 provinces in New Zealand, and their human populations, for 1989–2000. From Williams & Cameron (2005).

The West Coast has very large areas of land in a relatively unmodified state, much of which is managed by DOC. Consequently, the West Coast is very dependent on tourism, with three times the national proportion of businesses in the accommodation, cafes and restaurants industry, a higher proportion of businesses than any other region in New Zealand (http://www.stats.govt.nz).

In summary, as a consequence of these interacting factors, the West Coast has a large number of environmental weeds, but many of these are at only the earliest stages of invasion. Many can be expected to become more widespread as human influences increase, unless they are stopped now. The imperative for doing so is that the West Coast economy is highly dependent on the ecosystems these weeds are invading.

Because of the large involvement of DOC on the West Coast there is a great need for co-operation between WCRC and DOC in weed control. It is not appropriate here to recommend the apportionment of responsibility for control between the council and DOC. Therefore it should be understood that a recommendation for Council involvement does not indicate the council should be responsible on its own, for the recommended level of control, but that control programmes may be developed in conjunction with DOC, and other agencies, where appropriate.

4.3 Eradication candidates

Table 2 shows that five species satisfying the criteria for potential eradication have previously been eradicated as small populations, including bushy asparagus, smilax, spartina, tree privet, and nodding thistle. Woolly nightshade was included here, for although its DOC weed score is 24 (one less than the cut-off), it is a very well recognised pest elsewhere, and is listed in the WCRPMS as a Surveillance species. Having shown their capacity to establish, and there being no certainty they are not still in cultivation (spartina excepted), they should be considered for inclusion in the Exclusion category unless they in fact still exist in the wild. In this case they would revert to Eradication. Any future WCRPMS should also obligate the authorities to control them should they reappear in the wild. Spartina already satisfies part of this category in being a Total Control plant.

While nodding thistle is known from only one site, there is a high probability of reintroduction through contaminated stock food. A critical aspect of an eradication programme is that the species must have a low probability of reinvading the area. In this case, the more appropriate category is probably Containment, with strict rules, including those requiring notification of all infestations. Such a rule is lacking in the present WCRPMS.

Two other weeds, African feather grass and coltsfoot, are also under the Total Control category, while Darwin's barberry is under Progressive Control. These three plants are all very high risk, and if they are as uncommon as suggested, then they should be considered for Eradication. It is worth noting, however, that eradication has not been successful for African feather grass and coltsfoot in any other RPMS. More detailed information on their abundance (which may exist) would be required.

The remaining plants in Table 2 are Cape ivy, dense oxygen weed, heather, lantana, cathedral bells, and white-edged nightshade. Apart from the first two, all the others are NPPA plants, with widely varying risks and potential for co-ordinated control.

Cape ivy is a particularly rampant climber with potential to occupy many marginal habitats on the West Coast. Its low abundance should be taken as an opportunity to eradicate it. As it is not an NPPA plant (mainly because it is not actually widely sold) it should be given at least similar status in a future WCRPMS (i.e. banned from sale etc.), although this would apply automatically if it was in the WCRPMS as a Pest Plant in an Eradication programme. Currently it is listed only as a Surveillance Plant with no restrictions.

Table 2 Species at the initial Invasion Stages (i.e. 1 or 2) on the West Coast that are listed in RPMSs elsewhere in New Zealand, are among the worst weeds from an environmental perspective (>25 DOC weed score), and on many weed lists overseas (>10 lists in Randall (2005)), or are included for other reasons as discussed in the text.

Common name	Latin name	Invasion stage [1]	WC RPMS status
African feather grass	*Pennisetum macrourum*	2	TC[2]
Bushy asparagus	*Asparagus densiflorus*	1	NPPA
Cape ivy	*Senecio angulatus*	2	absent
Cathedral bells	*Cobaea scandens*	2	NPPA
Coltsfoot	*Tussilago farfara*	2	TC
Darwin's barberry	*Berberis darwinii*	2	PC
Dense oxygen weed	*Egeria densa*	2	NPPA
Heather	*Calluna vulgaris*	2	NPPA
Lantana	*Lantana camara*	2	NPPA
Nodding thistle	*Carduus nutans*	1	TC
Smilax	*Asparagus asparagoides*	1	NPPA
Spartina	*Spartina* spp.	1	TC
Tree privet	*Ligustrum lucidum*	1	NPPA
White-edged nightshade	*Solanum marginatum*	2	NPPA
Woolly nightshade	*Solanum mauritianum*	1	NPPA

[1] See Appendix 1.
[2] Abbreviations as in Table 1. NPPA = National Pest Plant Accord plant.

Heather is a major weed of the central North Island volcanic plateau but it should be remembered that this infestation resulted from widespread sowing of seed. Heather rarely naturalises on the West Coast. This is probably a function mostly of its low abundance in horticulture and, while it should remain as an NPPA plant, other species are higher priority for co-ordinated control.

Lantana is similarly very uncommon on the West Coast and although it has been controlled by DOC it appears not to be highly invasive. However, it should be closely watched and certainly the restrictions applying to NPPA plants adhered to.

Dense oxygen weed poses a serious threat to much of the West Coast and a careful analysis should be made of the possibility of eradication. Four localities are given for the species in the WCRPMS, although there may be more than one infestation at each locality given.

White-edged nightshade is less of a threat to the environment than to agriculture, but in view of its low abundance, mentioned in the WCRPMS and Appendix 2, it should be eradicated.

4.4 Containment candidates

Table 3 shows there are at least 28 species that are well-known weeds both in New Zealand and overseas. There are also additional species already in the WCRPMS (Table 1) that are not listed in the table because they fail to reach the threshold on one or more criteria.

Table 3 Species that have reached Invasion Stages greater than 2 on the West Coast that are listed in RPMSs elsewhere in New Zealand, are among the worst weeds from an environmental perspective (>25 DOC weed score), and on >10 weed lists overseas (Randall 2002).

Common name	Scientific name	WC RPMS status[1]
Banana passionfruit	*Passiflora tarminiana*	NPPA
Barberry	*Berberis glaucocarpa*	absent
Blue morning glory	*Ipomoea indica*	NPPA
Buddleia	*Buddleja davidii*	absent
Cotoneaster	*Cotoneaster simonsii*	NPPA
Elaeagnus	*Elaeagnus ×reflexa*	PC
German ivy	*Senecio mikanioides*	PC
Giant reed	*Arundo donax*	NPPA
Gorse	*Ulex europaeus*	BC
Hawkweed	*Hieracium ×stoloniflorum*	NPPA
Hawthorn	*Crataegus monogyna*	absent
Holly	*Ilex aquifolium*	absent
Japanese honeysuckle	*Lonicera japonica*	PC
King devil	*Hieracium praealtum*	NPPA
Lagarosiphon	*Lagarosiphon major*	NPPA
Lodgepole pine	*Pinus contorta*	NPPA
Lupin (Russell)	*Lupinus polyphyllus*	absent
Lupin (tree)	*Lupinus arboreus*	absent
Old man's beard	*Clematis vitalba*	PC
Orange hawkweed	*Hieracium aurantiacum*	NPPA
Pampas	*Cortaderia selloana*	NPPA
Purple loosestrife	*Lythrum salicaria*	NPPA
Purple pampas	*Cortaderia jubata*	PC
Red cestrum	*Cestrum elegans*	absent
Reed sweet grass	*Glyceria maxima*	absent
Silver wattle	*Acacia dealbata*	absent
Sycamore	*Acer pseudoplatanus*	absent
Tutsan	*Hypericum androsaemum*	NPPA

[1] Abbreviations and area to which it applies as in Table 1.

Several of these are agricultural, forestry, or multi-sector weeds where Boundary Control rules apply (i.e. broom, gorse, giant buttercup, ragwort). Although they are already widespread they have potentially high impact and neighbours need to be protected from infestation on adjacent land and so the classification seems appropriate.

Of these (Table 1), giant buttercup is a major weed of dairy pastures and has become resistant to phenoxy herbicides in some parts of New Zealand. For this reason alone it was removed from the Tasman District Council RPMS. There are large areas of the West Coast still free of this weed but which are highly suitable for it. Much more attention needs to be given to this weed and, particularly, efforts made to educate farmers.

Another weed of primarily agricultural concern that lacks any attention is reed sweet grass (Table 3). This dense tall grass can already be seen restricting water flow in the streams around Kokatahi and in the Waitaha Valley. Yet, because it appears to be largely confined to these localities, there is the opportunity for co-ordinated control and education to prevent further spread.

Others are in the WCRPMS for primarily environmental reasons as Progressive Control plants in one part of the region or another, i.e. Asiatic knotweed, Chilean rhubarb, elaeagnus, giant knotweed, Himalayan honeysuckle, parrot's feather, rhododendron, tradescantia, wild ginger (both species), and yellow flag iris (Table 1).

Given the large list of other potential candidates shown in Table 3, and the suggestions (above) that a greater number of species be targeted for eradication, the question arises as to whether the appropriate species are being targeted for Containment and in the appropriate regions. This is particularly important in view of the stated intention of WCRC to have all landowners bound by the rules in the future. Regardless of *where* they might be controlled, for we do not have a detailed knowledge of the West Coast, one species in the above group might not warrant being included in the WCRPMS in our opinion.

Himalayan honeysuckle is a short-lived soft-woody shrub that occupies a wide range of open sites in moist areas where it tends to replace native early-successional species such as native tutu (*Coriaria* spp.). However, it is very short lived, and in forest environments is soon replaced by other native species. It produces small fruits containing the tiniest of seeds, and unlike many species which originated in horticulture and are still spread primarily by humans, this species is spread very widely by birds, and potentially by possums. Consequently, Himalayan honeysuckle is now almost ubiquitous in wetter areas of the South Island apart, so it seems, from certain areas in the WCRPMS area. However, in view of its wide habitat range and rapid spread, which makes finding outliers very unlikely, it is doubtful whether effort put in to control will be effective in the long run. Nevertheless, it may be worthwhile to continue containing its spread to the northern parts of the West Coast.

Purple loosestrife, in contrast, is a species that appears only on the NPPA list, to which it was only recently added. This is an erect perennial herb with a woody stem and whorled leaves. It has the ability to reproduce prolifically by both seed dispersal and vegetative propagation and invades a wide range of wetlands and other herbaceous communities (Appendix 3). It is currently in very low abundance on the West Coast (Appendix 2) and greater emphasis should be placed on preventing further spread by discouraging gardeners from cultivating it, and controlling all wild populations. Attempts are being made by Environment Canterbury in its RPMS to eradicate it from the vicinity of Christchurch City.

In addition, DOC in its submission to the Council's WCRPMS provided a list of 32 species (which included some of the above) that they would like to see categorised as Pests with rules similar to those of the NPPA category. Ten of these have since been added to the WCRPMS or else to the latest NPPA (www.biosecurity.govt.nz), leaving 22 others.

Banning plants from propagation and so on, as the only tactic for control, will slow their spread only if they are in fact cultivated. Although we have no detailed knowledge of gardening practices on the West Coast, one species in particular amongst these 22 warrants comment in addition to the points made by DOC in its submission to the WCRPMS review.

Akebia (or chocolate vine) is a climber that is occasionally found on the West Coast. It has recently established and is spreading in parts of the Tasman District area. It is a typical forest-edge and scrub climber, with a twining woody vine that grows quickly and, if left unmanaged, can cover and kill existing ground-level herbs and seedlings, understorey shrubs and young trees. Once established, its dense growth prevents seed germination and establishment of seedlings of native plants. It seldom seeds in New Zealand and is spread largely by humans in dumped rubbish. However, the West Coast is climatically very suitable for akebia. As it is not on the NPPA list it should have similar restrictions applied to it in the WCRPMS. There are plenty of less invasive substitute vines that can be grown instead.

The only reason Chilean rhubarb is absent from Table 3 is because it is not a common weed in other countries, a criterion for inclusion. However, this is a very serious environmental weed in other parts of New Zealand. While it is still only at the early stages of invasion it has increased dramatically on the West Coast in the last 20 years. It occupies a wide range of damp sites and could potentially cover large areas on the West Coast, including extensive linear habitats like road cuttings and stream margins.

5. Conclusions

This brief review of some of the weed problems on the West Coast has revealed some very serious issues. Good information exists on DOC files about the distribution of many species, particularly environmental weeds. Less complete information is available as to the true extent of weeds such as giant buttercup and reed sweet grass, which are primarily agricultural weeds. Collecting and storing such information is more appropriately the responsibility of the WCRC. But information alone does not control weeds. An active field and community approach is required. At times, this may involve the need to enter private property and to serve notices for those not complying with the RPMS. Non-compliance will probably become an issue if the step is taken to have all landowners bound by rules in the next RPMS as stated in the current RPMS. DOC staff and contractors, who currently undertake most weed control on the West Coast, cannot do this. There is a need for the WCRC to share the burden of weed control on the West Coast with DOC, particularly with regard to agricultural and multi-sector weeds. There is also a need to raise awareness among the West Coast general public of the seriousness of weeds, and how they can be prevented, through initiatives such as Weedbusters (see www.weedbusters.org.nz).

6. Recommendations

- A Biosecurity Officer should be appointed by WCRC during the life of the present RPMS in time to become involved in the next RPMS, in order to action some of the weed issues outlined here.
- There is no barrier for the WCRC joining the National Biocontrol Collective, which would enable it to most efficiently access the opportunities for biocontrol on the West Coast (see Appendix 4).

7. Acknowledgements

Thanks to Simon Moran (West Coast Regional Council) for discussions and Tom Belton (DOC) for information. This project was instigated by Simon Moran for Environment Southland and funded by the Foundation for Research, Science and Technology through an Envirolink advice grant.

Peter Williams is indebted to Thomas Belton, DOC, for providing him with his evidence on behalf of the Director General of Conservation to the proposed Regional Pest Management Strategy for the West Coast, and Clayson Howell, DOC, for the weed scores from the DOC database.

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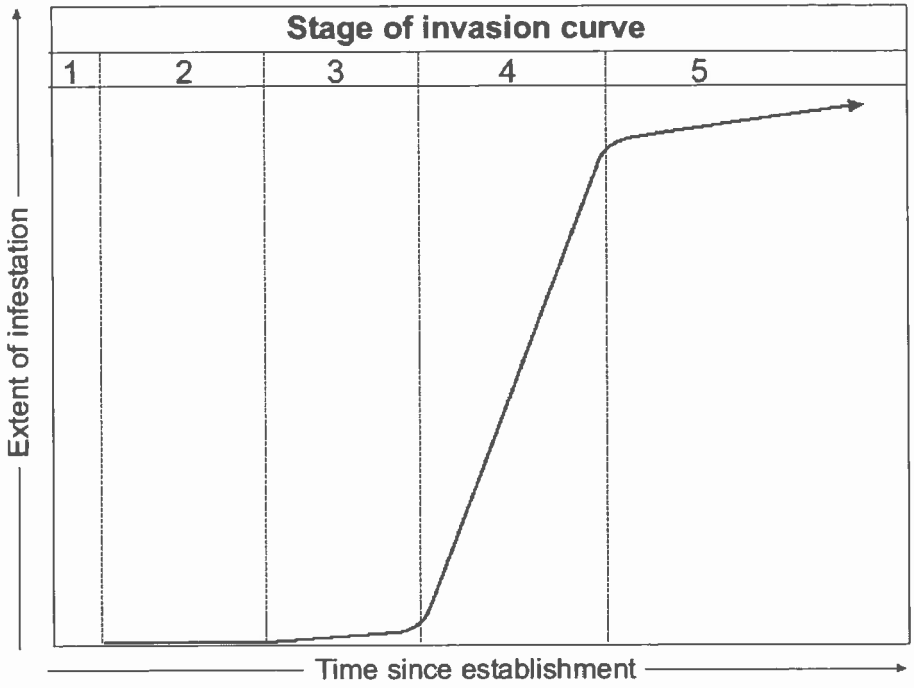
Appendix 1 Descriptors of stages in the invasion curve



Stage no.	Shape of invasion curve	Distribution	Regional number of wild infestations and total area infested[1]
1	Absent	Outside the region or only	None
2	Flat	Local	1–2, <100 ha.
3	Starting upwards	Local	3–20, <1000 ha.
4	Rising steeply	Region-wide	20+, >1000 ha
5	Levelling off	Region-wide	Innumerable, >10 000 ha

[1] Defined as total area requiring surveillance delimited by the total extent of all known plants and their probable potential dispersal distance

Appendix 2. Naturalised plants on the West Coast and parameters indicating their weediness

Common name	Botanical name	Other RPMS[1] 1998–2001	NP PA[2]	DOC[3]	No.[4]	Comments[5]
Weeds of Invasion Stage 1 that have previously been considered eradicated and mostly environmental weeds						
Privet (tree)	*Ligustrum lucidum*	x	x	32	>10	Only two trees ever found on West Coast, at Waimangaroa, both controlled.
Smilax	*Asparagus asparagoides*	x	x	30	>10	One tiny site found and controlled.
Spartina	*Spartina* spp.	x	x	25	>10	One small infestation in Oparara Estuary eradicated.
Bushy asparagus	*Asparagus densiflorus*	x	x	25	>10	One tiny site found and controlled.
Woolly nightshade	*Solanum mauritianum*	x	x	24	>10	Rare. A few plants known from Reedys Road near Westport have been controlled.
Weeds of Invasion Stage 2 and mostly considered DOC weeds						
Burdock	*Arctium minus*			18	>10	Localised to Fox River near Punakaiki.
Darwin's barberry	*Berberis darwinii*	x	x	26	>10	Several small sites currently under a weed-led control plan.
Heather	*Calluna vulgaris*	x	x	27	>10	Rarely naturalised.
Campsis vine	*Campsis x tagliabuana*			n.a	1	Localised infestation in riparian forest at Karamea.
Giant lily	*Cardiocrinum giganteum*		x	n.a	0	Occasional garden escape.
Korean old man's beard	*Clematis maximowicziana*			29	0	Uncommon, a few naturalised plants around Westport.
Cathedral bells	*Cobaea scandens*	x	x	30	>10	Only a few very small sites.
Dense oxygen weed	*Egeria densa*	x	x	24	>10	Only a few very small sites, mostly garden ponds, major threat to aquatic sites and hydro, etc.
Paritaniwha	*Elatostema rugosum*		n.a.	n.a	0	One small site at Punakaiki. Outside natural range. Doesn't seem to be going far.
Fig	*Ficus carica*			23	>10	Occasional discard, probably only propagating from cuttings.
Shrub balsam	*Impatiens sodenii*			19	3	Occasional in gardens near Karamea but barely naturalised.
Jasmine	*Jasminum polyanthum*	x		27	8	Rarely naturalised. One site at Punakaiki.
Lantana	*Lantana camara*	x	x	28	>10	Uncommon. Controlled at one site.

Common name	Botanical name	Other RPMS[1] 1998–2001	NP PA[2]	DOC[3]	No.[4]	Comments[5]
African feather grass	*Pennisetum macrourum*	x	x	31	>10	Westport, Punakaiki, small localised infestations. Total control in WCRPMS.
Curly pond weed	*Potamogeton crispus*			27	>10	Known from one site only at Barrytown.
Blackberry	*Rubus fruticosus* agg.	x		31	>10	There are only two blackberry bushes on the West Coast (both continuous either side of the main road)!
Cape ivy	*Senecio angulatus*	x		29	>10	Known from one localised site at Hector.
Potato vine	*Solanum jasminoides*	x		32	10	Rare. One small infestation in a forest margin at Paroa.
White-edged nightshade	*Solanum marginatum*	x	x	n.a	>10	Localised infestation near Little Wanganui, mostly on private land.
Coltsfoot	*Tussilago farfara*	x	x	26	>10	Known from one site only at Rocky Creek Scenic Reserve and possibly eradicated from there. Total control in WCRPMS.
Weeds of invasion stage > 2 and mostly considered DOC weeds						
Silver wattle	*Acacia dealbata*	x		27	>10	So far not much of a problem on the West Coast.
Sydney golden wattle	*Acacia longifolia*			26	>10	So far not much of a problem on the West Coast.
Tasmanian blackwood	*Acacia melanoxylon*			27	>10	Some seeding and suckering around existing plantations.
Sycamore	*Acer pseudoplatanus*	x		27	>10	Fairly common around old mining settlements particularly in the Grey Valley beech forests margins.
Yarrow	*Achillea millefolium*			n/a	>10	Common in pasture.
Kiwifruit	*Actinidia deliciosa*	x		27	2	Occasional seedling plants found near settlements…pretty rare so far.
Agapanthus	*Agapanthus praecox*	x		17	6	Common in gardens, still planted, also beginning to naturalise at some sites.
Creeping bent	*Agrostis stolonifera*			n/a	>10	Common in pastures and open areas.
Chocolate vine	*Akebia quinata*			24	10	Occasional, mostly at sites where garden rubbish has been dumped, smothering.
Three cornered garlic	*Allium triquetrum*			20	>10	Localised/common on roadsides and riverbanks mostly near original plantings.
Alder	*Alnus glutinosa*			26	>10	Rarely naturalised.

Common name	Botanical name	Other RPMS[1] 1998–2001	NP PA[2]	DOC[3]	No.[4]	Comments[5]
Marram	*Ammophila arenaria*			32	>10	Common on coastal dunes from Karamea to Haast.
Stinking mayweed	*Anthemis cotula*			n/a	>10	Occasional on roadsides, riverbeds and open sites. Not having much impact.
Cape pondweed	*Aponogeton distachyos*			n/a	>10	Widespread in Mahinapua Creek and localised at a few other sites.
Giant reed	*Arundo donax*	x	x	29	>10	A few sites where plants have been dumped.
Ferny azolla	*Azolla pinnata*			n/a	>10	Common in many of the dredge ponds in the Grey Valley and less elsewhere.
Barberry	*Berberis glaucocarpa*	x		26	>10	Very common in the Grey Valley and Maruia, Karamea. Rare south of Hokitika.
Beggars'ticks	*Bidens tripartita*			n/a	>10	Fairly common in wet farmland and wetlands from Karamea to Harihari.
Wild turnip	*Brassica rapa*			n/a	>10	Localised on roadsides. Not doing much.
Quaking grass	*Briza maxima*			n/a	>10	Localised on roadsides. Not doing much.
Angels trumpet	*Brugmansia candida*	x		n/a	9	Mainly Buller area. Occasional wild plants near gardens.
Buddleia	*Buddleja davidii*	x		26	>10	Locally common particularly in creek beds.
Buddleia	*Buddleja globosa*			n/a	3	Rare garden escape.
Greater bindweed	*Calystegia silvatica*			n/a	>10	Fairly common, particularly at dumping sites.
Iceplant	*Carpobrotus edulis*		x	28	>10	Occasional in coastal areas.
Red cestrum	*Cestrum elegans*	x		28	>10	Localised infestations from Karamea to Hokitika
Californian thistle	*Cirsium arvense*	x		18	>10	Common pasture/ riverflat weed.
Marsh thistle	*Cirsium palustre*			18	>10	Common in wet pasture, roadsides and disturbed wetlands.
Scotch thistle	*Cirsium vulgare*			18	>10	Common on disturbed ground throughout.
Old man's beard	*Clematis vitalba*	x	x	34	>10	Fairly widely distributed in the Buller Gorge but fairly well controlled, also a few other small sites.
Hemlock	*Conium maculatum*	x		n/a	>10	Occasional, mostly roadsides and waste ground.
Purple pampas	*Cortaderia jubata*	x	x	28	>10	Occasional wild, still planted in gardens and on farms.
Pampas	*Cortaderia selloana*	x	x	28	>10	Occasional wild, still planted in gardens and on farms.
Cotoneaster	*Cotoneaster bullatus*	x		n/a	4	Locally naturalised on hillsides around Reefton.

Common name	Botanical name	Other RPMS[1] 1998–2001	NP PA[2]	DOC[3]	No.[4]	Comments[5]
Cotoneaster	*Cotoneaster franchetii*	x		24	>10	Locally common around settlements.
Cotoneaster	*Cotoneaster glaucophyllus*	x		25	>10	Locally common around settlements.
Cotoneaster	*Cotoneaster microphyllus*	x		n/a	9	Fairly uncommon naturalised.
Cotoneaster	*Cotoneaster simonsii*	x	x	26	>10	Locally common around settlements, particularly old mine settlements.
Hawthorn	*Crataegus monogyna*	x		31	>10	Locally scattered, mainly around scrubby areas of farmland. Fairly uncommon.
Montbretia	*Crocosmia ×crocosmiiflora*	x		22	>10	Widespread. Roadsides, riparian sites, gardens, historic sites, etc.
Broom	*Cytisus scoparius*	x		25	>10	Ranging from abundant in some catchments (Inangahua, Buller, Taramakau, etc.) to rare/absent in others.
Foxglove	*Digitalis purpurea*			n/a	>10	Common on farmland and disturbed sites.
Vipers bugloss	*Echium vulgare*			21	>10	Occasional plants in riverbeds and gravelly sites.
Elaeagnus	*Elaeagnus × reflexa*	x		31	>10	Localised sites from Karamea to Hokitika, mostly single plants/patches.
Canadian pondweed	*Elodea canadensis*			24	>10	Common in West Coast lakes and waterways. Not having major impacts and too widespread to control.
Field horsetail	*Equisetum arvense*			21	>10	Common in Mokihinui catchment and a few other sites in Buller and Greymouth areas. Hard to control.
Spanish heath	*Erica lusitanica*	x		23	>10	Common particularly in areas where burning has occurred in the past. Rare south of Hokitika.
Mexican daisy	*Erigeron karvinskianus*	x	x	25	>10	Only known naturalised from one site in the Buller Gorge. Common in gardens.
Escallonia	*Escallonia rubra*			n/a	>10	Occasional localised sites. Becoming common on Cape Foulwind cliffs.
Japanese aralia	*Fatsia japonica*			22	2	Occasional bird-dispersed garden escape.
Fuchsia	*Fuchsia magellanica*			n/a	>10	Common around historic sites, but not doing much harm.
Aluminium plant	*Galeobdolon luteum*		x	23	5	Common in gardens and well established at some riparian sites from Karamea to Fox Glacier.
Cleavers	*Galium aparine*			n/a	>10	Occasional roadside/rank-grassland weed. Not much of a threat.
Marsh bedstraw	*Galium palustre*			n/a	10	Fairly common in wetland areas.

Common name	Botanical name	Other RPMS[1] 1998–2001	NP PA[2]	DOC[3]	No.[4]	Comments[5]
Floating sweet grass	*Glyceria fluitans*			28	>10	Fairly common along drains, spring-fed creeks, etc.
Reed sweet grass	*Glyceria maxima*	x		28	>10	Localised infestations from Hector to Waitaha River, particularly bad near Kokatahi. Pasture, spring-fed creeks, etc.
Gunnera / Chilean rhubarb	*Gunnera tinctoria*	x	x	30	9	Common in gardens from Karamea to Haast and naturalising at many sites, only in the early stages of colonisation.
Ivy	*Hedera helix*	x		25	>10	Common in gardens and naturalised at a number of sites.
Ginger (Kahili)	*Hedychium gardnerianum*	x	x	24	>10	Fairly common in mild sites from Karamea to Haast, but most common from Ross northwards.
Day lily	*Hemerocallis fulva*			n/a	1	Occasional garden discard and persistent relic at historic sites.
Orange hawkweed	*Hieracium aurantiacum*	x	x	32	>10	Localised in Buller Gorge on roadsides.
Tussock hawkweed	*Hieracium lepidulum*		x	27	>10	Common in alpine grasslands.
Mouse-eared hawkweed	*Hieracium pilosella*		x	32	>10	Common in alpine grasslands.
King devil	*Hieracium praealtum*	x	x	30	>10	Common in alpine grasslands.
Hawkweed	*Hieracium ×stoloniflorum*	x	x	32	>10	Common in alpine grasslands.
Hops	*Humulus lupulus*			21	>10	Occasional naturalised from Karamea to Hokitika.
Hydrangea	*Hydrangea macrophylla*			19	6	Occasional naturalised from Karamea to Haast. Large infestations around Punakaiki.
Tutsan	*Hypericum androsaemum*	x	x	27	>10	Scattered infestations throughout West Coast.
Hypericum	*Hypericum henryi*			n/a	0	Localised mostly around old planting sites near Franz Josef.
Hypericum	*Hypericum kouytchense*			n/a	0	Fairly common near Karamea, and numerous sites in South Westland (Paringa, Haast, Franz, etc.).
St Johns Wort	*Hypericum perforatum*			17	>10	Localised infestations mainly on roadsides.
Holly	*Ilex aquifolium*	x		28	>10	Localised infestations mostly near old settlements. Very hard to control, spread by birds.
Himalayan balsam	*Impatiens glandulifera*			n/a	>10	Locally common near Lake Brunner and Franz Josef, etc.
Blue morning glory	*Ipomoea indica*	x	x	30	>10	Uncommon, a few naturalised plants around Westport and Punakaiki.

Common name	Botanical name	Other RPMS[1] 1998–2001	NP PA[2]	DOC[3]	No.[4]	Comments[5]
Stinking iris	*Iris foetidissima*			25	>10	Uncommon, a few naturalised plants around Greymouth.
Yellow flag iris	*Iris pseudacorus*	x	x	21	>10	Fairly common in gardens from Karamea to Haast, and naturalised at a number of wetland/riparian sites.
Sharp rush	*Juncus acutus*			24	>10	Fairly common rush.
Jointed rush	*Juncus articulatus*			27	>10	Common in wet hollows, etc.
Bulbous rush	*Juncus bulbosus*			27	>10	Fairly common rush.
Leafless rush	*Juncus effusus*			23	>10	Common rush of pasture.
Heath rush	*Juncus squarrosus*			27	>10	Common on Buller Coal Plateau, and localised at a few other sites south to Ross.
Track rush	*Juncus tenuis*			n/a	>10	Common along tracks and well-trodden sites.
Lagarosiphon	*Lagarosiphon major*	x	x	27	>10	Localised infestations in garden ponds and wetlands but so far absent from significant-sized lakes.
Himalayan honeysuckle	*Leycesteria formosa*	x		22	>10	Common in central Westland and Buller. Rare in Karamea and localised infestations south of Fox.
Privet	*Ligustrum ovalifolium*	x		23	>10	Common hedge plant and garden shrub, and wild near settlements.
Privet (Chinese)	*Ligustrum sinense*	x		25	>10	Common hedge plant and garden shrub, and wild near settlements.
Tiger lily	*Lilium tigrinum*			21	5	Occasional on roadsides, common around Otira.
Japanese honeysuckle	*Lonicera japonica*	x	x	31	>10	Common from Ross to Karamea, invading forest and scrub areas. Rare south of Ross.
Common honeysuckle	*Lonicera periclymenum*			n/a	>10	Occasional in gardens and around old settlements. Not very invasive.
Lotus	*Lotus pedunculatus*			24	>10	Common throughout.
Lupin (tree)	*Lupinus arboreus*	x		27	>10	Scattered infestations throughout West Coast. Not a major problem anywhere.
Lupin (Russell)	*Lupinus polyphyllus*	x		27	>10	Localised infestations near Otira and Lewis Pass in riverbeds, fairly light infestations so far. Common in gardens.
Ragged Robin	*Lychnis flos-cuculi*			n/a	>10	Common in wet pastures, most common near Haast and Arawhata.
Gypsywort	*Lycopus europaeus*			n/a	9	Occasional around ephemeral/distrurbed margins of wetlands, and in wet pasture. Westport to Haast, most common in south.

Common name	Botanical name	Other RPMS[1] 1998–2001	NP PA[2]	DOC[3]	No.[4]	Comments[5]
Creeping Jenny	*Lysimachia nummularia*			n/a	>10	Occasional around estuaries, mostly near Westport.
Yellow loosestrife	*Lysimachia vulgaris*			n/a	2	Occasional along farm drains and wet pasture at Okuru River (Haast).
Rose loosestrife	*Lythrum junceum*			n/a	>10	Fairly common in wet areas, tracksides and riverbeds around Fox River and Punakaiki.
Purple loosestrife	*Lythrum salicaria*	x	x	31	>10	Occasional in gardens, rare in the wild, but likely to spread to wetlands if not kept in check.
Apple	*Malus × domestica*			n/a	5	Occasional on roadsides, etc., from discarded fruit. Common in Haast Valley.
Cape honey flower	*Melianthus major*	x		25	>10	Occasional patches near settlements from Westport to Hokitika.
Pohutakawa	*Meterosideros excelsa*		n.a	29	n.a	Common planted in gardens and roadsides/rest areas. Spreading by seed in coastal areas.
Monkey musk	*Mimulus guttatus*			21	>10	Localised infestations in roadside drains, seepages and wet banks throughout West Coast.
Musk	*Mimulus moschatus*			n/a	>10	Less common than monkey musk, similar habitats and distribution.
Himalayan fairly grass	*Miscanthus nepalensis*			27	4	Occasional in cultivation. Rarely naturalised to date.
Chinese fairy grass	*Miscanthus sinensis*	x	x	n/a	>10	Occasional in cultivation and naturaralised on roadsides, etc.
Water forget-me-not	*Myosotis* spp.			n/a	>10	Common in disturbed wetland and riparian areas.
Parrot's feather	*Myriophyllum aquaticum*		x	26	>10	Localised infestations in farm drains, Karamea and Greymouth. Also in garden ponds.
White water lily	*Nymphaea alba*			27	>10	Localised infestations from Karamea to Haast, common in Lake Mahinapua.
American horsebane	*Oenanthe sarmentosa*			n/a	4	Common in estuarine margins around Greymouth.
Evening primrose	*Oenothera glazioviana*			n/a	>10	Occasional in gardens and in gravelly roadside areas.
Tarweed	*Parentucellia viscosa*			n/a	>10	Common in pasture.
Shamrock pea	*Parochetus communis*			n/a	2	Common in forest margins around Fox and Franz glacier valleys.
Banana passionfruit	*Passiflora tarminiana*	x	x	27	>10	Locally common around Karamea and Punakaiki. Localised minor infestations as far south as Ross.
Kikuyu grass	*Pennisetum*		x	29	>10	Common in coastal areas from Westport north. Localised infestation at

Common name	Botanical name	Other RPMS[1] 1998–2001	NP PA[2]	DOC[3]	No.[4]	Comments[5]
	clandestinum					Punakaiki.
Winter heliotrope	*Petasites fragrans*			n/a	>10	Occasional in roadside forest margins around Punakaiki.
Lodgepole pine	*Pinus contorta*	x	x	30	>10	Occasional wilding trees near planted specimens, but West Coast not ideal habitat for wilding pines.
Radiata pine	*Pinus radiata*			27	>10	Occasional wilding trees near planted specimens, but West Coast not ideal habitat for wilding pines.
Plectranthus	*Plectranthus ciliatus*		x	22	>10	Locally common in forest margins near settlements from Karamea to Hokitika.
Blue spur flower	*Plectranthus grandis*			20	3	Rare garden escape. Near Karamea.
Bamboo (variegated)	*Pleioblastus variegatus*			n/a	4	Uncommon garden relic.
Selfheal	*Prunella vulgaris*			n/a	>10	Common in pasture and disturbed forest margins, particularly where grazing has occurred.
Sweet cherry	*Prunus avium*			20	>10	Common around Westport estuary margins. Localised infestations elsewhwhere.
Cherry laurel	*Prunus laurocerasus*			23	>10	Common in old gardens and occasional in forest near settlements and historic sites.
Bamboo (Japanese)	*Pseudosasa japonica*			29	6	Several localised infestations throughout West Coast, particularly invasive in sandy soils.
Douglas-fir	*Pseudotsuga menziesii*			29	10	Occasional localised wilding populations. Worst at Caves Stream, Maruia.
Wattle	*Racosperma* spp.			25	>10	Occasional seedlings near gardens and planted specimens. So far no wattle species are causing problems on the West Coast.
Buttercup (giant)	*Ranunculus acris*	x		n/a	>10	Locally common on farmland around Karamea. Also found in small infestations as far south as Harihari, and inland to Maruia.
Spearwort	*Ranunculus flammula*			n/a	>10	Fairly common along creeks, drains and waterways.
Buttercup (creeping)	*Ranunculus repens*	x		n/a	>10	Abundant throughout. Mostly a weed of pasture.
Asiatic knotweed	*Reynoutria japonica*	x		25	>10	Absent from Karamea, and south of Harihari. Locally common in between, particularly a problem in riverbeds.
Giant knotweed	*Reynoutria sachalinensis*	x	x	25	9	Localised in areas around Buller, Greymouth and Hokitika.
Rhododendron	*Rhododendron ponticum*			30	1	Occasional from Buller to Franz Josef. Spreading at some sites, particularly

Common name	Botanical name	Other RPMS[1] 1998–2001	NP PA[2]	DOC[3]	No.[4]	Comments[5]
						beech forests and manuka stands.
Flowering currant	*Ribes sanguineum*			25	>10	Occasional garden remnant at historic sites (esp. Waiuta).
Watercress	*Rorippa nasturtium-aquaticum*			n/a	>10	Common in roadside ditches, and spring-fed creeks, etc.
Sweet briar	*Rosa rubiginosa*			28	>10	Rare. A few plants known from Landsborough Station and nearby.
Rambler rose	*Rosa* spp.			n/a	>10	Occasional wild rambling roses near roadsides and settlements.
Raspberry	*Rubus idaeus*			n/a	10	Localised roadside patches near Maruia and Lewis Pass.
Blackberry (cut leaved)	*Rubus laciniatus*	x		n/a	2	Locally common, esp. at Waiuta.
Japanese wineberry	*Rubus phoenicolasius*			n/a	>10	Localised infestations near Karamea and Maruia Valley.
Willow (grey)	*Salix cinerea*			32	>10	Occasional around wetland areas, roadsides and farms.
Willow (bitter)	*Salix elaeagnos*			n/a	2	Occasional in riverbeds around Harihari and Whataroa.
Willow (crack)	*Salix fragilis*			28	>10	Common throughout the West Coast, esp. wet areas and riparian sites.
Elder	*Sambucus nigra*	x		22	>10	Localised small infestions near Cobden (Greymouth) and Maruia.
Kaffir lily	*Schizostylis coccinea*			n/a	5	Locally common in disturbed wetland areas and roadsides. Abundant in Buller and less common South to Haast.
Selaginella	*Selaginella kraussiana*	x	x	23	>10	Spreading in forested areas particularlt riparian sites. Challenging to control effectively.
Ragwort	*Senecio jacobaea*	x		23	>10	Common on farmland, riverbeds, etc.
German ivy	*Senecio mikanioides*	x		26	>10	Fairly common in forest margins from Karamea to Ross, rare further south.
Blue eyed grass	*Sisyrinchium* "blue"			n/a	5	Occasional on roadside verges near Karamea.
Velvety nightshade	*Solanum chenopodioides*			n/a	>10	Common in forest margins and scrub throughout.
Rowan	*Sorbus aucuparia*			25	>10	Locally common mostly near settlements in the Grey and Maruia valleys. Spreading into beech forests.
Hedge stachys	*Stachys sylvatica*			n/a	6	Localised dense patches in riparian areas and roadsides throughout.
Rice paper plant	*Tetrapanax papyriferus*			n/a	6	Occasional garden escapes in forest magins around Punakaiki.
Tradescantia	*Tradescantia*	x	x	25	>10	Common in forest margins and riparian forest, and in gardens from Karamea

Common name	Botanical name	Other RPMS[1] 1998–2001	NP PA[2]	DOC[3]	No.[4]	Comments[5]
	fluminensis					to Hokitika. Localised further south to Haast.
Nasturtium	*Tropaeolum majus*			19	>10	Fairly common in roadside scrub and garden dumping areas.
Gorse	*Ulex europaeus*	x		28	>10	Common on disturbed land throughout the West Coast. Rare in Haast Valley and Maruia catchment.
Bladderwort	*Utricularia geminiscapa*	x		n/a	0	Occasional in wetlands, only discovered in the last few years.
Greater periwinkle	*Vinca major*			22	>10	Localised infestations around settlements and roadsides.
Lesser periwinkle	*Vinca minor*	x		n/a	>10	Uncommon. Occasionally found at historic sites.
Arum lily	*Zantedeschia aethiopica*	x	x	22	>10	Common in gardens, and weedy at a few sites, particularly round Punakaiki.
Arum lily 'Green Goddess'	*Zantedeschia aethiopica* cv. Green Goddess	x	x	22	n.d	Common in gardens, and going wild at a few sites, probably going to be more weedy than the parent species, but not been around so long. The taxonomy of this species is uncertain (P. Heenan, pers. comm.),

[1] Presence or absence of species on all New Zealand RPMSs, from list compiled by Ian Popay (DOC).
[2] National Pest Plant Accord list.
[3] DOC weediness score provided by Clayson Howell, DOC, Wellington, Sept. 06.
[4] No weed lists the species appears on from Randall (2002).
[5] List and comments provided by Thomas Belton, DOC.

Appendix 3. Selected species ratings using the scoring system of Esler et al. (1993) where the maximum potential score is 24 for Biological Success and Environmental Impact Rating, and 24 for Esler's Index of Weediness. Species presented in alphabetical order of common name.

Species
BUSHY ASPARAGUS (*ASPARAGUS DENSIFLORA*) AND SMILAX (*ASPARAGUS ASPARAGOIDES*).
These two have similar ecology and so are treated together.
Family
Liliaceae
Origin
Europe, Africa
Weed
Widespread weeds in Australia and USA.
Form
Much-branched climbers.
Ecology
Both grow in a wide range of marginal habitats, heathland, coastal cliffs, etc., smothering lower-growing species. Shade tolerant to a certain extent so there is the potential to invade forest understoreys. Also drought tolerant.
Ratings
Biological Success and Environmental Impact (0–3)

2	**Versatility** Tolerate a range of soil conditions including partly saline.
2	**Maturation rate** Can produce fruit in their first year.
2	**Seeding ability** Produce abundant very small seeds.
2	**Dispersal and establishment** Seeds are spread by birds, particularly silvereyes.
2	**Cloning** Do not clone as such, but spread by small detached portions of rhizome and by humans via garden dumping.
2	**Recovery** Recovers rapidly from damage.
2	**Competitive ability** Competitive only in open situations.
14	**Biological Success and Environmental Impact Rating**

Weed status assessment (0–3)

1	**Obstruction** Form thickets.
2	**Suppression** Threat to lower-growing plants and seedling establishment.
0	**Health impairment**
1	**Quality impairment** Mildly hindering travelling through native vegetation because of the entanglement.
2	**Damage to natural areas** Potential to invade open areas, forest margins, coastal cliffs and headlands, track-sides.
0	**Other** None

Opportunity

3	**Extent of suitable habitat** Large areas of the West Coast suitable.
2	**Resistance to management practices** Grubbing or spraying, but recovers from grubbing unless this is done very carefully.
11	**Esler's Index of Weediness**

Species
CAPE IVY (*SENECIO ANGULATUS*)
Family
Asteraceae
Origin
South Africa
Weed
Widespread weed on several continents.
Form
Perrenial climber or large spreading shrub up to 5 m tall with fleshy leaves.
Ecology
Grows in a range of marginal habitats, regenerating scrub, forest margins, cliffs, and banks. May be frost tender to a certain extent and found mostly near the coast.
Ratings
Biological Success and Environmental Impact (0–3)

1	**Versatility** Tolerates a range of soil conditions.
2	**Maturation rate** Can produce fruit in its first year. Lifespan unknown.
3	**Seeding ability** Seeds produced in abundance.
2	**Dispersal and establishment** Seeds wind dispersed and no special germination requirements. Commonly spread by garden waste dumping.
3	**Cloning** Spread by fragments and layering, commonly in garden rubbish.
2	**Recovery** Grows from small pieces after manual treatment.
2	**Competitive ability** Competitive only in open situations and on the margins of other vegetation. Not shade tolerant.
15	**Biological Success and Environmental Impact Rating**

Weed status assessment (0–3)

1	**Obstruction** Forms dense thickets on margins.
2	**Suppression** No threat to agriculture. Smothers native regeneration.
0	**Health impairment** None known.
1	**Quality impairment** Not a notice detraction visually.
2	**Damage to natural areas** Potential to invade bush margins, regenerating scrub and native shrublands, banks, cliffs where it outcompetes early-successional native species such as mahoe. In stable situations it is overtaken by further native species.
0	**Other** None

Opportunity

2	**Extent of suitable habitat** Large areas of the West Coast are suitable, particularly in the milder northern sector.
2	**Resistance to management practices** Grubbing or spraying is effective but regrowth frequent from layered portions.
10	**Esler's Index of Weediness**

Species
CATHEDRAL BELLS (*COBAEAE SCANDENS*)
Family
Polemoniaceae
Origin
South America
Weed
Weed on Australia
Form
A vigorous and fast-growing perennial climber up to 10 m forming a dense mat of vegetation.
Ecology
Grows in a wide range of marginal habitats, regenerating scrub, forest margins, cliffs, banks, shelterbelts, and even wetland margins. Frost tender to a certain extent.
Ratings
Biological Success and Environmental Impact (0–3)

1	**Versatility** Tolerates a range of soil conditions.
2	**Maturation rate** This is unknown but appears to produce fruit within a couple of years. Lifespan is unknown.
3	**Seeding ability** Seeds produced in abundance within large capsules.
2	**Dispersal and establishment** Seeds wind dispersed. Needs open conditions to establish.
3	**Cloning** Spread by fragments and layering.
2	**Recovery** Grows from small pieces after manual treatment and spraying.
2	**Competitive ability** Competitive only in open situations and on the margins of other vegetation. Not shade tolerant.
15	**Biological Success and Environmental Impact Rating**

Weed status assessment (0-3)

1	**Obstruction** Forms dense thickets on margins.
2	**Suppression** No threat to agriculture. Smothers native regeneration and also hedgerows and shelterbelts.
0	**Health impairment** None known.
1	**Quality impairment** Not a noticeable detraction visually.
2	**Damage to natural areas** Potential to invade bush margins, regenerating scrub and native shrublands, banks, cliffs where it outcompetes early-successional native species such as mahoe.
0	**Other** None

Opportunity

2	**Extent of suitable habitat** Large areas of the northern West Coast are suitable,
2	**Resistance to management practices** Grubbing or spraying is effective but regrowth frequent from layered portions.
10	**Esler's Index of Weediness**

Species
DARWIN'S BARBERRY (*BERBERIS DARWINII*)
Family
Berberaceae
Origin
South America
Weed
Widespread weed on several continents.
Form
Spreading armed shrub to small tree up to 4 m.
Ecology
Grows in a wide range of marginal habitats, regenerating scrub, forest margins, plantation edges in the lowlands. Frost resistant
Ratings
Biological Success and Environmental Impact (0–3)

1	**Versatility** Tolerates a range of soil conditions.
2	**Maturation rate** Produce fruit relatively slowly but can live for at least 10 years.
3	**Seeding ability** Seeds produced in fleshy fruit
2	**Dispersal and establishment** Fruit eaten by a wide variety of birds. Seedlings are relatively shade tolerant
0	**Cloning** None
2	**Recovery** Grows from stumps.
2	**Competitive ability** Not a highly competitive plant in a farming sense, but can dominate early-successional vegetation.
12	**Biological Success and Environmental Impact Rating**

Weed status assessment (0–3)

1	**Obstruction** Forms dense thickets that are difficult to push through.
2	**Suppression** Threatens regenerating scrub and damaged forest understoreys, particularly on lighter soil.
0	**Health impairment** Possibly poisonous.
1	**Quality impairment** Yellow flowers are in marked contrast to native vegetation.
2	**Damage to natural areas** Potential to invade bush margins, regenerating scrub and native shrublands where it outcompetes native species such as mahoe. However, in time it is likely to be overtaken by further native species.
0	**Other** None

Opportunity

2	**Extent of suitable habitat** Large areas of the northern West Coast are suitable.
2	**Resistance to management practices** Grubbing or spraying is effective. Not a management problem on good farmland. More difficult to control when in dense scrub such as gorse scrub.
10	**Esler's Index of Weediness**

Species
DENSE OXYGEN WEED (*EGERIA DENSA*)
Family
Hydrocharitaceae
Origin
South America
Weed
Widespread weed on several continents.
Form
Egeria densa, commonly known as Brazilian elodea, is a submersed, much-branched, slightly stoloniferous freshwater perennial herb with stems up to 1.5 m long that forms dense monospecific stands. It can root in a range of substrates and also form free-floating stands.
Ecology
Thrives in turbid to fresh water in mild to freshwater ponds, lakes, reservoirs etc., across a wide range of climates.

Ratings
Biological Success and Environmental Impact (0–3)

3	**Versatility** Tolerates a wide range of water conditions including water close to freezing.
3	**Maturation rate** No sexual maturity, but fragments in autumn, which produce buds that sprout the following spring.
0	**Seeding ability** Seeds not produced.
2	**Dispersal and establishment** Spread by fragments.
3	**Cloning** Specialised 'double nodal regions' are located every 6–12 nodes along the stem. Stem fragments containing such nodes need be only 7.5 mm long to grow.
3	**Recovery** Shows recovery from spraying and totally resistant to cutting.
3	**Competitive ability** Can dominate over *Lagarosiphon* in the North Island.
17	**Biological Success and Environmental Impact Rating**

Weed status assessment (0-3)

3	**Obstruction** Seriously retards water flow affecting hydroelectricity generation and irrigation.
3	**Suppression** Very effective up to depths of 8 m because of mass monoculture.
1	**Health impairment** A risk from drowning with entanglement.
2	**Quality impairment** Surface beds detract from aesthetic appeal.
3	**Damage to natural areas** Replaces native plant communities and disrupts animal communities.
0	**Other** None

Opportunity

3	**Extent of suitable habitat** Large areas of the West Coast waterways are vulnerable.
3	**Resistance to management practices** Resistant to physical treatments and recovers from chemical control in less than a year.
18	**Esler's Index of Weediness**

Species
HEATHER (*CALLUNA VULGARIS*)
Family
Epacridaceae
Origin
Eurasia
Weed
Widespread weed on several continents.
Form
Much-branched perennial shrub.
Ecology
Grows in a wide range of marginal habitats and waste land over a wide altitude and rainfall range, but particularly on poorly drained or sour soils, which abound on the West Coast.
Ratings
Biological Success and Environmental Impact (0–3)

2	**Versatility** Tolerates a range of soil conditions but prefers poorly drained and acidic soils.
2	**Maturation rate** Can produce fruit in its second year.
2	**Seeding ability** Produces abundant very small seeds.
2	**Dispersal and establishment** Seeds are spread by wind, contamination of clothing and by sheet flooding. Seedlings are light demanding.
1	**Cloning** Does not clone as such, but spreads by suckering to form large patches.
3	**Recovery** Recovers rapidly damage and seedlings germinate after fire.
1	**Competitive ability** Not a highly competitive plant among woody vegetation but shades out small native species in places such as open herbfield.
13	**Biological Success and Environmental Impact Rating**

Weed status assessment (0–3)

2	**Obstruction** Forms dense thickets.
2	**Suppression** Threats to pasture on marginal land and to short native vegetation.
0	**Health impairment**
0	**Quality impairment** Flower colour is foreign to NZ landscapes.
2	**Damage to natural areas** Potential to invade cutover forest, pakihi, wetalnds, and above treeline.
0	**Other** None

Opportunity

3	**Extent of suitable habitat** Large areas of the West Coast suitable.
2	**Resistance to management practices** Grubbing or spraying, but recovers from grubbing unless this is done very carefully.
11	**Esler's Index of Weediness**

Species
PURPLE LOOSESTRIFE (*LYTHRUM SALICARIA*)
Family
Malvaceae
Origin
Eurasia
Weed
Widespread weed on several continents, and among the worst water weeds in the USA.
Form
A hairy, erect, perennial herb 1–2 m tall with bright purple flowers.
Ecology
Grows in a wide range of wetland habitats.
Ratings
Biological Success and Environmental Impact (0–3)

2	**Versatility** Tolerates a range of soil conditions provided they are wet to moist.
2	**Maturation rate** Can produce fruit in its second year.
2	**Seeding ability** Produces abundant very small seeds.
2	**Dispersal and establishment** Seeds are spread by wind, contamination of clothing and by sheet flooding. Seedlings are light demanding.
2	**Cloning** Does not clone as such, but spreads by small pieces breaking off, including during control operations.
3	**Recovery** Recovers rapidly from damage and seedlings germinate after disturbance from a long-lived seed bank.
2	**Competitive ability** Not a highly competitive plant among woody vegetation but shades out native species of similar or shorter structure.
15	**Biological Success and Environmental Impact Rating**

Weed status assessment (0–3)

2	**Obstruction** Forms dense thickets in wetlands, which can obstruct recreational use and reduce water flow.
2	**Suppression** Suppresses shorter or equal-height native vegetation species.
0	**Health impairment**
0	**Quality impairment** Flower colour is foreign to NZ landscapes.
2	**Damage to natural areas** Potential to invade a wide range of wetlands on the West Coast, outcompeting native species.
0	**Other** None

Opportunity

3	**Extent of suitable habitat** Large areas of the West Coast suitable.
2	**Resistance to management practices** Grubbing or spraying, but recovers from grubbing unless this is done very carefully.
11	**Esler's Index of Weediness**

Species
WHITE-EDGED NIGHTSHADE (*SOLANUM MARGINATUM*)
Family
Solanaceae
Origin
South America
Weed
Widespread weed on several continents.
Form
Much-branched perrenial shrub to small tree with prickles up to 1.5 cm long and hairs on stems and leaves.
Ecology
Grows in a wide range of marginal habitats and wasteland over a wide altitude and rainfall range.
Ratings
Biological Success and Environmental Impact (0–3)

2	**Versatility** Tolerates a range of soil conditions but prefers coastal areas of lighter soil.
2	**Maturation rate** Can produce fruit in its second year.
2	**Seeding ability** Seeds produced in fleshy fruit.
2	**Dispersal and establishment** Fruit does not appear to be favoured by either birds or animals and dispersal by seed is probably rather limited. The fruit tend to be round and they can also be dispersed in water. Seedlings are light demanding.
0	**Cloning** None
1	**Recovery** Minimal recovery from damage and no great resurgence from seed banks.
1	**Competitive ability** Not a highly competitive plant in a farming sense, but shades out small native species in places such as sand dunes.
10	**Biological Success and Environmental Impact Rating**

Weed status assessment (0–3)

3	**Obstruction** Forms dense prickly thickets in pastures.
2	**Suppression** Threats to pasture on marginal land.
1	**Health impairment** Very sharp spines on leaves and stems.
0	**Quality impairment** Nil
2	**Damage to natural areas** Potential to invade bush margins, sand dunes, open areas.
0	**Other** None

Opportunity

3	**Extent of suitable habitat** Large areas of the West Coast suitable.
2	**Resistance to management practices** Grubbing or spraying. Hairy leaves means spraying may be done paying special attention to mixture.
13	**Esler's Index of Weediness**

57

Species
WOOLLY NIGHTSHADE (*SOLANUM MAURITIANUM*)
Family
Solanaceae
Origin
South America
Weed
Widespread weed on several continents.
Form
Small, open branched shrub or tree up to 10 m, with large pale leaves that make it very conspicuous.
Ecology
Grows in a wide range of marginal habitats, regenerating scrub, forest margins, plantation edges in the lowlands.
Ratings
Biological Success and Environmental Impact (0–3)

1	**Versatility** Tolerates a range of soil conditions.
3	**Maturation rate** Produces fruit a few months after germination and can live for up to 20 years.
3	**Seeding ability** Abundant seeds produced in fleshy fruit
2	**Dispersal and establishment** Fruit eaten by a wide variety of birds. Seedlings are relatively shade tolerant
0	**Cloning** None
2	**Recovery** Grows from stumps.
2	**Competitive ability** Not a highly competitive plant in a farming sense, but can dominate early-successional vegetation.
13	**Biological Success and Environmental Impact Rating**

Weed status assessment (0–3)

1	**Obstruction** Forms dense thickets initially that are difficult to push through, but as it ages, become more open and is not difficult to push through.
2	**Suppression** Threatens regenerating scrub by initially suppressing the native woody species.
2	**Health impairment** Possibly poisonous to stock and causes nausea and skin irritation in people.
1	**Quality impairment** The pale leaves, in marked contrast to native vegetation, are very conspicuous and unattractive to some.
2	**Damage to natural areas** Potential to invade bush margins, regenerating scrub and native shrublands where it outcompetes native species such as mahoe. However, in time it is likely to be overtaken by further native species.
0	**Other** None

Opportunity

2	**Extent of suitable habitat** Very large areas of the northern West Coast are suitable.
2	**Resistance to management practices** Grubbing or spraying is effective. Not a management problem on good farmland. More difficult to control when in dense scrub such as gorse scrub.
12	**Esler's Index of Weediness**

Appendix 4. Biological control prospects for weeds on the West Coast

Weeds tend to be plants that are not native to New Zealand, and one of the reasons that introduced plants become weeds is that they don't have any natural enemies here. Landcare Research develops biological control strategies for weeds aimed at restoring the natural balance between these weeds and the environment by reuniting them with some of their traditional natural enemies, usually insects or fungi. Many years of careful research goes into finding suitable biocontrol agents and thoroughly testing them to ensure they will not attack other desirable plants. Permission must be granted by the Environmental Risk Management Authority before any new biocontrol agents are introduced to New Zealand. All new introductions spend some time in a containment facility to ensure they are free of disease and parasites. Because we are able to free biocontrol agents of their own natural enemies they have the potential to be even more damaging in New Zealand than in their homelands.

Because substantial long-term (5–10 years) funding is required to develop and implement biological control programmes, large organisations, rather than individuals, have been asked to contribute to the task. The National Biocontrol Collective, which includes all regional councils and unitary authorities (except the West Coast Regional Council) plus the Department of Conservation, funds most current and new biocontrol programmes. Collective decision-making is undertaken annually to decide which weeds to target and how best to progress current projects. There would be no barrier to the West Coast Regional Council joining the National Biocontrol Collective, if it so desired, provided it could contribute some funding. A number of biocontrol programmes are also funded by community groups through MAF Sustainable Farming Fund Grants, such as the one the West Coast Regional Council has been involved with against ragwort.

There is no guarantee that any biocontrol agent will establish in New Zealand, but our current success rate is high. Many of the agents being used in New Zealand have never before been released outside of their native range, so we cannot easily predict beforehand how much damage they will cause to their target plants. Even agents that have been used in other countries may behave differently here. Also the impact of any one agent is likely to vary throughout New Zealand, and from year to year, so as a rule several control agents are usually required to have a significant impact on a weed. If successful, biological control can provide long-term environmentally friendly suppression of weeds.

Biological control is not appropriate in all situations:

- Biocontrol may be an option when you do not need to eradicate a weed. Biocontrol agents do not eliminate weeds, because they can never find or utilise every plant. Rather, a successful biological control attack may reduce the vigour and abundance of a weed so that it stops spreading and it may reduce existing infestations to a level that we can live with or eliminate effectively and economically by other means. If biocontrol is successful, plants become increasingly rare and the agent population reduces accordingly, so a new equilibrium forms between the abundance of agents and their host plants. Where a weed needs to be eradicated biocontrol may be a stepping stone towards achieving that goal. However, for low incidence plants conventional weed control techniques may be more appropriate because of the costs and time frames involved in developing biocontrol and the uncertainty about how successful it might be.
- Biocontrol may be an option when you do not need to control a weed immediately, because it takes time to find, test and import suitable control agents, and then build up

damaging populations in the field. An advantage of removing weeds gradually is that large areas of soil are not exposed to erosion, and invasion by other undesirable species is limited.

- Biocontrol may also be an option when weeds are difficult to control by chemical means, or conventional control methods are not physically possible or economically viable. Biocontrol is often the only practical method of tackling widespread intractable weeds.
- Biological control may be an option when it is important that you only harm the target weed – a result that can be difficult to achieve by mechanical or chemical means. Also none of the biocontrol agents in New Zealand pose health risks to handlers or the public.

Mycoherbicides

Plant pathogens can be used to control weeds in a similar way to chemical herbicides. The term mycoherbicide is used for a herbicide in which the active ingredient is a plant pathogenic fungus. Fungi used in mycoherbicides are usually found naturally in the area in which they are used, and are not always highly host specific. Under natural conditions fungal disease epidemics occur and damage plants from time to time, but the potential of these fungi is usually limited in some way, e.g. the environment is not always conducive to good disease development or the fungus may be limited in its dispersal ability. By developing the fungus into a mycoherbicide these constraints can be overcome. Mycoherbicides can be applied in many ways, e.g. as aerial sprays, through 'cut and paste application' or in a powder applied to the soil. They are not likely to be cheaper than chemical herbicides and, like chemicals, offer knockdown rather than permanent suppression. However, they may be more selective and are kinder to the environment.

The following are many of the weeds mentioned in the body of this report and their prospects for biocontrol.

Species	Biocontrol Prospects
Acacia dealbata Silver wattle	No biocontrol programme has been attempted anywhere.
Acer pseudoplatanus Sycamore	No biocontrol programme has been attempted anywhere.
Arundo donax Giant reed	Researchers in the USA are researching the possibility of developing a biocontrol programme for this target.
Berberis glaucocarpa Barberry	Feasibility of biocontrol for this weed in NZ has been investigated. There is no reason not to proceed but the National Biocontrol Collective has agreed that Darwin's barberry (*Berberis darwinii*) should be tackled first.
Buddleja davidii Buddleia	A foliage-feeding weevil (*Cleopus japonicus*) has recently been released at sites in the North Island – establishment has not yet been confirmed. Efforts should be made to establish this weevil on the Coast.
Cestrum elegans Red cestrum	No biocontrol programme has been attempted anywhere.
Cirsium arvense Californian thistle	A biocontrol programme has been underway in NZ for some years but none of the agents released to date have been effective. An application to release two new insect agents (*Ceratapion onopordi, Cassida rubiginosa*) is currently with ERMA. These insects are expected to attack a range of thistles and if approval to release them is granted then efforts should be made to establish them on the Coast.
Cirsium palustre Marsh thistle	Nodding thistle crown weevil (*Trichosirocalus* sp.) will attack marsh thistle. A release of the weevil at Rotomanu failed to establish but it may be worth making another attempt. See also above – marsh thistle is likely to be attacked by the two new insect agents for Californian thistle.
Cirsium vulgare	A biocontrol programme has been underway in NZ for some years. A gall fly

Scotch thistle	(*Urophora stylata*) has established well elsewhere in NZ and efforts should be made to establish it on the Coast. Nodding thistle crown weevil (*Trichosirocalus* sp.) will attack Scotch thistle, and efforts should be made to establish them on the Coast too. Scotch thistle is also likely to be attacked by the two new insect agents for Californian thistle.
Clematis vitalba Old man's beard	A biological control programme is underway in NZ. Two agents are established on the Coast, a leaf miner (*Phytomyza clematadi*) and a leaf fungus (*Phoma clematidina*). A sawfly (*Monophadnus spinolae*) has been released throughout NZ (but not on the Coast) but establishment has not yet been confirmed. If the sawfly does establish efforts should be made to establish it on the Coast. Other agents are being investigated and if they become available efforts should be made to establish them on the Coast too.
Conium maculatum Hemlock	A moth (*Agonopterix alstromeriana*) has self-introduced to NZ and causes severe damage to hemlock at times. It is likely to be present on the Coast.
Cortaderia jubata Purple pampas	No biocontrol programme has been attempted anywhere. The feasibility of biocontrol for this weed in NZ has been investigated. It is thought to be a difficult target because of closely-related native toe toe and the lack of known enemies. However, a pathogen has since been found here causing dieback and will be studied further.
Cortaderia selloana Pampas	See above.
Cotoneaster simonsii Cotoneaster	No biocontrol programme has been attempted anywhere.
Crataegus monogyna Hawthorn	No biocontrol programme has been attempted anywhere.
Cytisus scoparius Broom	A biological control programme is underway in NZ. Broom twig miner (*Leucoptera spartifoliella*), broom seed beetle (*Bruchidius villosus*), and broom psyllid (*Arytainilla spartiophila*) are established and becoming widespread on the Coast. Efforts should also be made to establish the broom leaf beetle (*Gonioctena olivacea*), broom shoot moth (*Agonopterix assimilella*) and the broom gall mite (*Aceria genistae*) as releases of these new agents become available.
Elaeagnus x reflexa Elaeagnus	No biocontrol programme has been attempted anywhere.
Erica lusitanica Spanish heath	No biocontrol programme attempted anywhere.
Fallopia japonica Asiatic knotweed	A biological control programme is under development in the UK for Europe and the USA. Promising agents have been found and are currently being tested.
Glyceria maxima Reed Sweet Grass	No biocontrol programme has been attempted anywhere.
Gunnera tinctoria Chilean rhubarb	No biocontrol programme has been attempted anywhere. Damaging natural enemies have been seen on this plant in Brazil during surveys for agents for tradescantia.
Hedychium gardnerianum, H. flavescens Wild ginger	A biocontrol programme has recently been implemented in NZ, but is still at the stage of seeking suitable agents.
Hieracium aurantiacum Orange hawkweed	A biological control programme is underway in NZ against a range of *Hieracium* species. No agents have been released on the Coast. A gall wasp (*Aulacidea subterminalis*) and a gall midge (*Macrolabis pilosellae*) have established well throughout NZ and efforts should be made to establish them on the Coast. The establishment of a plume moth (*Oxyptilus pilosellae*), a root hover fly (*Cheilosia urbana*) and a crown hover fly (*Cheilosia psilophthalma*) have not yet been confirmed, but if they do establish efforts should be made to establish these three agents on the Coast too. All of these agents except the plume moth will attack orange hawkweed.
Hieracium lepidulum Tussock hawkweed	See above. The plume moth (*Oxyptilus pilosellae*), root hover fly (*Cheilosia urbana*) and crown hover fly (*Cheilosia psilophthalma*) will attack tussock hawkweed.
Hieracium pilosella	See above. All five of the insect agents will attack mouse-eared hawkweed. A self-

Mouse-eared hawkweed	introduced rust fungus (*Puccinia hieracii* var. *piloselloidarum*) commonly attacks this species and is likely to be present on the Coast. It does not cause sufficient damage alone to control this plant.
Hieracium praealtum King devil	See above. It is likely all the insect agents except the gall wasp will attack king devil hawkweed.
Hieracium x stoloniflorum Hawkweed	See above. It is likely all the insect agents will attack this species.
Hypericum androsaemum Tutsan	A beetle (*Chrysolina hyperici*) released to attack St John's wort (*Hypericum perforatum*) will also attack this species to some extent. A rust (*Melampsora hypericorum*) released to attack the plant in Australia is present in NZ but infection levels are highly variable. There is currently some interest from North Island councils in exploring the possibility of developing a more effective biocontrol programme for this species.
Hypericum perforatum St John's Wort	A biological programme was initiated many years ago and has resulted in a good level of control of this weed. A leaf-feeding beetle (*Chrysolina hyperici*) is known to have established on the Coast, but it is unknown whether the other leaf-feeding beetle (*C. quadrigemina*) and the gall midge (*Zeuxidiplosis giardi*) are established on the Coast.
Ilex aquifolium Holly	No biocontrol programme attempted anywhere.
Ipomoea indica Blue morning glory	The feasibility of biocontrol for this weed in NZ has been investigated. There is no reason not to proceed, but it does not appear to currently be a high enough priority.
Iris pseudacorus Yellow flag iris	No biocontrol programme has been attempted anywhere.
Lagarosiphon major Lagarosiphon	The feasibility of biocontrol in NZ has been investigated. Lagarosiphon was mentioned at the last meeting of the National Biocontrol Collective as a species which should be considered further as a target.
Leycesteria formosa Himalayan honeysuckle	No biocontrol programme has been attempted anywhere.
Lonicera japonica Japanese honeysuckle	A biocontrol programme has recently been implemented in NZ, but is still at the stage of seeking suitable agents.
Lupinus arboreus Lupin (tree)	No biocontrol programme has been attempted anywhere. The native kowhai moth (*Uresiphita polygonalis*) and a fungus (*Colletotrichum gloeosporioides*) can at times heavily attack this plant.
Lupinus polyphyllus Lupin (Russell)	No biocontrol programme has been attempted anywhere.
Lythrum salicaria Purple loosestrife	No biological control programme has been attempted in NZ but a highly successful programme has been undertaken in the USA.
Myriophyllum aquaticum Parrots feather	A biocontrol programme is underway in South Africa involving a beetle (*Lysathia* sp.) which contributes to control of this weed. A stem-boring weevil (*Listronotus marginicollis)* is currently being assessed for its suitability. Other natural enemies have been recorded attacking the plant in both its native and introduced ranges. Damage to this weed has been seen recently in the Bay of Plenty. It seems to be caused by a combination of a shoot-boring moth (*Prolithona fugitivana*), which is endemic and feeds on native *Myriophyllum*, and a species of powdery mildew.
Passiflora tarminiana Banana passionfruit	A biocontrol programme is underway in NZ. No agents are available yet, but if they do become available then efforts should be made to release them on the Coast.
Pinus contorta Lodgepole pine	The feasibility of biocontrol in NZ has been investigated but is unlikely to go ahead in the near future because of concerns about the effectiveness of potential control agents and their potential to act as vectors for tree diseases.
Ranunculus acris Giant buttercup	AgResearch are attempting to develop a mycoherbicide, based on the fungus *Sclerotinia sclerotiorum,* which may be available for purchase commercially in the future.
Reynoutria sachalinensis Giant knotweed	No biocontrol programme has been attempted anywhere.
Rhododendron ponticum Rhododendron	Researchers in Europe are exploring the possibilities of developing a mycoherbicide, based on the fungus *Chondrostereum purpureum*, which is also currently being explored in NZ as a mycoherbicide for other woody targets.
Blackberry (cut leaved)	The self-introduced blackberry rust (*Phragmidium violaceum*) is widespread and

Rubus laciniatus	attacks this species. Other strains of this rust currently being released in Australia are likely to also arrive here in due course and attack this species also.
Senecio jacobaeae Ragwort	A biological control programme is underway in NZ. The ragwort flea beetle (*Longitarsus jacobaeae*) is established on the Coast but is unable to provide effective control. Efforts have also been made to establish the cinnabar moth (*Tyria jacobaeae*) on the Coast with limited success, so efforts are now being made to establish the ragwort plume moth (*Platyptilia isodactyla*) and ragwort crown-boring moth (*Cochylia atricapitana*).
Senecio mikanioides German ivy	No biocontrol programme has been attempted anywhere.
Tradescantia fluminensis Tradescantia	A biocontrol programme has recently been implemented in NZ, but is still at the stage of seeking suitable agents. Prospects look promising.
Ulex europaeus Gorse	A biological control programme is underway in NZ. The gorse seed weevil (*Exapion ulicis*), gorse pod moth (*Cydia ulicetana*), gorse spider mite (*Tetranychus lintearius*), gorse thrips (*Sericothrips staphylinus*) and gorse soft shoot moth (*Agonopterix ulicetella*) are all established to varying degrees on the Coast. Efforts to establish the gorse colonial hard shoot moth (*Pempelia genistella*) should also be made.

Status of Weed Biological Control Agents on the West Coast of the South Island of New Zealand

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Contents

Summary

Project and Client

This report on the status of weed biological control agents on the West Coast in the South Island of New Zealand was prepared for the West Coast Regional Council by Landcare Research from December 2006 to June 2007.

Objectives

- To check the current status of the 14 species of weed biological control agents that have been released on the West Coast during the past 25 years.
- To make recommendations about how biological control programmes could best be further developed on the West Coast.

Methods

- Information from a Landcare Research database was used to compile a list of West Coast release sites and visits were made to check them between December 2006 and May 2007.
- Sites that were previously considered to have failed and very recent sites were generally not visited, but are listed for completeness. Information was also sourced from a previous report and various people associated with biocontrol on the West Coast.
- Information about control agents that have not been released on the West Coast is included where relevant.

Main Findings

- Of the 14 weed biocontrol agents that have been released during the last 25 years eight have become established (broom psyllid, broom seed beetle, gorse spider mite, gorse thrips, gorse pod moth, gorse soft shoot moth, cinnabar moth, ragwort flea beetle), three have failed to establish (Californian thistle leaf beetle, Californian thistle flea beetle, nodding thistle crown weevil), and the fate of the remaining three is currently unknown (old man's beard leaf fungus, ragwort crown-boring moth, ragwort plume moth).
- At least one weed biocontrol agent has also self-introduced (old man's beard leaf miner).
- Of the agents that are established, probably only three species are widespread (gorse pod moth, gorse spider mite, ragwort flea beetle) and no project is yet complete. Actions are required to improve the distribution of at least four agents (broom psyllid, broom seed beetle, gorse thrips, and gorse soft shoot moth) and for each weed target tackled to date there are still control agents which should be considered for release (see recommendations below).

Conclusions

- The establishment success of weed biocontrol agents on the West coast is following similar trends to the rest of New Zealand. While the climatic conditions experienced on the West Coast could make it more difficult to establish some insect agents it does not appear to have been a major obstacle so far. However, it would appear that there are some places on the West Coast, such as Otira/Aickens and south of Whataroa, where establishment is likely to be problematic, and control agents should only be released there once populations are well established and plentiful at more benign locations.

- There has been a considerable investment to date by a number of organisations on the West Coast to develop biocontrol programmes for weeds but more will be required to complete projects and reap the benefits.
- The West Coast Regional Council should consider joining the National Biocontrol Collective so it can participate in decision making about what weeds should be targeted for biocontrol and have access to new agents as soon as they are developed.

Recommendations

- Harvest and redistribute the broom psyllid, broom seed beetle, gorse soft shoot moth, and gorse thrips to areas where they are not yet present. Check the distribution of the broom twigminer and gorse pod moth and if necessary shift them around too. Check if biocontrol agents are present on St John's wort in South Westland. Monitor ragwort crown-boring moth and plume moth release sites to check for establishment and to see if any further releases or harvesting and redistribution activities are needed (Caryl Coates is contracted to do this on behalf of the West Coast Ragwort Control Trust) .
- Release the broom leaf beetle, broom shoot moth, broom gall mite, and gorse colonial hard shoot moth as soon as they are available. If *Carduus* and *Cirsium* thistles continue to be a problem on the West Coast release nodding thistle crown weevil, Scotch thistle gall fly, Californian thistle stem miner and green thistle beetle and check the status of nodding thistle receptacle weevil.
- No further action against old man's beard is required unless the current DOC weed-led control project is unsuccessful and the weed continues to be a problem.

1. Introduction

This report on the status of weed biological control agents on the West Coast in the South Island of New Zealand was prepared for the West Coast Regional Council by Landcare Research from December 2006 to June 2007.

2. Background

Weeds threaten many of the landscapes and agricultural systems in New Zealand, and the West Coast of the South Island is no exception. Biological control, where natural enemies (usually insects and fungi) are put to work against weeds, is a key strategy for managing serious widespread weeds, and may even be the only practical or sustainable approach (Williams & Hayes 2007). Consequently 14 species of weed biological control agents have been released on the West Coast by the DSIR, West Coast Regional Council (WCRC), Department of Conservation (DOC), Timberlands West Coast (TWC), and the West Coast Ragwort Control Trust (WCRCT) during the past 25 years. This report reviews progress that has been achieved in developing biological control programmes on the West Coast to date and makes recommendations about the next steps that should be taken. We did not attempt to measure the impact of the control agents as such a study would require susbstantial resources over many years and was therefore beyond the scope of this project.

3. Objectives

- To check the current status of the 14 species of weed biological control agents that have been released on the West Coast during the past 25 years.
- To make recommendations about how biological control programmes could best be further developed on the West Coast.

4. Methods and Data Sources

Landcare Research maintains a database about where weed biological control agents are released nationwide and their fate. Information from this database was used to compile a list of sites for which there was insufficient up-to-date information. Visits were made to the West Coast to check these sites in December 2006, and in February and May 2007, to correspond with suitable times for checking the various species. Information gathered during these visits was added to the database. Sites that were previously considered to have failed were usually not revisited but are listed for completeness. New sites, where agents have been released only recently and need more time before they are assessed, are likewise listed for completeness. Information about ragwort flea beetle release sites was sourced from a previous report (Smith, 2003). Information about a number of other species was sourced from various colleagues and organisations involved in biological control on the West Coast, especially

Caryl Coates who provided information about releases of the ragwort crown-boring moth and ragwort plume moth, which have been made recently as part of a West Coast Ragwort Control Trust intiative. Information about control agents that have not been released on the West Coast is also included where relevant.

5. Main Findings

5.1 Broom (*Cytisus scoparius*)

5.1.1 Broom twig miner (*Leucoptera spartifoliella*)

The broom twig miner is a stem-mining moth. Larvae damage broom by feeding on the stem tissues. When a large proportion of green material has been affected then bushes grow and flower less, and whole branches and even entire bushes may die. The twig miner is believed to have arrived in New Zealand accidentally about 50 years ago, and it is now common and widespread throughout most of New Zealand. During the last 10–15 years there have been some large outbreaks of the twig miner in the South Island that have caused noticeable damage to broom plants, especially where the plants are under stress.

The status of the broom twig miner on the West Coast is unclear. It was not observed causing obvious damage at any of the broom sites visited. Further studies are needed before we can advise whether or not it would be possible to do anything to increase the impact of this insect on broom.

5.1.2 Broom psyllid (*Arytainilla spartiophila*)

The broom psyllid is a sap-sucking insect. Both adults and nymphs suck sap out of the tender new growth in spring. When populations are high the damage to new growth can be severe. This agent was released widely throughout New Zealand in the mid-1990s. It has established readily and is gradually becoming common and widespread. Some damaging outbreaks have been seen in Canterbury and Southland, but overall the performance of the psyllid has not lived up to expectations. This may be due to predation, but more studies are needed. Given the relatively short time that has elapsed since this insect was first released here, and the impact it has on broom in its native range, we should not yet discount the possibility that the psyllid may still make a contribution towards broom control.

The psyllid has not managed to establish at the two sites it was released at on the West Coast, but one of these was destroyed soon afterwards (Table 1). Interestingly the broom psyllid has established near Reefton where no releases have been made that we are aware of. It seems most likely that the psyllids have dispersed from the Hanmer Springs area, which is the nearest place they are known to be well established, but this is still surprising given that this species is not thought to disperse rapidly. Further surveys would be needed to determine how widespread the psyllid is on the West Coast. As none were seen at broom sites checked further south, there is likely to be some merit in collecting and redistributing the psyllids from the Reefton area. Given the extreme climatic conditions at Otira it is likely to be difficult to establish any broom agents there and any further attempts should be a low priority at this stage.

Table 1 Broom psyllid release sites on the West Coast

Site name	Organisation responsible	Grid reference/GPS	Date released	Date checked	Comments
Otira	DOC WCRC	NZMS260 K33 923 165	18/2/96 20/11/98	4/12/06	No sign of the psyllids; likely to have failed to establish here
Rimu Tailings	TWC	NZMS260 J33 417 269	21/12/96	5/12/06	Site destroyed, but given that psyllids were seen at three broom seed beetle sites (Bonanza Rd, Compartment 7, Dirty Dam Rd) they must have dispersed from this site beforehand

5.1.3 Broom seed beetle (*Bruchidius villosus*)

The broom seed beetle is a seed-feeding insect. The larvae are the damaging stage and each larva attacks a single seed. This agent was released widely throughout New Zealand during the mid-1990s. It has established readily and is becoming common and widespread. Infestation levels have only been measured at a few sites to date, and have shown that the beetle is capable of destroying 80–90% of seeds in New Zealand. Modelling work suggests that at the very least this level of seed destruction should significantly slow the spread of broom.

The broom seed beetle appears to be establishing well on the West Coast and can now be found in good numbers at four sites (Table 2). This agent is believed to be a moderate disperser, but there would be some merit in collecting and redistributing it to other parts of the Coast where the beetle is not yet present. It has failed so far to establish at Otira, and again further attempts to establish the beetle here should be a low priority at this stage.

Table 2 Broom seed beetle release sites on the West Coast

Site name	Organisation responsible	Grid reference/GPS	Date released	Date checked	Comments
Adair Rd	TWC	NZMS260 J33 415 270 NZMS260 J33 424 268 NZMS260 J33 425 266 NZMS260 J33 427 264	13/11/98	5/12/06	Four releases made close together so treated as one site – 20 beetles were dislodged in a single beat of one plant so they are obviously well established here now
Bonanza Rd	TWC	NZMS260 L30 156 963	13/11/98	6/12/06	Many beetles found and they are obviously well established here. Beetles were found up to half a kilometre away. Psyllids also found here
Compartment 7 – Holmes Hill	TWC	NZMS260 L30158 966	13/11/98	6/12/06	Many beetles found and they are obviously well established here. Beetles were found up to several hundred metres away. Psyllids also found here
Compartment 8 – Holmes Hill	TWC	NZMS260 L30 166 971	13/11/98	6/12/06	Status unknown as unable to locate release site
Dirty Dam Rd	TWC	NZMS260 L30164 966	13/11/98	6/12/06	Many beetles found and they are obviously well established here. Beetles were found up to half a kilometre away. Psyllids also found here
Otira River	WCRC/DOC	NZMS260 K33 923 165	6/11/97	4/12/06	No sign of the beetles; likely to have failed to establish here
Upper Inangahua	DOC	NZMS260 L31 254 810	5/11/95	8/12/06	Small isolated patch of broom and no sign of the beetles here so it seems unlikely they have established here

5.1.4 New broom agents

The Environmental Risk Management Authority (ERMA) has recently approved an application by the Canterbury Broom Group to release two new broom agents in New Zealand. The first new agent is the broom leaf beetle (*Gonioctena olivacea)*. The adults feed on foliage and the larvae attack the leaves and stem tips. Newly hatched larvae are voracious feeders and their active period should coincide perfectly with broom regrowth after twig miner attack. Mass-rearing is now underway and the beetle is expected to be available for release from spring 2007.

The second new agent is the broom shoot moth (*Agonopterix assimilella*), which is a close relative of the gorse soft shoot moth (*Agonopterix ulicetella*). The larvae feed on the leaves and kill off stem tips by ring-barking them. It is hoped that this moth will be available for release from spring 2008.

A third new agent, a gall-forming mite (*Aceria genistae*), did not need ERMA approval as it has already been recorded in New Zealand, but on gorse. Recent research shows that *Aceria genistae* includes a number of distinct strains, each of which is specific to one species of plant. We are certain that the mites we are introducing will only attack broom and are unlikely to interbreed with the resident strain. The broom gall mite is so small it can't be seen with the naked eye. During winter the mites live in colonies inside the base of stem buds. In the spring, feeding by mites causes the buds to develop into green fleshy galls, about 5–30 mm across, instead of shoots. Unlike many insects that attack broom, the mite is believed to cope well with shade. It is hoped that releases of this mite will be made from spring 2008.

In their native range each of the new broom agents is known to severely affect broom plants from time to time. The moth and beetle can strip plants bare, so that no green growth remains above ground. By forming galls on successive years' growth the mites cause stunting, reduced flowering, and even kill whole bushes. We recommend that all three new agents are released on the West Coast as soon as possible. Given where these species naturally occur in their native range it would appear that the broom shoot moth has the greatest chance of being able to establish at Otira, but this should only be attempted once the moth is established at more benign sites and can be harvested and relocated from these.

5.2 Gorse (*Ulex europaeus*)

5.2.1 Gorse seed weevil (*Exapion ulicis*)

The gorse seed weevil attacks gorse seeds produced during spring/summer. The damage is caused by the larvae with each one attacking a single seed. The weevil was one of the first biocontrol agents to be released in New Zealand back in the 1930s. It established successfully and is now extremely common on gorse throughout most of New Zealand, except for the lower part of the West Coast (south of Hari Hari). During this survey the weevils were seen at two of the four gorse pod moth sites (Brennans Creek, Neilsons Rd), and one of the gorse thrips sites (Cementlead Rd). Given that climatic conditions appear to limit the weevils and they are already widespread, no further attempts to increase their distribution on the West Coast are warranted.

5.2.2 Gorse pod moth (*Cydia succedana*)

The gorse pod moth also damages gorse seeds and, unlike the gorse seed weevil, is able to attack seed produced during autumn/winter as well as during spring/summer. The caterpillars destroy the seeds, with each one consuming the contents of 2–3 pods. This agent was released widely throughout New Zealand during the 1990s. It has established well and is now common and widespread. Attack by the moth has augmented the effect of the seed weevil in spring. In one recent study spring seed production contributed little to the annual seed crop as a result of the activity of these two agents. However, the amount of damage caused to the autumn/winter seed crop, is not as high as hoped, typically around 10–15%. In many places seed produced at this time of the year forms the bulk of annual production, and so gorse pod moth has little overall effect. Recent research has suggested that this may be because in New Zealand the timing of the insect's life cycle (phenology) is not ideally aligned with the plant's. As time passes selection pressure may see moth populations become better synchronised with the peak occurrence of the autumn seed resource, in which case the percentage of seed attacked will rise.

The moth has also established successfully on the West Coast, and can now be found at all four release sites, although dispersal may account for half of these (Table 3). As well as the four official release sites TWC collected a large amount infested material from Canterbury in October 1998, but we are unsure where this material was released. The moth was also found at several gorse thrips release sites (Gillespies Beach, Martins) which would suggest that the moth is probably now widespread on the West Coast, but further surveys would be needed to check this. Given that this agent is considered to be a rapid disperser there may not need to be any further releases made unless areas can be found that are still free of the moth.

Table 3 Gorse pod moth release sites on the West Coast

Site name	Organisation responsible	Grid reference/GPS	Date released	Date checked	Comments
Brennans Creek	TWC	NZMS260 J33 472 287	27/10/93	5/12/06	Previously not thought to have established here but present now in low numbers and may have dispersed from a successful release site. Gorse seed weevil also present
Granville Forest	TWC	NZMS260 K31 755 965	8/11/05	6/12/06	Established but infestation rate appears low (10%).
Neilsons Rd	WCRC	NZMS260 J32 584 496	7/11/95	4/12/06	Established but infestation rate appears low (10%). Gorse seed weevil also present
Stripland Creek	DOC	NZMS260 J33 505 275	11/11/92	5/12/06	Previously not thought to have established here but present now and may have dispersed from a successful release site. Infestation rate appears low (10%).

5.2.3 Gorse soft shoot moth (*Agonopterix ulicetella*)

The gorse soft shoot moth is a foliage-feeding insect. The caterpillars are the damaging stage and they feed on the new growth buds and soft tips in the spring. Each can destroy up to five shoots. This agent was released widely throughout New Zealand during the early to mid-1990s. For many years it was thought that establishment success had been poor and that the insect was only hanging on in low numbers at a limited number of sites nationwide. In recent years large outbreaks of the moth have been noticed in Marlborough and Canterbury, giving much cause for optimism.

The moth was released at two sites on the West Coast and has established in Granville Forest (Table 4). However, the moth is currently still only present in low numbers and it will be interesting to see if they are able to outbreak in coming years. Further checks of this site should be made annually in late November/early December, when the caterpillars are most obvious, and if they are abundant it would be worth harvesting some for release in other areas. Given that the moth is now plentiful in Canterbury and Marlborough it may also be worthwhile harvesting some moths from one of these areas this coming spring.

Table 4 Gorse soft shoot moth release sites on the West Coast

Site name	Organisation responsible	Grid reference/GPS	Date released	Date checked	Comments
Granville Forest	TWC	NZMS260 K31 965 755	21/12/92 12/1/95	6/12/06	Caterpillars could be found in the area surrounding both release sites but are still in low densities
Maori Gully	WCRC	NZMS260 K32 765 544	7/12/96	4/12/06	Site has been logged; no sign of the moth

5.2.4 Gorse spider mites (*Tetranychus lintearius*)

The gorse spider mite is a foliage-feeding invertebrate. Both the adults and juveniles have sucking mouthparts that extract the cell contents. Foliage takes on a bleached and later a brown appearance. When present in large numbers the mites can cause considerable damage. Growth and flowering is reduced but they rarely stay on gorse bushes long enough to kill them. This agent was widely released throughout New Zealand, including at numerous sites on the West Coast, during the late 1980s and early 1990s. Initially the mite established well except for in warm, wet areas. As a result other strains were imported and released that were expected to be better adapted to these climatic conditions. It is unclear whether the original strain managed to adapt to these conditions or if the new strains did in fact establish better, as dispersal was rapid and once mixed the strains could not be differentiated. However, the overall outcome was that gorse spider mites did became established in all regions of New Zealand during the mid-1990s. Unfortunately gorse spider mite populations tend to be regulated by predators. Large colonies form but do not tend to persist, and the distribution of the mites tends to be patchy both temporally and spatially.

The original release sites on the West Coast were not checked during this survey because the mites are so mobile that the original release sites are now only of historical interest (Table 5). It appears that both the original strain and the new strains only established at Granville Forest, and TWC subsequently re-released the mites to other areas. They can be found sporadically on gorse from Hokitika north (Ross Jackson, pers. comm.). The mites were not commonly seen when checking sites for other gorse agents. No further efforts to try to increase their distribution are warranted and only time will tell as to whether or not gorse spider mites are able to make a contribution to gorse control.

Table 5 Gorse spider mite release sites on the West Coast

Site name	Organisation responsible	Grid reference/GPS	Date released	Strain	Date checked	Established
Aickens	DOC	NZMS1 S59 101 478	1/10/90 5/2/91 6/2/91	UK	2/10/93	N
Aickens	DOC	?	28/1/93	Spanish		
Big Totara River	WCRC	NZMS260 K29 834 263	5/3/93	Spanish	26/10/93	N
Birchfield	WCRC	NZMS260 L29 126 487	25/10/89 30/1/90	UK	3/10/91	N
Blur Spur	WCRC	NZMS260 J32 301 506	4/3/93	Spanish		
Bundi-Camerons	TWC	NZMS260 J32 612 468	5/2/90	UK	7/11/92	N
Camerons	WCRC	NZMS1 679 751	8/10/90 12/12/90	UK	3/10/91	N
Cape Terrace Rd	TWC	NZMS1 S51 702 715 NZMS1 S51 716 698	17/8/89 23/11/89 11/12/90 1/10/90	UK	7/11/92	N
Doughboy Creek	WCRC	NZMS260 M29 507 343	19/11/91	UK	?	?
Gillespies Beach	DOC	NZMS1 S70 520 702 NZM1 S70 516 696	10/12/90 11/2/91 2/10/90	UK	5/6/92	N
Granville Forest	TWC	NZMS260 K31 350 310	16/11/91	UK	19/8/92	Y
Granville Forest	TWC	NZMS260 K31 350 310	8/1/92	Spanish	7/10/97	Y
Moana	WCRC	?	28/1/93	Spanish	4/9/93	Site destroyed
Ogilvies Rd	TWC	NZMS1 S51 742 773	17/8/89 23/11/89 21/1/90	UK	7/11/92	N

5.2.5 Gorse thrips (*Sericothrips staphylinus*)

The gorse thrips is a foliage-feeding insect. Adults and juveniles have sucking mouthparts that extract the cell contents. This feeding results in small white spots that give the gorse a mottled blotchy appearance. The thrips prefer new growth, but will feed on older, harder growth during winter. When present in good numbers, growth and flowering is reduced and seedlings may be killed. This agent was released widely throughout New Zealand during the 1990s and has established well. However, dispersal appeared to be extremely slow, because winged forms appear to be produced only rarely. As a consequence another strain of the thrips, that was believed to disperse more quickly, was imported from Portugal and released in the early 2000s, and it has also established. It is not possible to tell the strains apart so we cannot confirm whether or not this strategy has paid off, but gorse thrips are now being found

over a much wider range than before. While thrips can now often be commonly found on gorse, it is less common to see gorse bushes that appear to be severely affected by them. A study in the UK found that gorse thrips could reduce the growth of seedlings, even when present in low numbers, and this may be where they have the greatest impact.

Only the original strain of thrips was released on the West Coast and it has established well (Table 6). Thrips can now be found in good numbers at six of the release sites and they have only failed to establish at two sites, one of which was destroyed. Winged forms have been seen more commonly on the West Coast than in other parts of New Zealand. Even so it seems that the thrips are still not widespread, and there would be some merit in collecting and redistributing them to areas where they are not yet present. It would be useful to undertake further surveys to assess their current distribution more fully.

Table 6 Gorse thrips release sites on the West Coast

Site name	Organisation responsible	Grid reference/GPS	Date released	Date checked	Comments
Aickens	DOC	NZMS1 S59 101 478	2/10/91 27/10/92	5/12/06	No gorse left at the release site and no sign of any thrips on few remaining bushes in the area
Brennans Creek	TWC	NZMS260 J33 302 481	8/11/95	5/12/06	Unsure of exact release site as gorse has been bulldozed but no sign of any thrips in the general area
Cement Lead Rd	TWC	NZMS1 S50/51 572 538	16/11/91	5/12/06	Thrips found in good numbers and have spread up to several kilometres away. Winged forms present. Gorse pod moth and gorse seed weevil also present
Gillespies Beach	DOC	NZMS1 S70 525 705	3/10/91	21/2/07	Thrips present in good numbers, but have not spread far yet. Gorse pod moth also present
Gladstone	WCRC	NZMS260 J32 584 496	17/3/94	4/12/06	Thrips present in good numbers, but have not spread far yet
Granville Forest	TWC	NZMS260 K31 759 974	12/1/95 8/11/95 21/12/96	6/12/06	Thrips present in good numbers, but have not spread far yet
Martins	WCRC	NZMS260 K29 917 377	29/10/92	7/12/06	Thrips present in good numbers, but have not spread far yet. Gorse pod moth also present
Rifle Range	WCRC	NZMS1 S31 691 083	3/10/91	6/12/06	Thrips present in good numbers, including many winged forms, but have not spread far yet

5.2.6 New gorse agents

The gorse colonial hard shoot moth (*Pempelia genistella*) is foliage-feeding insect. The caterpillars are the damaging stage and they feed on the spines, leaves, buds, shoots and flowers causing foliage around the web to brown off and die. When the caterpillars are small, the area damaged is usually only a few centimetres in diameter; but as the caterpillars become larger in the spring, the damaged area can extend to 20–40 cm around the web. This agent has been released at sites throughout New Zealand in recent years, but it has not been

released on the West Coast. Establishment has only been confirmed so far at two sites in Christchurch. At one of these, Redcliffs, the moth has been causing obvious damage. It would be worthwhile releasing this moth on the West Coast as soon as possible.

Surveys are currently underway overseas to check if there are any more potential control agents for gorse, including pathogens. The results from these are expected to be available later this year.

5.3 Old man's beard (*Clematis vitalba*)

5.3.1 Old man's beard leaf fungus (*Phoma clematidina*)

The old man's beard leaf fungus is a foliar pathogen. Initially it cause black spotting and slight yellowing of the leaves, and later premature leaf death, leaf fall, and reduced vigour. Younger leaves are more vulnerable than older leaves, and the stems, flowers, seed pods, and seedlings can also be affected. The fungus was released widely throughout much of New Zealand during the mid-1990s. While it has caused high levels of damage to the plant at times, overall the amount of damage and impact of this fungus has been disappointing. Studies have revealed that the fungus is able to exist inside the leaves as a symptomless endophyte. Research is currently examining whether this lack of disease symptoms is the result of the host plant developing resistance or due to limiting environmental factors, and into whether anything could be done to enhance its effects.

The fungus was released by DOC at two sites on the West Coast (Table 7). However, its status remains unknown since old man's beard has been cleared from these sites since the plant became the target of a DOC weed-led control project 3 years ago. No further activity with the fungus is warranted unless the status of old man's beard changes on the West Coast in years to come.

Table 7 Old man's beard fungus release sites on the West Coast

Site name	Organisation responsible	Grid reference/GPS	Date released	Date checked	Comments
Dunollie	DOC	NZMS260 J31 672 668	23/3/99	5/12/06	No old man's beard present
Tarapuhi St	DOC	NZMS260 J32 631 599	23/3/99	5/12/06	No old man's beard present

5.3.2 Old man's beard leaf miner (*Phytomyza vitalbae*)

The old man's beard leaf miner is a foliage-feeding insect. Larval feeding disrupts the flow of nutrients around the leaves by mining through the veins. Heavily scarred leaves turn brown, shrivel up, and fall off the plant. Both the larval mines and the adults' feeding punctures can also allow fungal pathogens to invade the plant. This agent was released widely throughout much of New Zealand during the mid-1990s. Although high levels of damage have occasionally been seen, overall the infestation levels have remained low, and this may be due to attack by native leaf miner parasites.

The leaf miner was not released on the West Coast, but is an extremely rapidly disperser and has found it own way to the West Coast. It was first noticed there in 1999 when the old man's beard fungus was released. It is likely to still be present on any infestations that have not been

controlled by DOC. No further action is warranted unless the status of the plant changes on the West Coast in years to come.

5.3.3 New old man's beard agents

The old man's sawfly is a foliage-feeding insect. The larvae are the damaging stage and each larva may eat several leaves, sometimes leaving only the central vein intact. This agent was released at a limited number of sites throughout New Zealand during the late 1990s – early 2000s. The sawfly has not been seen again at any of the 16 release sites nationwide and establishment is looking increasingly unlikely. In the event that the sawfly has definitely failed to establish then another attempt may be made to import and release the sawfly because of the severity of the old man's beard problem in many regions.

Research is underway to determine whether a beetle (*Xylocleptes bispinus*) that mines beneath the bark and can ring-barks and kill whole vines might be suitable for release in New Zealand. If the beetle is unsuitable then it is possible that the potential for any other agents may be explored further. Further work is also likely to be undertaken on pathogens that attack old man's beard. Whether or not any further agents should be released to attack old man's beard on the West Coast will depend on the success of the current DOC weed-led control project.

5.4 Ragwort (*Senecio jacobaea*)

5.4.1 Cinnabar moth (*Tyria jacobaeae*)

The cinnabar moth is a foliage-feeding insect. The caterpillars are the damaging stage and they feed on the leaves and flowers. The severity of the attack depends on the number of caterpillars, and can vary from a few damaged leaves to bare stalks. This moth was one of the first biocontrol agents to be released in New Zealand, from the late 1920s to the early 1930s. However, the moth only established successfully in the lower North Island, so from the 1980s to early 1990s fresh attempts to increase its distribution were made. As a result the moth has established in all regions of New Zealand, but its distribution still tends to be patchy temporally and spatially. While the caterpillars can heavily defoliate ragwort, in New Zealand the plant is often able to subsequently regrow. Cinnabar moth is thought to be an effective agent in cold regions of Canada where there is no opportunity for regrowth following defoliation.

Attempts to establish the cinnabar moth on the West Coast seem to have followed a similar pattern. Even though caterpillars have previously been seen at more than half of the release sites, none were seen this year, although in some cases there is no ragwort now at the site for them to feed on (Table 8). However, we have had a report of a healthy population of caterpillars at high altitude (1200 m) near Granity Pass Hutt (Pauline Syrett, pers. comm.) and also at Murchison (Graeme Bourdôt, pers. comm.) this autumn. In 2004 they were also seen at high altitude in the Spenser Mountains (just north of Lewis Pass) in the snow (Pauline Syrett, pers. comm.), so there must have been a healthy population somewhere in the area that they had originated from. Given that the cinnabar moth seems to be difficult to establish at many sites and is of limited usefulness, no further effort to increase its distribution appears to be warranted, especially when more-promising ragwort control agents are available.

Table 8 Cinnabar moth release sites on the West Coast

Site name	Organisation responsible	Grid reference/GPS	Date released	Date checked	Comments
Barrytown	DSIR	NZMS262 10 883 372	30/10/90	15/1/92	Not checked as previously considered to have failed
Cook River Flats	DOC	NZMS1 S70 555 626	14/10/91	21/2/07	Caterpillars were seen here in 1993, but now no ragwort at the site or nearby
Hokitika River	DOC	NZMS1 S50/51 515 548	20/11/90 13/12/90	21/2/07	Caterpillars were seen here in 1993, but now no ragwort at the site or nearby
Karamea Bluff	DSIR	NZMS1 S18 494 045	15/2/82 10/1/84	20/2/07	Caterpillars seen here from 1988 to 1991 but now no ragwort here
Mitchells	DSIR	NZMS1 S51 878 664	3/2/84	9/1/86	Not checked as previously considered to have failed
Seargeants Hill	DSIR	NZMS260 K29 992 361	24/10/91	20/2/07	Caterpillars were seen here in 1993/94 but none present now
Te Taho	WCRC	NZMS1 S63 051 915	8/11/90 2/10/91	21/2/07	Caterpillars were seen here in 1993 but none present now
Whataroa River	DSIR DOC	NZMS1 S71 047 824	20/12/83 8/10/91	21/2/07	No caterpillars seen here previously and now there is no ragwort here

5.4.2 Ragwort flea beetle (*Longitarsus jacobaeae*)

The ragwort flea beetle damages the roots and crowns of ragwort rosettes. Heavily infested plants die, and plants that are not killed produce fewer flowering stems. The beetles have established extremely well nationwide and are now successfully controlling ragwort in many places, with no other control measures required.

A recent survey (Smith 2003) has confirmed that the flea beetle has established at many sites on the West Coast (Table 9), but the plant has continued to be a problem. An intensive study (Gourlay et al. 2006) has recently explained why the flea beetles are unable to control ragwort on the West Coast. Overseas studies have shown that ragwort populations do best when there is high rainfall and ground disturbance. Both these events are common on the West Coast, and ragwort does indeed grow extremely well there At the same time high rainfall probably has a negative effect on flea beetle populations as beetle density appears to be lower at higher-rainfall sites. The level of beetles per plant was lower at West Coast sites than at some East Coast sites where control has been achieved. Previous work has suggested that you need at least four beetles per rosette in order to get control. On average during the West Coast survey there were never more than three beetles counted. The highest number of beetles recorded on a single rosette was only 10 whereas as many as 50 have been recorded from a single rosette in Auckland. Unlike in other parts of New Zealand the beetle is only able to complete one life cycle a year on the West Coast. So it seems that West Coast conditions allow ragwort to do very well but the same is not true for the beetles. For this reason efforts have been made to release two new ragwort agents, the plume moth and crown-boring moth. Efforts should now be put into establishing these two new agents and no further efforts to increase the distribution of the ragwort flea beetle are warranted.

Table 9 Ragwort flea beetle release sites on the West Coast checked in May 2003

Site name	Organisation responsible	Grid reference/GPS	Date released	Comments
Barrytown	WCRC	E2371346 N5885747	15/3/95	No beetles found but feeding damage seen. Herbicides have been used here
Bradshaws Road	WCRC	E2388945 N5938503	23/3/89	No beetles found but feeding damage seen. Herbicides have been used here and ragwort is now scarce
Charleston	DSIR	E2382083 N5925328	22/5/85	No beetles or feeding damage seen. Sheep are grazing the site
Cook River Flat	DOC	E2256670 N5743842	4/3/91	Beetles present in low numbers
Haast River	DOC	E2221002 N5682600	7/3/95	Beetles present in large numbers
Howard Valley	WCRC	E2482182 N5940632	7/4/88	Beetles present in good numbers
Inangahua	DSIR	E2427840 N5931433	7/4/86	No beetles or feeding damage seen. Ragwort now scarce
Inchbonnie	DSIR	E2384366 N5831130	20/4/83 9/5/84	Beetles present in low numbers. Herbicides have been used here
Kamaka	WCRC	E2378156 N5863573	13/4/94	No beetles or feeding damage seen
Rotomanu	WCRC	E2390999 N5840724	15/3/95	No beetles found but feeding damage seen
Tauranga Bay	Sourced by landowner	E2381961 N5932893	1997?	Beetles present in large numbers
Te Kua	WCRC	E2397321 N5929766	7/4/93	Feeding damage seen and beetles found 800 m beyond release point
Whataroa River	DOC	E2301238 N5762524	5/3/91	No beetles found but feeding damage seen

5.4.3 Ragwort crown-boring moth (*Cochylis atricapitana*)

The ragwort crown-boring moth is a foliage-feeder. The caterpillars are the damaging stage. Their mining thickens young stems and suppresses flowering, and tends to kill older stems and the root crowns of rosette plants. Releases of this agent have been made at a limited number of sites nationwide since autumn 2006, and it is too soon yet to know how well they are establishing or what impact they will be able to have.

A good number of releases of the crown-boring moth have been made on the West Coast already, due to a rearing programme being initiated by the WCRCT (Table 10), and further releases are planned. Sites are being monitored by the WCRCT to check for establishment and to see if any further releases or harvesting and redistribution will be needed.

Table 10 Ragwort crown-boring moth release sites on the West Coast

Site name	Organisation responsible	Grid reference/GPS	Date released	Date checked	Comments
Arahura	WCRCT	?	13/2/07		
Atarau	WCRCT	?	20/1/07		
Barrytown	WCRCT	?	7/1/07		
Bell Hill	WCRCT	?	6/1/07		
Bradshaws Farm	WCRCT	E2389040 N5936750	16/3/06		
Cape Foulwind	WCRCT	E2387450 N5931375	16/3/06		
Coal Creek	WCRCT	E2365078 N5860424, E2365074 N5860500 ?	16/3/06 6/1/07		
Haupiri	WCRCT		6/1/07		
Hobson Creek Farm	WCRCT	NZMS260 H36 538 384	21/4/06		
Hokitika	WCRCT		28/3/07		
Ikamatua	WCRCT		20/1/07		
Inchbonnie	WCRCT	E2385130 N5831485 ?	31/3/06 30/3/07		
Kaniere	WCRCT	?	28/3/07		
Mai Mai Valley	WCRCT	?	20/1/07		
Notown	WCRCT	?	6/1/07		
Reefton	WCRCT	?	23/3/06 6/1/07		
Taramakua	WCRCT	?	7/2/07		
Whataroa	WCRCT	E2297103 N5778187, E2297103 N5778187	16/3/06 4/5/06	5/12/06	No sign, but early days yet

5.4.4 Ragwort plume moth (*Platyptilia isodactyla*)

The ragwort plume moth is a foliage feeder. The caterpillars are the damaging stage and can severely harm the crown and roots of ragwort plants. Attack by as few as 2–3 larvae can kill a plant. If plants are not killed then they produce fewer flowers and seeds. This agent has been released at a limited number of sites nationwide since autumn 2006, and it is too soon yet to know how well the moths are establishing or what impact they will be able to have.

A good number of releases of the plume moth have been made on the West Coast already, due to a rearing programme being initiated by the WCRCT (Table 11), and further releases are planned. A number of sites have been checked but it is still too early to judge establishment success. However, the fact that signs of the moth have been seen at Reefton

after they would have completed several generations and survived a winter suggests that establishment of the moth at this site a least looks likely. All release sites are being monitored by the WCRCT to check for establishment and to see if any further releases or harvesting and redistribution will be needed.

Table 11 Ragwort plume moth release sites on the West Coast

Site name	Organisation responsible	Grid reference/GPS	Date released	Date checked	Comments
Coal Creek	WCRCT	?	22/3/06	20/1/07	No sign, but early days yet
Fox Glacier	WCRCT	?	9/3/06		
Hobson Creek Farm	WCRCT	NZMS260 H36 538 384	21/4/06		
Ikamatua	WCRCT	?	6/4/06 22/3/06		
Inchbonnie	WCRCT	E2384150 N5830950 E23805040 N5831160 ? ?	16/3/06 16/3/06 17/3/06 18/12/06	5/12/06 5/12/06 4/1/06 30/3/07	No sign, but early days yet No sign, but early days yet No sign, but early days yet Signs of the moth seen here apparently
Kumara	WCRCT	?	10/3/06		
Reefton	WCRCT	?	22/3/06 29/3/06	20/1/07	Pupae found here apparently
Westport	WCRCT	?	17/3/06		
Whataroa	WCRCT	NZMS260 I34 955 740 ?	23/3/06 29/3/06		

5.5 St John's wort (*Hypericum perforatum*)

We were asked to look at a patch of St John's wort in the Nine Mile Rd – Victoria Rd area south-east of Westport. Upon inspection we discovered that the plant was not St John's wort but Sumatran fleabane (*Conyza* spp.) There was also a lot of ragwort present in this area. However, St John's wort is increasingly turning up at sites in South Westland (Tom Belton, pers. comm.) and it would be worth surveying the plant to see if the St John's wort beetles (*Chrysolina* spp.) are present. These beetles have helped to successfully control this plant in many other parts of New Zealand.

5.6 Thistles (*Carduus* spp., *Cirsium* spp.)

5.6.1 Californian thistle flea beetle (*Altica carduorum*)

The Californian thistle flea beetle is a foliage feeder. Both adults and larvae feed on the leaves and stems. It was released widely throughout New Zealand in the early 1990s, and after doing well initially at a number of sites appears to have died out. The reasons for the beetle failing to establish are not understood.

The beetle was released by DOC at one site at Karamea, which showed exactly the same trend as mentioned above (Table 12). Given that the beetle has not established in New

Zealand and better agents will be coming on stream soon, no further efforts to try to establish this beetle appear to be warranted.

Table 12 Californian thistle flea beetle release sites on the West Coast

Site name	Organisation responsible	Grid Reference/GPS	Date Released	Date Checked	Comments
Karamea Bridge Farm	DOC	NZMS260 L27 371 938	2/11/94 3/3/95	6/12/07	Good numbers seen in December 1995 but no sign of then now so site can be considered a failure

5.6.2 Californian thistle leaf beetle (*Lema cyanella*)

The Californian thistle leaf beetle is also a foliage feeder. Both adults and larvae feed on the leaves and stems. It was released widely throughout New Zealand in the early 1990s, but is thought to have established only at one site near Auckland. Numbers of beetles at this site have remained low but there were some promising signs this summer that they may be starting to build. The reasons for the poor establishment of the beetle are not understood.

The beetle was released by the WCRC at one site, Burton Rd, which was flooded soon afterwards (Table 13). Given the poor track record of the beetle elsewhere in New Zealand and that better agents will be coming on stream soon, no further efforts efforts to try to establish this beetle appear to be warranted, unless the beetle begins to show more promise at the Auckland site.

Table 13 Californian thistle flea beetle release sites on the West Coast

Site name	Organisation responsible	Grid reference/GPS	Date released	Date checked	Comments
Burton Rd	WCRC	NZMS260 K31 035 887	31/1/92	6/12/07	Site was flooded following release and no beetles have ever been seen here so site can be considered a failure

5.6.3 Nodding thistle crown weevil (*Trichosirocalus horridus*)

The nodding thistle crown weevil damages the crowns and roots of thistle rosettes. Plants that are not killed are stunted with fewer flowering stems, and any lateral regrowth may be attacked. Plants of all sizes are attacked. While nodding thistle (*Carduus nutans*) is believed to be the preferred host, the weevil attacks a number of thistle species: plumeless (*Carduus acanthoides*), winged (*Carduus tenuiflorus*), slender-winged (*Carduus pynocephalus*), Scotch (*Cirsium vulgare*), marsh (*Cirsium palustre*), and cotton (*Onopordum acanthium*) thistles. It was released widely throughout New Zealand in the late 1980s and early 1990s, and establishment has been excellent. The weevil is believed to have contributed to a decline in nodding thistles in many regions.

The weevil was released by the WCRC at one site, Rotomanu, to attack marsh thistle (*Cirsium palustre*) but failed to establish (Table 14). If *Carduus* and *Cirsium* thistles continue to be a problem on the West Coast then it would be worth making further efforts to establish this weevil.

Table 14 Nodding thistle crown weevil release sites on the West Coast

Site name	Organisation responsible	Grid reference/GPS	Date released	Date checked	Comments
Rotomanu	WCRC	NZMS1 S52 024 658	13/4/90	5/12/06	Unable to access release site due to river. Checked Scotch thistles nearby but no sign of the weevil

5.6.4 Nodding thistle receptacle weevil (*Rhinocyllus conicus*)

The nodding thistle receptacle weevil attacks the flowerheads of nodding thistles and a number of other thistle species to a lesser degree (plumeless, winged, slender-winged, Californian, and Scotch thistles). The weevil was released widely throughout New Zealand in the 1970s and 1980s and established well. It is now commonly found on nodding thistle and is believed to have contributed to a decline in nodding thistles in many regions.

It is believed that no official releases of the weevil were made on the West Coast because its preferred host was not a problem there. However, given that other less preferred hosts are present on the West Coast, the dispersal abilities of the weevil and the time that has elapsed, there is a chance that the weevil has subsequently made its own way over there. No signs of the weevil were seen when checking for other thistle agents, but further surveys would be needed to confirm whether the weevil is established there or not. If *Carduus* and *Cirsium* thistles continue to be a problem on the West Coast then it would be worth making further efforts to establish this weevil.

5.6.5 New thistle agents

A fly (*Urophora stylata*) that attacks the flowerheads of Scotch thistle, reducing seed production, is established in New Zealand, as is another fly (*Urophora solstitialis*) that attacks the flowerheads of nodding thistle and plumeless thistle and reduces seed production in these species. A third fly (*Urophora cardui*) that attacks Californian thistle stems is also established in New Zealand. Larval feeding tricks the plant into diverting valuable nutrients (which would normally be used for plant growth and increasing root reserves) into forming galls to feed the developing larvae. None of these flies have been released on the West Coast and are unlikely to have found their own way there yet. Given that the Californian thistle gall fly is limited in its usefulness by stock eating the galls and nodding and plumeless thistles are not major pests on the West Coast, possibly only the Scotch thistle gall fly should be considered for release on the West Coast, if in fact Scotch thistle is considered a serious enough problem to warrant any intervention.

ERMA has just given permission to release two new thistle agents. The Californian thistle stem miner (*Ceratapion onopordi*) feeds on thistle stems and roots and acts as a vector for the Californian thistle rust (*Puccinia punctiformis*). This rust is present in New Zealand but is limited in its ability to disperse and infect Californian thistles. The rust benefits from improved dispersal by the weevil, which in turn does better on rust-infected thistle stems than uninfected ones. The weevil prefers Scotch thistle and Californian thistle (if rust-infected) but is likely to also attack other thistle species to a lesser extent. The green thistle beetle (*Cassida rubiginosa*) is a foliage feeder. It prefers Californian thistle but is likely to attack most species of thistles. It is hoped that releases of both species will be available in 2008. If thistles are considered to be a serious enough problem on the West Coast then efforts to release the Californian thistle stem miner and green thistle beetle should be made.

6. Conclusions

The establishment success of weed biocontrol agents on the West coast is following similar trends to the rest of New Zealand. Of the 14 weed biocontrol agents that have been released during the last 25 years eight have become established, three have failed to establish, and the fate of the remaining three is currently unknown. At least one has also self-introduced (Table 15). While the climatic conditions experienced on the West Coast could make it more difficult to establish some insect agents, it does not appear to have been a major obstacle so far. However, it would appear that there are some places on the West Coast, such as Otira/Aickens and south of Whataroa, that are problematic for establishing control agents, and they should only be released there once populations are well established and plentiful at more benign locations.

Table 15 Status of weed biocontrol agents on the West Coast

Target	Species	Status on West Coast
Broom	Broom psyllid	Established
	Broom seed beetle	Established
	Broom twigminer	Unknown (self-introduced)
Gorse	Gorse pod moth	Established
	Gorse seed weevil	Established
	Gorse soft shoot moth	Established
	Gorse spider mite	Established
	Gorse thrips	Established
Old Man's Beard	Old man's beard leaf fungus	Unknown
	Old man's beard leaf miner	Established (self-introduced)
Ragwort	Cinnabar moth	Established
	Ragwort crown-boring moth	Unknown
	Ragwort flea beetle	Established
	Ragwort plume moth	Unknown
Thistles (*Carduus* spp. and *Cirsium* spp.)	Californian thistle flea beetle	Failed
	Californian thistle leaf beetle	Failed
	Nodding thistle crown weevil	Failed

No project is yet complete. Of the agents which are established, probably only three species (gorse pod moth, gorse spider mite, ragwort flea beetle) are widespread. For each weed target tackled to date there are still control agents which should be considered for release on the West Coast (Table 16). For advice on how to source biocontrol agents that are not available yet on the West Coast please contact the authors. For information about how best to harvest and redistribute biocontrol agents from existing sites see www.landcareresearch.co.nz/research/biocons/weeds/ or contact the authors.

Biological control is a very long term approach and it may take 50 years or longer to see changes in the distribution of long-lived weeds. Experience has shown that not all projects attempted will be successful, but that the successful ones more than pay for the failures (Page & Lacey 2006). There has been a considerable investment to date by a number of organisations on the West Coast to develop biocontrol programmes for weeds but more will be required to complete projects and reap the benefits.

Table 16 Possible new weed biocontrol agents for the West Coast

Target	Agents still to be released or established
Broom	Broom gall mite Broom leaf beetle Broom shoot moth
Gorse	Gorse colonial hard shoot moth
Old man's beard	Old man's beard bark beetle? Old man's beard sawfly?
Thistles	Californian thistle stem miner? Green thistle beetle? Nodding thistle crown weevil? Nodding thistle receptacle weevil? Scotch thistle gall fly?

Biocontrol programmes are continually being developed in New Zealand and some of these new targets are likely to be of interest to the West Coast. The National Biocontrol Collective, which includes all regional councils and unitary authorities (except the West Coast Regional Council) plus the Department of Conservation, funds most current and new biocontrol programmes. Collective decision-making is undertaken annually to decide which weeds to target and how best to progress current projects. There would be no barrier to the West Coast Regional Council joining the National Biocontrol Collective, if it so desired, provided it could contribute some funding. By joining the National Biocontrol Collective the West Coast Regional Council would then be able to participate in decision making about what weeds should be targeted for biocontrol and have access to new agents as soon as they are developed.

7. Recommendations

7.1 Broom

- Harvest and redistribute the broom psyllid to areas where it is not yet present.
- Harvest and redistribute the broom seed beetle to areas where it is not yet present.
- Determine the status of the broom twig miner on the West Coast.
- Release the broom leaf beetle, broom shoot moth, and broom gall mite as soon as they are available.
- Attempting to establish broom agents at Otira should be a low priority. Of the agents available the broom shoot moth is most likely to be able to cope with the conditions at

Otira, and a release should be attempted once the moth is established elsewhere on the West Coast in harvestable numbers.

7.2 Gorse

- Check if the gorse pod moth is present throughout the West Coast and if areas remain free of the moth shift infested pods to them.
- Further checks of Granville Forest should be made in coming years in late November – early December, and if the soft shoot moth becomes abundant it would be worth harvesting some and shifting them to other areas. Given that the moth is now plentiful in Canterbury and Marlborough it may also be worthwhile to harvest some moths from one of these areas this coming spring.
- Harvest gorse thrips from well-established sites and shift them to areas where they are not yet present.
- Release the gorse colonial hard shoot moth as soon as possible.
- Attempting to establish gorse agents at Aickens or South of Whataroa should be a low priority as conditions in these places are more difficult for them.

7.3 Old man's beard

No further action is required unless the current DOC weed-led control project is unsuccessful and the weed continues to be a problem.

7.4 Ragwort

- Ragwort crown-boring moth release sites should be monitored in future years to check for establishment and to see if any futher releases or harvesting and redistribution is needed. Caryl Coates is contracted to do this on behalf of the West Coast Ragwort Control Trust .
- Ragwort plume moth release sites should be monitored in future years to check for establishment and to see if any futher releases or harvesting and redistribution is needed.

7.5 St John's wort

Check the plant in South Westland to see if any biocontrol agents are present.

7.6 Thistles

- If *Carduus* and *Cirsium* thistles continue to be a problem on the West Coast then it would be worth making further efforts to establish the nodding thistle crown weevil, and check the status of the nodding thistle receptacle weevil.
- If Scotch thistle is considered a serious enough nuisance on the West Coast then efforts to release the Scotch thistle gall fly should be made.
- If thistles are considered to be a serious enough nuisance on the West Coast then efforts to release the Californian thistle stem miner and green thistle beetle should be made.

8. Acknowledgements

This project was instigated by Simon Moran of the West Coast Regional Council and funded by the Foundation for Research, Science and Technology through an Envirolink advice grant. Thanks to Caryl Coates for supplying information about the new ragwort control agents. Thanks also to Richard Hill for reviewing this report, to Christine Bezar for editing it, and to Wendy Weller for assistance with formatting.

9. References

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THE WEST COAST REGIONAL COUNCIL

Prepared for: Resources Management Committee Meeting – 13th April 2010
Prepared by: David Harding - Planner
Date: 24th March 2010

Subject: **REGIONAL POLICY STATEMENT REVIEW**

Purpose

To inform Councilors of the review of the Regional Policy Statement (RPS).

The Review

The Resource Management Act requires that the RPS is reviewed after it has been operative for ten years. The RPS was made operative on March 10 2000 and the review has commenced.

Staff have begun reviewing the RPS and will be suggesting changes where appropriate. Discussions will initially be undertaken with the key stakeholders relevant to each chapter.

The following is a summary of the chapters and issues considered so far:

- Chapter 8 (Water): We must consider how the new objectives and policies in the National Policy Statement for Freshwater Management will need to be given effect to in the RPS.

- Chapter 9 (Habitats and Landscapes): The revision of this chapter is linked in part to the outcome of the Wetland Variation.

- Chapter 10 (The Coastal Environment): This is currently being reviewed in combination with the ten year review of the Coastal plan, which must be commenced by 7th February 2011. We are also waiting for the review of the New Zealand Coastal Policy Statement to be completed, as this may need to be incorporated into the RPS. It is anticipated that this report will be released in the next few months.

- Chapter 11 (Natural Hazards): Given that there are overlapping functions with the District Councils the issues raised in this chapter will be work-shopped with them.

- Chapter 14 (Energy): Development West Coast is preparing a report regarding Energy on the West Coast. The report will help with the review of the Energy chapter in the RPS.

- Chapter 15 (Network Utilities and Transport Systems): Currently being reviewed in conjunction with the NPS and NES for Electricity Transmission Activities.

The review is also looking at the new provisions in the RMA and how they need to be given effect to in the RPS, as well as cross-over issues such as the cumulative effects of sewage effluent and stormwater discharges from subdivisions.

RECOMMENDATION

That this report be received.

Simon Moran
Planning and Environmental Manger

THE WEST COAST REGIONAL COUNCIL

Prepared for: Resource Management Committee
Prepared by: Colin Dall - Consents & Compliance Manager
Date: 1 April 2010

Subject: CONSENTS MONTHLY REPORT

CONSENTS

Consents Site Visits from 24 February to 29 March 2010

DATE	ACTIVITY, NAME & LOCATION	PURPOSE
23/02/10	Application pending – Phoenix Gold Ltd, Gold mining, Notown	To investigate the site.
26/02/10	PA10007 - J Cowan, Onsite sewage discharge, Kaiata	To investigate the site and gain a better understanding of the proposed onsite sewage treatment and disposal system.
26/02/10	PA10012 – R & D Birchfield, Onsite sewage discharge, Kaiata	To investigate the site and gain a better understanding of the proposed onsite sewage treatment and disposal system.
1/03/10	RC10018 – Solid Energy New Zealand Ltd, Hydro scheme, Stockton Plateau	To investigate the site to gain a better understanding of the proposal and issues relating to the application.
8/03/10	PA09044, F Tasker, Onsite sewage discharge, Camerons	To investigate the site and gain a better understanding of the proposed onsite sewage treatment and disposal system.
12/03/10	RC10061 - Hardrock Mining & Development Ltd, Gold mining, New River	To investigate the site to gain a better understanding of the proposed gold mining operation.
12/03/10	PA10007 - J Cowan, Onsite sewage discharge, Kaiata	To further investigate the site.
15/03/10	PA10015 - S Reeve, Onsite sewage discharge, Rutherglen	To investigate the site and gain a better understanding of the proposed onsite sewage treatment and disposal system.
16/03/10	RC08145 - Boatmans Energy Ltd, Coal mining operation, Cronadun	To identity appropriate monitoring locations.
17/03/10	Public Enquiry – S Jamieson, Onsite sewage discharge, Kaiata	To investigate the site and gain a better understanding of the proposed onsite sewage treatment and disposal system, and to undertake a percolation test.
19/03/10	RC10009 - S Barrett, T Barrett & L Mathieson, Alluvial gold mining, Italians Creek	To investigate the site to gain a better understanding of the gold mining operation.
23/03/10	RC10055 - Rockies Mining Ltd, Coal mining, Stockton Plateau	To assess the scale of environmental effects of the proposal and to identity affected parties.

25/03/10	RC10027 - Shooting Creek Ltd, Dairy effluent discharge, Ross	To investigate the site to gain a better understanding of the diary effluent discharge.
25/03/10	RC10037 - S & A Staples, Dairy effluent discharge, Kowhitirangi	To investigate the site to gain a better understanding of the diary effluent discharge.

Non-Notified Resource Consents Granted From 24 February to 29 March 2010

CONSENT NO. & HOLDER	PURPOSE OF CONSENT
RC09177 Humphreys Mining Ltd	To excavate a pond in the bed of the Arahura River associated with a surface water take.
	To take and use surface water from the Arahura River for alluvial gold mining activities, Arahura.
RC09183 MBD Contracting Ltd	To disturb the dry bed of the Grey River within the Coastal Marine Area for the purpose of extracting gravel.
RC10009 S Barrett, T Barrett & L Mathieson	To undertake earthworks associated with alluvial gold mining activities, Italians Creek.
	To disturb the bed of Italians Creek and its tributaries associated with their diversion.
	To divert the flow of Italians Creek and its tributaries.
RC10012 Westside Mining Ltd	To undertake earthworks associated with alluvial gold mining activities, Notown.
	To take and use surface water from Rough and Tumble Creek associated with gold mining activities.
	To take and use surface water from Notown Creek associated with gold mining activities.
	To discharge sediment-laden water to land where it may enter water at Notown.
RC10017 Ferguson Brothers Ltd	To disturb the dry bed of the Waiho River for the purpose of extracting gravel.
RC10020 Value Proteins Ltd	To discharge treated rendering effluent to land in circumstances where it may enter water.
	To discharge contaminants (products of coal combustion and odours from rendering) to air.
RC10021 Arthur Gillman	To disturb the bed of the Hokitika River for the purpose of gravel extraction.
	To disturb the bed of the Kokatahi River for the purpose of gravel extraction.
RC10023 T A Arnold Transport Ltd	To disturb the dry bed of Harold Creek for the purpose of extracting gravel.
RC10032 L & M Molloy	To discharge dairy effluent to land and water (La Fontaine Stream) near DS128, Harihari.
RC10033 Westreef Services Ltd	To disturb the dry bed of the Big Totara River at its confluence with Tailings Creek for the purpose of extracting gravel.
	To disturb the dry bed of the Maruia River for the purpose of extracting gravel.
RC10034 Animal Health Board Inc	To authorise the aerial discharge of 1080 (sodium monofluoroacetate) possum control cereal or carrot baits (up

	to maximum rate of 5kg per hectare) containing between 0.08% and 0.15% weight/weight of 1080, to approximately 38,408 hectares of land in the "Mikonui North and South operational area".
RC10036 Solid Energy New Zealand Ltd	To discharge water containing contaminants from drilling operations to land, Granity.
RC10037 SM & AM Staples	To discharge dairy effluent to land and water (an unnamed tributary of the Kokatahi River) near DS240, Kowhitirangi.
RC10038 PM & KE Hunter	To discharge dairy effluent to land and water (unnamed tributary of the Grey River) near DS486, Totara Flat.
RC10041 Department of Conservation	To disturb the bed and banks of the Punakaiki River to erect a pedestrian suspension bridge.
RC10042 Camelback Farm Ltd	To install rock protection on the bed and banks of the Hokitika River.
	To divert water in the Hokitika River.
RC10043 Hydro Developments Ltd	To discharge water containing contaminants (sediment) to land, Granity.
RC10054 Neil Mouat	To disturb the bed of the Punakaiki River on the true right bank approximately 20 metres upstream from the State Highway 6 bridge for the purpose of extracting gravel.
	To disturb the bed of the Punakaiki River on the true left bank approximately 20 metres upstream from the State Highway 6 bridge for the purpose of extracting gravel.
	To disturb the bed of the Punakaiki River approximately 1200 metres upstream from the State Highway 6 bridge for the purpose of extracting gravel.

Changes to Consent Conditions Granted From 24 February to 29 March 2010

CONSENT NO. & HOLDER	**PURPOSE OF CONSENT**
RC89038 & RC09028 Solid Energy New Zealand Ltd Stockton & Millerton Mine Sites	To change consent conditions relating to the sampling within Miller Stream.
RC04070 Department of Conservation Punakaiki	To change consent conditions relating to the monitoring of faecal coliforms in the discharge from its wastewater treatment plant.
RC05078 Tui Trust Mining Ltd Callaghans	To change the mining area.
RC07186 VH Mining Ltd	To change the consent conditions to provide for a discharge to land from the mine settling ponds during periods of heavy rainfall at Granville Forest.
RC08052 Phoenix Mining Ltd Brick Road, Dunganville	To change the mining area.
RC09126 L&M Energy Ltd Grey District	To change the consent conditions regarding rehabilitation associated with seismic surveying.

Limited Notified and Notified Resource Consents Granted From 24 February to 29 March 2010

CONSENT NO. & HOLDER	PURPOSE OF CONSENT
RC09032 T Visser	To undertake earthworks associated with humping and hollowing, Aratika. To discharge sediment from humping and hollowing earthworks to land where it may enter water, Aratika.

Notified Consents Updates

The Consents & Compliance Manager gave evidence on 17 March at the Environment Court hearing for the J Groome appeal against the consents granted by the Council to TrustPower Limited for its proposed Arnold Valley Hydro Power Scheme. The hearing was completed the following day.

Further to the update given at the last Council meeting, the Council received notice from Meridian Energy Limited that it wishes to be a party to the appeal by Solid Energy New Zealand Limited (SENZ) against the granting of the consents to Hydro Development Limited (HDL) for its proposed hydropower scheme on the Stockton Plateau.

The submission period for SENZ's consent applications for its proposed hydropower scheme on the Stockton Plateau closed on 12 March. A total of 26 persons submitted on the consent applications made to both the West Coast Regional Council and the Buller District Council (BDC), and one other person submitted on the application made to the BDC only.

Public Enquiries

50 written public enquiries were responded to during the reporting period. 38 (76%) were answered on the same day, 6 (12%) the following day, 5 (10%) no more than 10 working days later and 1 more than 10 (2%) working days later.

RECOMMENDATION

That the April 2010 report of the Consents Group be received.

Colin Dall
Consents & Compliance Manager

THE WEST COAST REGIONAL COUNCIL 95

Prepared for: Resource Management Committee
Prepared by: Colin Dall – Consents & Compliance Manager and Michael Meehan – Compliance Team Leader
Date: 1 April 2010
Subject: **COMPLIANCE & ENFORCEMENT MONTHLY REPORT**

Site Visits

A total of 85 site visits were undertaken during the reporting period, which consisted of:

Activity	Number of Visits	Fully Compliant (%)
Resource consent monitoring	5	80
Dairy shed inspections	55	85
Complaint response	4	75
Mining compliance & bond release	21	76

Specific Issues

Dairy Effluent Discharges: Inspections continued throughout the Region. Council staff found some instances of non-compliance which have been dealt with in accordance with the Council's Enforcement Policy. Inspections were undertaken in the Lake Brunner Catchment and a field day will be held on 12 April for farmers in this catchment in regard to low application effluent management.

Beach Gravel Extraction – Westroads: Westroads has taken 3,121m^3 of their allowable 6,000 m^3 so far this year.

Pike River Coal Mine (PRCL): An Abatement Notice was issued to PRCL on 5 March 2010 following the discharge of coal fines to Big River.

PRCL completed its investigation of the above environmental incident and identified two main causes:
- An air lock in the discharge pipeline.
- Incorrect tagging of the discharge valve in the PLC (computer) system.

PRCL considers that the discharge of fines that occurred in July 2009 had a different "root cause" to the latest environmental incident.

PRCL commissioned a report from Golder Associates (Golder) to investigate the effects the coal fines release on the aquatic ecology of Big River, and has put in place several corrective and preventative measures following this incident. The Golder report was provided to the Council on 16 March and concluded that:

"The present accidental release of coal fines has not resulted in any significant adverse effects on the aquatic benthic communities in Big River and will not result in any long-term ecological impacts."

Solid Energy (SENZ) Consent and Licence Monitoring:

Ngakawau Coal Handling Facility

SENZ notified the Council of an exceedance of dust limits at the Ngakawau Coal Handling Facility. Further analysis of the samples is being undertaken to ascertain what proportion of the dust is coal fines.

Reefton Operations
Site visits were made to the Island Block mine at Garveys Creek and the rehabilitated Terrace Opencast Mine. There were no significant issues identified during the visits.

Westland District Council (WDC) Sewage Treatment Systems: The remediation of the non-compliant discharge from the Franz Josef oxidation ponds is being decided by the WDC during the preparation of its 2010/2011 Annual Plan.

Complaints/Incidents between 25 February and 30 March 2010

The following 15 complaints/incidents were received during the reporting period:

Activity	Description	Location	Action/Outcome
Rubbish dumping	Old concrete dumped in CMA	Granity	Sign to be erected to discourage further dumping
Nuisance odour	Petrol fumes near the Greymouth Hospital	Greymouth	No nuisance odour detected at the time of the site visit
Dumping in CMA	Spoil from roadworks dumped in CMA	Rapahoe	Investigating with NZTA
Riverworks	Complaint that upstream works are causing erosion downstream	Cronadun	Still under investigation
Drainage	Concern over drainage affecting neighbouring properties	Seddonville	Still under investigation
Dairy farm discharge	Report of creek running "green"	Butlers	Significant non-compliant discharge found –further action being taken
Nuisance odour	Complaint of noxious fumes generated from scrub fire	Greymouth	No action required by WCRC – GDC arrived at resolution with complainant
Gravel extraction	Complaint about the steepness of the gravel at Blaketown Beach	Blaketown	No action required by WCRC
Gravel extraction	Complaint regarding quantity of gravel taken from dry bed	Mohikinui	Compliant
Riverworks	Complaint that Granite Creek is running dirty as a result of illegal Riverworks	Karamea	Still under investigation
Dust management	Dust exceedance at Ngakawau Coal Handling Facility	Ngakawau	Samples away for analysis
Septic tank discharge	Alleged septic tank discharge to Nelson Creek	Nelson Creek	No discharge occurring at the time of the site visit
Riverworks	Gravel extraction in the wet bed of river	Otira	Still under investigation
Riverworks	Complaint that recent consented riverworks may cause erosion	Kaniere	Followed up with contractor who extended works to protect neighbouring property
Rubbish dumping	Person found dumping rubbish at Cobden beach	Cobden	Person required to clean up on site and issued with a formal warning

Formal Enforcement Action

The following abatement notice was issued during the reporting period:

Notice	Activity	Location
Abatement	Discharge of coal fines to water (coal mining)	Big River

MINING

Work Programmes

The Council received the following 3 work programmes during the reporting period, 1 of which was processed within the 20-day target:

Date	Mining Authorisation	Holder	Location
1/3/10	MP50606, RC08138	B F C Group	Kapitea Creek
15/3/10	MP41454, CML37120, RC9605, RC06296	Birchfield Coal Mines Ltd	Giles Creek
16/3/10	MP50322, RC07208	B F C Group	Fox Creek

Both work programmes for the B F C Group consent could not be accepted, as the bond for the consents hadn't been lodged.

Bonds Received

No bonds were received during the reporting period.

Bond Releases

No bonds are recommended for release.

OIL SPILL RESPONSE

No spills occurred during the reporting period that required a response from the Council.

RECOMMENDATION

That the April 2010 report of the Compliance Group be received.

Colin Dall
Consents & Compliance Manager

COUNCIL MEETING

THE WEST COAST REGIONAL COUNCIL

Notice is hereby given that an **ORDINARY MEETING** of the West Coast Regional Council will be held in the Offices of the West Coast Regional Council, 388 Main South Road, Greymouth on **Tuesday, 13 April 2010** commencing on completion of the Resource Management Committee Meeting.

A.R. SCARLETT
CHAIRPERSON

C. INGLE
CHIEF EXECUTIVE OFFICER

AGENDA NUMBERS	PAGE NUMBERS		BUSINESS
1.			**APOLOGIES**
2.			**PUBLIC FORUM**
3.			**MINUTES**
	1 – 4	3.1	Minutes of Council Meeting 9 March 2010
4.			**REPORTS**
	5 - 6	4.1	Planning and Environmental Manager's Report on Engineering Operations
	7 – 10	4.2	Corporate Services Manager's Report
	11 - 24	4.2.1	Eight Month Performance Review
	25 – 30	4.2.2	New Auditing Standard on Auditing Service Performance
	31 - 33	4.2.3	2010 West Coast Regional Council Elections
	34	4.2.4	Adoption of 2010 / 2011 Annual Plan Statement of Proposal for Public Consultation
5.			**CHAIRMAN'S REPORT (VERBAL)**
6.0	35 – 36		**CHIEF EXECUTIVE'S REPORT**
7.			**GENERAL BUSINESS**

THE WEST COAST REGIONAL COUNCIL

MINUTES OF THE MEETING OF THE COUNCIL HELD ON 9 MARCH 2010, AT THE OFFICES OF THE WEST COAST REGIONAL COUNCIL, 388 MAIN SOUTH ROAD, GREYMOUTH, COMMENCING AT 11.19 A.M.

PRESENT:

R. Scarlett (Chairman), P. Ewen, A. Robb, T. Archer, D. Davidson, B. Chinn, A. Birchfield

IN ATTENDANCE:

C. Ingle (Chief Executive Officer), R. Mallinson (Corporate Services Manager), C. Dall (Consents and Compliance Manager), S. Moran (Planning and Environmental Manager), T. Jellyman (Minutes Clerk), The Media

1. APOLOGIES:

There were no apologies.

2. PUBLIC FORUM

There was no presentation.

3. CONFIRMATION OF MINUTES

Moved (Archer / Robb) *that the minutes of the Council Meeting dated 9 February 2010, be confirmed as correct.*

Carried

Matters arising

There were no matters arising.

REPORTS:

4.1 PLANNING AND ENVIRONMENTAL MANAGER'S REPORT ON ENGINEERING OPERATIONS

S. Moran reported that most of the works mentioned in his report are emergency works as a result of weather events that occurred over the Christmas and New Year period. He advised that a substantial amount of work has been carried out in the Whataroa Quarry as contractors were working the quarry for the works undertaken in the Lower Waiho rating district. S. Moran advised that contractors have done a good job of stripping out the quarry and preparing it for future work.
S. Moran reported that work is underway with the upgrade of the Greymouth Floodwall. He advised that panels are now in place at the south end of Fisherman's Wharf and towards the south end of the lagoon. S. Moran advised that he is pleased with the design of the panels both from the inside looking from the road and also looking across from the town side of the lagoon. He stated that the contract is progressing well and regular meetings are being held with the contractors involved.
Cr Davidson asked where is rock being sourced from now that there is no more rock in the Wanganui Quarry. S. Moran responded that there are several sources of floaters around the area some are available now and some may become available over the coming year. He stated that the rating district committee is comfortable with this, there is rock in the Whataroa Quarry also if required. S. Moran advised that a wider meeting would be held regarding the Wanganui Quarry in the near future. Cr Ewen stated that he recently visited the glaciers and stopped off at the south side to look at the river. He expressed his surprise at how low the highway is and the river is on a plateau. S. Moran stated that this is the Canavans Knob area, he advised that there is a considerable amount of work being done by NZTA to extend the middle bank down to Canavans Knob itself which will then retain Canavans Creek rather than the Waiho itself. S. Moran advised there would be a small bund

on the road side which will contain Wombat Creek. S. Moran advised that NZTA are building a gravel stopbank that will be built to the one in one hundred year design, this will be a compacted gravel bank with rock spurs going out and all the way down to Canavans Knob. S. Moran advised that the work carried out by NZTA would trigger a change with the rating districts in this area with it becoming unlikely that there will need to be a rating district in place for Canavans Knob. He stated that the review of the classifications to the Lower Waiho scheme is intermingled with this.

Moved (Davidson / Robb) *that the report be received.*

Carried

5.1 CORPORATE SERVICE MANAGER'S REPORT

R. Mallinson spoke to his report advising that this is the seven month financial report to 31 January. He advised that our investment returns have eased back during January as expected. He advised that expenditure in rating districts has increased due to extra requirements for works over the Christmas / New Year period and because of these works Council quarries are performing well and have generated a surplus for the seven months of the financial year.
R. Mallinson advised that Council needs to set a date for the Budget and Annual Plan Workshop. It was agreed that this workshop would be held on Tuesday 30th of March at 2pm.
Cr Davidson stated that the Government's proposed 2.5% increase in GST could put a burden on ratepayers. He feels that Council has been working hard to keep rates down and government needs to come to the aid of the West Coast as we have such a small rating base. Cr Scarlett advised that the government have said that there will be an offsetting affect for those on low incomes and therefore we should take a wait and see approach.

Moved (Archer / Ewen) *that this report be received.*

Carried

5.1.2 ANIMAL HEALTH BOARD QUARTERLY REPORT

R. Mallinson spoke to this report stating that this is a new report as it was felt that there is a need for AHB to report to Council as a substantial amount of money is gathered from the special rate and from the general ratepayer. Cr Scarlett stated that it is good to see this report, it is a step in the right direction as the Animal Health Board had not previously reported to Council.
C. Ingle asked Councillors if they felt that the level of information contained in the report is pitched at the correct level. He stated that he feels the most important graph in the report is the one that tracks the number of infected herds because so long as the number of infected herds is declining then money has been well spent. Cr Scarlett stated that he is happy with the information contained in the report. R. Mallinson asked Councillors if they wish to receive this report quarterly or half yearly. Cr Robb confirmed that half yearly is suitable because if they are issues that come to the forefront at RHAC meetings then he can report back to Council direct.
Cr Archer asked if it is necessary to apply aerial 1080 to areas that do not have infected herds. Cr Robb responded that these areas are treated as buffer zones in order to keep Tb out especially if there are large numbers of possums in the area. Cr Robb advised that Southland is close to becoming Tb free but possum control work is still being done to maintain the current status. Cr Robb advised that there are areas on the West Coast such as Ross and Harihari which do not have many Tb infected herds but they have had in the past which is why these areas are still included in the programme. Cr Scarlett gave an historic example from the Buller area where in the early 90's possum control was stopped for a period of time and then five years later there was a huge increase in Tb infected herds. He stated that this was a very valuable lesson.
Cr Davidson asked if it is correct that stock movement on the West Coast is not well controlled. Cr Robb responded that this is not correct but there have been cases where false declarations have been made which have then led to prosecutions. Cr Scarlett advised that drivers carting stock could be prosecuted if the correct paperwork has not been completed. He stated that there was a case where the driver was fined approximately $55,000. Cr Robb advised that an infected herd must have a permit to be moved and be cleared by a Veterinarian. If the stock is from a movement control area then the animals need to be Tb tested within 60 days. Cr Robb stated that the farming community monitor stock movement carefully as there is a perception that the cause of spread of Tb is related to stock movement. Cr Robb stated that the biggest risk for the spread of Tb is in the wild animal population.

Moved (Robb / Davidson) *that the Animal Health Board quarterly report to 31 December be received.*

Carried

6.0 CHIEF EXECUTIVES REPORT

C. Ingle spoke to his report. He advised that he attended a number of meetings during the reporting period including the Freshwater Management Forum in Wellington on the 15th of February. C. Ingle reported that speakers from the Green and Labour Party's both saw the National Policy Statements as taking a much more central role in the future. He advised that they see the EPA as not taking over from regional councils but supporting them in the way of giving national guidance in the form of national policy statements. C. Ingle advised that the risk is that we get pigeon holed into the same category as other regions that haven't performed as well over the years. He stated that Ecan is an example of this at the moment. He is concerned that we could get these national standards imposed on our rivers which are not required.

C. Ingle advised that our staff are keeping a careful eye on this and will continue to do so at a national level. C. Ingle advised that he attended the Environmental Chief Executive's Forum. He reported that there was an interesting presentation from Treasury on the funding gap that government has, he stated there is a funding shortfall nationally which is due to the recession.

C. Ingle reported that no substantial progress has been made with the wetlands issue since the last meeting.

C. Ingle reported that he attended the meeting with the Transport Minister when he visited the West Coast.

C. Ingle reported that WCRC and Westland Milk Products have committed to complete the project on voluntary farm plans in the Lake Brunner catchment. He stated this project would tie in with the other changes to the regional plan in the Lake Brunner Catchment. C. Ingle advised Jan Derks would be doing this work. He will provide us with a short report summarising how this project has worked for farmers and where to from here for the future. C. Ingle stated that the farm plans might still have a useful role in helping farmers to achieve the new rules. C. Ingle advised that Landcare Trust is not able to carry on with this project as they do not have any funding. C. Ingle advised that he feels they will be unlikely to secure funding in view of the funding shortfalls at this time. Cr Archer asked what will be the strategic plan to deal with those farm plans that are still not complying with the regional plan rules. C. Ingle advised that they are not yet at this stage but the normal enforcement process for regional plan rules will continue. He added that assistance would be given to those that are not complying, in the first instance, and in view of the fact that there are only 22 farms in the catchment then this should not be a difficult task. Cr Scarlett stated that there might well be some peer pressure on these non-compliant farmers from those who are compliant.

Cr Chinn asked C. Ingle why was he unable to make headway with DoC with regard to the wetlands issue. C. Ingle stated that he would rather discuss this matter "in committee" as this matter is subject to a *sub judice* process. Cr Birchfield stated he is not happy about this matter being moved into committee as he feels we should be letting the people know what is going on. Cr Birchfield would like to know what areas of private land are involved. C. Ingle confirmed that maps presented by DoC in court last year are public information and offered to pass on a copy of this information to Cr Birchfield. C. Ingle advised that the discussions that he has had are about changes to the policy chapter. They are yet to work through the list of properties which will be affected as this would be the hardest stage. Cr Scarlett advised that he has requested a meeting with Hon Kate Wilkinson on this issue but he is yet to receive a response from the Minister. Cr Birchfield would like to see a map made public of these areas. He would like to know why Solid Energy are concerned about this and how much of their coal resource is at stake. C. Ingle confirmed that he is able to supply a copy of the maps to Cr Birchfield as the part of the evidence which is available to the public. Cr Chinn wishes for this matter to be kept in the public part of the meeting, as there is a lot of concern from ratepayers and he wants them to know that this Council is concerned and fighting this on their behalf. C. Ingle spoke of the importance of the information he provides to Council not prejudicing the discussions that are taking place among the parties involved. He advised that the evidence that has already been presented to the court last year, is public information. C. Ingle advised that it is hoped that a consent memorandum will be prepared on the policy changes for the court to sign off and once this is signed off then negotiations are complete and it becomes public information. C. Ingle stated that he doesn't feel that there is anything particularly controversial in the policy changes but the difficulty will be the next stage and managing the process for the land that has actually been identified. Cr Scarlett stated that the final version needs to come back to Council as a draft. C. Ingle advised there are parts of the plan (ecological criteria) that are yet to be resolved by the Ecologists

that may yet go back to court. He advised it is up to Council to go to Government about the parts that they are still not happy about. He is concerned that the court will make a decision that is not what the people of the West Coast want as the Court may have a different view of sustainable development which would be against the advise of the Council and their staff. Cr Scarlett stated that Council is most concerned about people's private property rights whereby their land is taken without any compensation. Cr Archer stated that the dilemma with participating in court initiated mediation is that the mediating parties are asked by the Mediator in the first instance "do you have the delegated authority to settle" and mediation can not be started unless all the parties have the ability to settle. Cr Archer stated this puts the process in an invidious position if our riding instructions to council management say that they cannot settle and the matter needs to come back to Council. Cr Scarlett stated that it is important the Council is kept informed. C. Ingle agreed he would continue to do this.
Cr Davidson asked if the Environmental Protection Agency has been formed yet? C. Ingle confirmed that it has been formed and it is simply a consenting authority at a national level that processes consents of national importance. C. Ingle explained the purpose of the EPA to the meeting.
C. Ingle reported that Local Government New Zealand is now providing a co-ordinated submission on Biosecurity on behalf of all regional councils. C. Ingle advised that he is participating in this.

Moved (Ewen / Birchfield) *that this report be received.*

Carried

7.0 CHAIRMANS REPORT (VERBAL)

The Chairman reported he attended a meeting in Christchurch on the 1st of March regarding the effects of global warming on communities but that it was mainly about planting native marram grass. He hosted the Mayors and Chairs Forum on the 8th of March. He stated that presentations were made by Tai Poutini Polytechnic, Tourism West Coast and the CEO of the West Coast DHB and members of the PHO. Cr Scarlett advised the health sector representatives are not in favour of the petrol tax for health, nor were the members of the forum as it was felt that this is setting a dangerous precedent. It was noted that each citizen costs the government $3000 for health. Cr Scarlett stated that it would be very interesting if they costed out what 31,000 people on the West Coast contribute to GDP in terms mining, dairying and tourism. Cr Scarlett advised that the Civil Defence Emergency Management meeting was incorporated into the Mayors and Chairs Forum. Cr Scarlett advised that Beech Sustainability was discussed at the Mayors and Chairs Forum and it was agreed that P. Pretorius from Grey District Council would work up a paper on this and it will be looked at again at the next forum in June with a view of going to government ministers to progress this. Cr Scarlett feels that this matter is a big ask because of the public perception of cutting down native trees.
Cr Scarlett reported that the three West Coast MP's would be invited to the next forum to discuss coast wide issues.

Moved (Davidson / Birchfield) *that this report be received.*

Carried

GENERAL BUSINESS

There was no general business.

The meeting closed at 12.02 p.m.

.....
Chairman

.....
Date

THE WEST COAST REGIONAL COUNCIL

Prepared for: Council Meeting – 13 April 2010
Prepared by: S. Moran – Planning & Environmental Manager
Date: 23 March 2010

Subject: **PLANNING & ENVIRONMENTAL MANAGER'S MONTHLY REPORT ON ENGINEERING OPERATIONS**

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1. WORKS

a) Kowhitirangi Rating District
This work involving 246 tonnes of heavy rock to top up existing works has been completed at a cost of $5,412.00 (G.S.T. Exclusive), by Henry Adams Contracting Ltd.

b) Kongahu Rating District – Aerial Spraying
This work has been carried out by Anderson Helicopters Ltd at a cost of $3,992.30 (G.S.T. Exclusive)

c) Kongahu Rating District – Blackwater Creek Cleanout – Jones's Property
This minor work has been carried out by Ken Kees Contracting Ltd at a cost of $650.00 (G.S.T. Exclusive)

d) Inchbonnie Rating District – Aerial Spraying
This work has been carried out by Anderson Helicopters Ltd at a cost of $3,165.75 (G.S.T. Exclusive)

2. FUTURE POTENTIAL WORKS

a) Nelson Creek Rating District - Maintenance
b) Karamea Rating District – Maintenance
c) Nelson Creek Rating District – Aerial Spraying
d) Vine Creek Rating District – Aerial Spraying
e) Taramakau Rating District - Aerial spraying

3. Quarry Rock Movements For The Period 1 February 2010 To 28 February 2010

Quarry	Rock In Quarry 01/02/10	Rock Used	Rock Quarried	Rock In Quarry 28/02/10
Blackball	3,936	0	0	3,936
Camelback	0	518	518	0
Inchbonnie	6,020	0	0	6,020
Kiwi	1,138	788	0	350
Miedema	0	0	0	0
Okuru	3,000	0	0	3,000
Taramakau	0	0	0	0
Wanganui	0	0	0	0
Whataroa	3,672	250	0	3,422
Totals	**17,766**	**1,556**	**518**	**16,728**

4. Quarry Work Permitted Since 28 February 2010

Quarry	Contractor	Tonnage Requested	Permit Start	Permit Finish
Camelback	Henry Adams Contracting	200	9 March 2010	12 March 2010

RECOMMENDATION

That this report is received.

Simon Moran
Planning and Environmental Manger

THE WEST COAST REGIONAL COUNCIL

Prepared for: Council Meeting
Prepared by: Robert Mallinson – Corporate Services Manager
Date: 31 March 2010

1. Financial Report

FOR THE EIGHT MONTHS ENDED 28 FEBRUARY 2010	ACTUAL	YEAR TO DATE BUDGET	ACTUAL % ANNUAL BUDGET	ANNUAL BUDGET
REVENUES				
General Rates	1,285,096	1,275,333	67%	1,913,000
Rates Penalties	50,050	50,000	67%	75,000
Investment Income	825,841	516,667	107%	775,000
Regulatory	610,429	664,694	63%	976,191
Planning Processes	55,893	112,900	33%	169,350
Environmental Monitoring	0	0	0%	0
Emergency Management	27,127	33,333	54%	50,000
River, Drainage, Coastal Protection	1,050,562	728,412	96%	1,092,618
Regional % Share Controls	383,157	383,333	67%	575,000
VCS Business Unit	1,625,752	2,491,867	43%	3,737,800
	5,913,907	6,256,539	63%	9,363,959
EXPENDITURE				
Representation	238,301	256,002	62%	384,003
Regulatory Activities	1,135,006	1,137,674	67%	1,686,568
Planning Processes	379,594	393,303	64%	589,954
Environmental Monitoring	425,026	491,442	58%	737,163
Emergency Management	73,390	87,741	56%	131,612
River, Drainage, Coastal Protection	1,516,503	3,435,623	29%	5,153,434
Regional % Share Controls	562,420	503,241	75%	754,862
VCS Business Unit	811,872	2,216,957	24%	3,325,436
Portfolio Management	43,292	0	0%	0
	5,185,404	8,521,983	41%	12,763,032
SURPLUS / (DEFICIT)	728,503	-2,265,444		-3,399,073

BREAKDOWN OF SURPLUS (-DEFICIT)	Variance Actual V Budgeted YTD	ACTUAL	BUDGET Year to date	ANNUAL BUDGET
Rating Districts	2,028,733	-501,376	-2,530,109	-3,795,164
Quarries	129,956	119,712	-10,244	-15,366
Regional % Share of AHB Programmes	-59,355	-179,263	-119,908	-179,862
Investment Income	265,882	782,549	516,667	775,000
VCS Business Unit	538,971	813,880	274,909	412,364
General Rates Funded Activities	89,759	-306,999	-396,758	-596,045
TOTAL	2,993,947	728,503	-2,265,444	-3,399,073

Net Contributors to General Rates Funded Surplus (-Deficit)	Net Variance Actual V YTD	Actual	Budet ytd	Annual Plan
Rates	9,763	1,285,096	1,275,333	1,913,000
Rates Penalties	50	50,050	50,000	75,000
Representation	17,701	-238,301	-256,002	-384,003
Regulatory Activities	-51,597	-524,577	-472,980	-710,377
Planning Activities	-43,298	-323,701	-280,403	-420,604
River, Drainage, Coastal Protection (excl.	82,580	-84,277	-166,857	-250,286
Environmental Monitoring	66,416	-425,026	-491,442	-737,163
Emergency Management	8,145	-46,263	-54,408	-81,612
	89,759	-306,999	-396,758	-596,045

STATEMENT OF FINANCIAL POSITION @ 28 FEBRUARY 2010

	@ 28/2/010	@ 30/06/2009
CURRENT ASSETS		
Cash	-52,602	140,632
Short term Deposit - Westpac	964,118	1,303,942
Accounts Receivable - Rates	273,364	283,982
Accounts Receivable - General Debtors	391,279	728,118
Prepayments	125,785	103,062
Sundry Receivables	262,868	151,989
Stock - explosives	0	0
Stock - VCS	137,672	26,198
Stock - Rock	54,366	49,603
Stock - Office Supplies	14,624	14,625
Accrued Rates Revenue	561,936	0
Unbilled Revenue	134,122	227,560
	2,867,532	3,029,711
Non Current Assets		
Investments	10,534,303	10,513,944
Fixed Assets	4,129,528	3,780,746
Infrastructural Assets	39,403,646	39,403,646
	54,067,477	53,698,336
TOTAL ASSETS	56,935,009	56,728,047
CURRENT LIABILITIES		
Bank OD		0
Accounts Payable	432,520	1,131,601
GST	-78,950	83,965
Deposits and Bonds	448,187	403,400
Sundry Payables	181,295	537,318
Accrued Annual Leave, Payroll	217,807	241,840
Other Revenue in Advance	15,000	15,000
Rates Revenue in Advance	534,706	0
	1,750,565	2,413,124
NON CURRENT LIABILITIES		
Future Quarry restoration	85,800	85,800
Punakaiki Loan	260,120	283,436
Lower Waiho Loan	19,964	45,294
Office Equipment Leases	101,829	103,878
	467,713	518,408
TOTAL LIABILITIES	2,218,278	2,931,532
EQUITY		
Ratepayers Equity	20,472,883 }	20,472,883
Prior Year Adjustment	-51,287 }	
Surplus Tsfrd.	728,503 }	
Rating District Equity Mvmts	683,956 }	
Rating Districts Equity	1,723,911	2,407,867
Tb Special Rate Balance	-36,374	-36,374
Revaluation	22,957,725	22,714,725
Quarry Account	152,414	152,414
Investment Growth Reserve	8,085,000	8,085,000
TOTAL EQUITY	54,716,731	53,796,515
LIABILITIES & EQUITY	56,935,009	56,728,047

2.Investment Portfolio

PORTFOLIO @ 28 February 2010 Summary & Reconciliation	Cash	Bonds	Australasian Equities	International Equities	Property Equities	Alternative Asset Classes	Total	
Portfolio Value @ Start 01.07.09	2707972	3898343	1128754	1243964	583366	930570	10492968	
Net Contributions	-550826	-1153000	704533	750663	-118341	-433028	-800000	
Realised Gains/(Losses)	-30432	6066	-2264	50109	-1674	121007	142812	810359
adj.							0	
Unrealised Gains/(Losses)	28096	17493	195477	113273	57231	-58501	353069	
Mgmt Fee				-199			-199	
Income	94585	160241	47283	11946	21826	36366	372246	
Accrued Interest	8403	3313					11717	
Current Hedges @ 28.02.10			-13516	-30212	-1203	-24354	-69285	
							0	
Portfolio Value @ End Period 28.02.10	2257797	2932456	2060267	2139544	541205	572059	10503328	
Portfolio performance year to date	**3.85%**	**5.70%**	**14.93%**	**11.80%**	**13.03%**	**10.92%**	**8.40%**	

Asset Allocation %'s @ 28 February 2010		Benchmarks	Tactical asset allocation range
Cash	21%	25%	10% - 50%
Bonds	28%	25%	10% - 50%
Australasian Equities	20%	15%	0% - 20%
International Equities	20%	15%	0% - 20%
Property Equities	5%	5%	0% - 10%
Alternative Asset Classes	5%	15%	0% - 20%
	100%	100%	

$800,000 of Greymouth Floodwall rating District funds has been withdrawn from the Investment portfolio during year as part of the funding of the upgrade.

The $400,000 programmed to be withdrawn from the portfolio during 2009/10 (as per the LTCCP) has not been necessary due to better than expected VCS profits.

3. General Comment

Total operating expenditure for the eight month period to 28 February was $5.185 million.
Total operating revenues for the same period amounted to $5.913 million.

The operating surplus for the period amounted to $728,000.
This will change during March – June 2010 as the full costs of the Greymouth floodwalls upgrade accrue. The upgrade costs are operating expenditure, not capital expenditure for WCRC, as WCRC does not own the asset.

The Investment portfolio has shown a return of $810,000 or 8.40% for the eight months to 28 February 2010.

River, drainage, Coastal Protection expenditure for the eight months to 28 February amounted to $1.513 million. This included the following contract expenditure.

Rating District	**Amount**
Franz Josef	$23,486
Greymouth Floodwalls **	$363,500
Inchbonnie	$271,700
Kongahu	$5,640
Kowhitirangi	$16,956
Lower Waiho	$81,180
Matainui	$3,115
Raft Creek	$13,365
Redjacks	$8,340
Taramakau	$49,437
Vine Creek	$23,501
Waitangi-taona	$70,654
Wanganui	$198,125
Hokitika-Southside	$16,281
Total	**$1,145,280**

** includes first progress payment $148,027. Total contract sum $2,768,000

Due to the demand for rock the Quarries are trading well with a surplus of $119,000 for the eight month period.

In the general rate funded area, there were net positive budget variances amounting to $89,000 for the eight month period, despite cost pressures resulting from the wetlands variation Environment Court hearing and accumulated prosecution costs.

RECOMMENDATION

That this report be received.

Robert Mallinson
Corporate Services Manager

THE WEST COAST REGIONAL COUNCIL

Prepared for: Council Meeting – 13 April 2010
Prepared by: Robert Mallinson – Corporate Services Manager
Date: 19 March 2010

Subject: **EIGHT MONTH REVIEW - 1 JULY 2009 – 28 FEBRUARY 2010**

Attached is the Eight Month Review of the 2009 /2010 Long Term Council Community Plan.

This report shows Achievements/Progress measured against the performance targets.

RECOMMENDATION

That this report be received.

Robert Mallinson
Corporate Services Manager

Governance (Corporate Services Manager)

Performance Measure	Performance Targets	Achieved / Progress
Number of public meetings held and individual Councillor attendance	Conduct eleven monthly meetings of Council and the Resource Management Committee, plus other scheduled meetings and scheduled workshops during the year with 80% attendance by all Councillors.	Councillor — Number attended — % Scarlett — 8 out of 8 — 100% Ewen — 8 out of 8 — 100% Davidson — 8 out of 8 — 100% Chinn — 8 out of 8 — 100% Robb — 8 out of 8 — 100% Birchfield — 8 out of 8 — 100% Archer — 8 out of 8 — 100%
Compliance with statutory timeframes	Prepare and notify the Council's Annual Plan by 31 May each year in accordance with the procedures outlined in the Local Government Act 2002.	In progress. The Draft Annual Plan will be adopted for public consultation on 13 April 2010.
Compliance with statutory timeframes	Prepare and notify the Council's Annual Report by 31 October each year in accordance with the procedures outlined in the Local Government Act 2002.	Achieved. The audited 2009 Annual Report was adopted by Council on 13 October 2009.
Timing and number of newsletters	Publish an informative Council newsletter twice a year to be circulated to all ratepayers, with their rate demand, in March and September.	Achieved. Newsletters were issued in September 2009 and March 2010.
Website is kept up to date	Maintain the Council website up-to-date at all times, as the Council's primary information transfer point and an information resource for the community.	Achieved.
Attendance of Iwi appointees at Resource Management Committee meetings	Continue to invite attendance of Makaawhio and Ngati Waewae representatives as appointees to the Council's resource management committee, to enable Maori participation in resource management decision-making.	Achieved.

Resource Consent Processing (Consents and Compliance Manager)

Performance Measure	Performance Targets	Achieved / Progress
Percentage of total consents processed within statutory timeframes	Process at least 95% of non-notified resource consent applications within the statutory timeframes	Achieved. 98.2% (213/217) of non-notified consents were processed within timeframes.
Number of section 92 additional information requests per year	Work with consent applicants to seek to reduce the need for formal requests for further information under Section 92 of the RMA	Achieved. 11 Section 92 requests were made in relation to the consent applications that were being processed in the reporting period.
Timing of report preparation for notified consents	Complete staff reports for all notified consent applications within 10 working days of receipt of all required information	Achieved. Four consents were notified during the reporting period, none of which required a hearing. All staff reports prepared within 10 working days of all the required information being reviewed.
Timing of responses to enquiries	Respond to enquiries on resource consent processes and requirements within 10 working days	Achieved except for 1 enquiry. A new system for recording written enquiries was implemented on 1 September. 185 written enquiries were received from 1 September to 28 February. 120 (64.9%) were responded to on the same day, 41 (22.1%) the following day, 23 (12.4%) between 2 to 10 days and 1 (0.5%) greater than 10 days.

Compliance Monitoring (Consents and Compliance Manager)

Performance Measure	Performance Targets	Achieved / Progress
Percentage of mining work programmes processed within a set timeframe (over 90% achieved in the 2007/2008 year)	Process at least 95% of mining work programmes[1] within 20 working days of receipt.	Achieved. 36 of the 38 work programmes were processed within 20 days. The remaining work programmes required the lodgement of a bond or variation to the resource consent, so therefore could not be accepted within 20 days.
Percentage of bond releases processed within a set timeframe (100% achieved in the 2007/2008 year).	Release 100% of bonds within four months of the surrender, forfeiture or expiry of the corresponding mining licence or permit, provided that rehabilitation requirements have been met	Achieved. 5 bonds were released in the reporting period, all within the four month target.
Meeting 2011 deadline set for bond reviews.	Review bond levels for all large-scale mines[2] by 2011 and set new bond levels to better reflect the environmental effects/risks of those mines.	In progress. The reviews of the bonds for Solid Energy's mine sites commenced, but had not been completed by the end of the reporting period. The bond review for Oceana Gold's Globe Progress Mine was completed and resulted in an increase in the bond.
Number (proportion) of mine site inspections (over 200 mine site visits occurred in the 07/08 year)	Inspect every consent and/or mining licence for operating mining activities at least once annually, and where problems are identified follow up to ensure compliance is achieved and/or environmental effects are reduced.	In progress. 73 mine inspections were undertaken during the reporting period.
Number (proportion) of site inspections	Inspect all new consents that involve major[3] construction works after completion of those works, and follow up to ensure compliance is achieved.	Achieved. The Arahura Bridge was completed during the reporting period. It was inspected during its construction.
Number (proportion) of site inspections	Inspect all consents for whitebait stands at least once every two years to check consent compliance and ensure that any environmental effects are no more than minor.	Not achieved. Whitebait stands were not inspected in some rivers because there were no significant issues regarding whitebait stands in those rivers that warranted inspection.

[1] This target assumes the work programme is submitted with all necessary information provided.
[2] Large Scale in this case means with a current bond exceeding $100,000.
[3] Major, in this situation, means the project costs more than approx. $200.000.

Performance Measure	Performance Targets	Achieved / Progress
Number (proportion) of site inspections (over 150 dairy shed visits occurred in the 07/08 year out of a total of approximately 400)	Inspect every dairy shed effluent discharge at least once every three years, depending on compliance, and work with farmers so that consent compliance is achieved and environmental effects are managed.	In progress. 267 dairy shed inspections were undertaken during the reporting period, this includes re-inspections where previous non compliance was found.
Regularity and number of site inspections	Assess farm compliance in the Lake Brunner catchment annually, in recognition of the need for stricter environmental management in this sensitive lake catchment, and follow up to ensure compliance is achieved.	Achieved. Inspections were undertaken in the catchment, and a field day on effluent management is to be held in April 2010.
Number of complaints reported to Council (154 incident complaints were received in the 2007/2008 year)	Operate a 24-hour complaints service, responding to all complaints and report all complaints to the monthly Resource Management Committee.	Achieved. 157 complaints were received and responded to during the reporting period.
Number of notices issued (31 abatement notices and 13 infringement notices were issued in the 2007/2008 year)	Respond to breaches of the RMA, regional plan rules or resource consents by taking enforcement action through abatement notices, infringement notices or recommend prosecution in accordance with Council Enforcement Policy.	Achieved. 18 abatement and 24 infringement notices were issued during the reporting period.

Hazardous Substance Spill Response (Consents and Compliance Manager)

Performance Measure	Performance Targets	Achieved / Progress
Number of trained staff	Maintain a team of at least 25 Maritime NZ trained personnel at all times to deal with marine oil spills and terrestrial hazardous substance spills (There were 26 trained staff in 2008).	Achieved. Currently there are 27 trained personnel, and 2 Regional On Scene Commanders.
Timing of responses	Respond within 4 hours to all terrestrial hazardous substance spills, and where necessary use Council or MNZ spill equipment to manage containment and clean up to minimise adverse environmental impacts.	Achieved. The most significant spill during the reporting period was the 4,000 litre spill of CCA at IPL.
Regularity of spill equipment maintenance	Ensure response equipment is maintained quarterly to a level ready to respond to a Tier 2 marine oil spill response.	Achieved. The equipment was inspected 2 times during the reporting period.
Timing of Plan reviews	Contribute to four yearly reviews of the Tier 2 Marine Oil Spill Response Plan within statutory timeframes in 2009/10, and 2014/15, or as agreed with MNZ.	Achieved. The Tier 2 Plan is current.
Timing of Plan reviews	Review the Contingency and Procedure Plan for terrestrial hazardous substance spill responses in 2009/10 and 2014/15.	Not yet achieved. Review yet to be commenced.

Planning Processes (Planning and Environmental Manager)

Performance Measure	Performance Targets	Achieved / Progress
Timing of consultation commencing and notification of Variation	Commence landowner consultation on a second Variation to the Land & Riverbed Management Plan relating to Significant Wetlands and notify the Variation by December 2009.	Achieved. Variation 2 was notified in June 2009.
	Commence consultation on the Variation merging of the Land and Riverbed, Water, and Discharge to Land Plans by December 2009 and notify by December 2010.	In progress - Consultation on the proposed Lake Brunner changes commenced in July 2009. Several meetings have been held with stakeholders in the catchment regarding the proposed changes. Consultation was undertaken with the District Councils in Nov/Dec 2009 on possible changes to the permitted sewage effluent discharge to land rule.
Timing of commencing review	Commence a full review of the Regional Policy Statement by February 2010	In progress - Review of Energy, Natural Hazards, and Coastal Chapters has commenced. Assessment begun of what new provisions need to be added to give effect to new NPS, NES, and RMA requirements for electricity transmission and infrastructure.
Release of best practice information	Prepare and disseminate information for resource users on rules, and best practice, as detailed in the annual communications programme.	Achieved. Two coastal hazard information pamphlets have been prepared.
Number of submissions made to other agencies	Investigate and respond where appropriate to central government policies or plans that may impact on West Coast interests, within required timeframes, and provide ongoing policy advice to Council as and when needed.	Achieved. Responded to the Review of Air Quality National Environmental Standard. Attended the Board of Inquiry on the National Policy Statement on Freshwater Management. Assessed the National Policy Statement on Electricity Transmission. Reported back on the Summary of the Select Committee's Report on the Resource Management (Simplifying and Streamlining) Amendment Bill 2009. Policy advice provided on the proposed plan merge of the Discharge to Land, Land and Riverbed Management, and Water Management Plans and also Variation 2.

Regional Transport Planning (Planning and Environmental Manager)

Performance Measure	Performance Targets	Achieved / Progress
Number of public meetings held	Facilitate at least two public Regional Transport Committee meetings per year and arrange working group meetings as requested by the Committee.	In progress. The Regional Transport Committee met on 17 November 2009. There will be one further meeting of the Committee before June 2010. The RTAG met on 28 August.
Timing of Strategy review (the current RLTS was approved in 2006).	Complete a review of the RLTS within the timeframe set under Transport legislation, to a standard acceptable to the Regional Transport Committee	In progress. The review of the RLTS has commenced in line with timeframes set within the legislation. The RTC has extended the review timeline by 3 months. Expected completion time is now October 2010.
Number of road safety meetings hosted and description of projects delivered	Participate, with the three district councils, NZ Police, and others in the West Coast Road Safety Co-ordinating Committee.	Achieved. The Road Safety Committee met on 27 August for the Annual General Meeting. Normal meetings have been held on the 27th August, 2nd December, and 31 March. The Council funds 'Bikewise' activities which have included the development of the "Homelink' road safety workbook for schools, and involvement in the Mayoral Cycle Challenge in Greymouth. Further promotion of the safe cycling message (helmets & visibility) is programmed for April/May.
User satisfaction (100% of users rated the overall service as good, very good or excellent in the 2007/2008 year).	Implement the total mobility programme where taxi services exist, ensuring at least 90% of users rate the overall service and value for money as good, very good or excellent	Not yet achieved. User satisfaction is assessed at the end of the financial year.

Emergency Management (Planning and Environmental Manager)

Performance Measure	Performance Targets	Achieved / Progress
Timing of Plan review (current plan commenced in 2005)	Review the current CDEM Plan by April 2010, including input from the district councils and other agencies.	In progress - The review of the CDEM Plan has commenced in line with legislated requirements. Consultation is scheduled for March 2010 with the Plan ready for adoption by the CDEM Group in June 2010.
Number of public information activities	Prepare and organise the distribution of public information linked to the development and release of the national public information programme.	Achieved. The main public education initiative has been Exercise Shakeout, run in conjunction with Exercise Ru Whenua in September 2009. This was not linked to the national programme.
Headquarters is properly equipped	Maintain a ready-to-operate headquarters in preparation for potential emergencies, in accordance with the Group Plan and Group Controllers Guide.	Achieved. The Emergency Operations Centre continues to remain ready for activation as required. Exercise Ru Whenua tested the arrangements for responding to events.
Number of trained staff (currently over 30 staff are properly trained)	Train at least 30 Council staff as EOC personnel so that we have three shifts of EOC staff trained and exercised in case of a regional emergency.	Achieved. Exercise Ru Whenua assisted with further training staff in the roles required to respond in an event. 35 staff participated in the exercise (includes 3 AHB seconded staff).

Environmental Monitoring (Planning and Environmental Manager)

Performance Measure	Performance Targets	Achieved / Progress
Completion of sampling and timing of publishing reports (the current surface water quality report was published in 2008)	Complete all regular water sampling programmes and prepare State of the Environment reports for surface water quality by June 2011, June 2014 and June 2017; plus an annual Lake Brunner summary report every December, for Council's web site.	Achieved. State of the Environment (SOE) water quality monitoring is up to date with the winter, spring and summer rounds completed. The autumn round will be undertaken before July. The Contact Recreation water quality monitoring programme has been reviewed and revised in accordance with the Ministry for the Environment microbiological water quality guidelines for marine and freshwater recreational areas 2003. Sampling for the five month season will be completed in March. The Contact Recreation exceedance protocols were also updated in December 2009. Lake Brunner SoE monitoring was reviewed and monitoring of the central lake site was increased to monthly sampling. Lakes Haupiri and Kaniere are now being sampled annually in autumn and this will be undertaken in April. The West Coast Lake water quality survey was completed. The report will be completed by July 2010. Investigations of Totara Lagoon and the Arahura Mussel Beds were undertaken. The Totara Lagoon results were presented to Council in December 2009 and the Arahura Mussel Beds report will be is likely to be presented by July 2010.
Timing of publishing reports (The latest groundwater report was published in 2005).	Complete all regular water sampling programmes and prepare reports on groundwater quality and quantity in 2009, 2012, 2015, and 2018 for Council's web site.	Achieved. The Groundwater Report was presented to Council in June 2009. All 2009 / 2010 sampling has been completed.
Regular reporting to Council	Report monthly summer contact recreation results to Council, and to media, and complete any follow-up investigations required by Council as they arise.	Achieved. The Contact Recreation sampling programme has been completed. Council asked for follow up reports on the Orowaiti Lagoon and Seven Mile Creek sites which will be presented at the April Council meeting.
Regular reporting to Council	Continue wintertime ambient air quality monitoring in Reefton and provide monthly summary reports to Council during winter months.	Achieved. There were 17 exceedences over the 2009 winter monitoring period and results were reported to Council meeting in July, August and September.

Performance Measure	Performance Targets	Achieved / Progress
Number of funding applications	Maintain the 'Sites Associated with Hazardous Substances' (SAHS) database, ensure District Councils and land buyers have access to up to date information and assist landowners to securing external funding to investigate or remediate high priority SAHS sites, where landowners are interested and funding is available.	Achieved. The database is maintained with all SAHS classifications updated according to the newly reviewed WCRC Contaminated Land Strategy. Funding from the Contaminated Sites Remediation Fund was obtained to assist with the investigation of the Totara Lagoon in relation to potential historic PCP contamination.
Availability of information about high flow events and the staff response to those.	Provide a continuous flood monitoring service for the five rivers monitored and respond in accordance with the flood-warning manual and ensure real time data on river levels is available on the Council website and Info line (data is updated 12 hourly, and during floods 3 hourly at least).	Not achieved. Karamea River: A sensor malfunctioned in December. A ground and helicopter check was done to assess the situation. An alarm malfunctioned in January. Alarm settings were reconfigured and tested. Haast River: The Mt Deelaw repeater was down in December. The repeater was fixed in January. An Investigation is underway on how to interrogate Hydrotel so we can monitor communication interruptions.
Timing of flood manual review	Review the flood-warning manual annually and liaise with work groups as required.	Achieved. Work groups have been liaised with and contacts updated. Technical section has been completely revised, some sections removed and new sections added. This task was completed in February.

Quarry Administration (Planning and Environmental Manager)

Performance Measure	Performance Targets	Achieved / Progress
Delivery of each plan's action points, and timing of plan review	Oversee implementation of the quarry management plans, and review those plans by 2011.	Achieved. Action points are being completed as demand for rock allows.
Number of site inspections to monitor contractor health and safety performance	Monitor and review quarry contracts and permits and visit sites to ensure Health and Safety and other legal requirements are met.	In progress. Health and Safety plans updated annually and completed. Three site visits have been undertaken.
Timing of acting upon requests.	Obtain rock from quarries to facilitate river protection works within two weeks of any request, and at a cost in line with the relative operating cost of each quarry without subsidy from general rates.	Achieved. Stockpiles are maintained in most quarries to meet this target.

Rating District Administration (Planning and Environmental Manager)

Performance Measure	Performance Targets	Achieved / Progress
Meeting timeframes for plan review	Review Rating District Asset Management Plans in 2009/10, 2012/13, and 2015/16 – or earlier where information indicates a significant change from what is stated in the asset management plan or where communities support an early review of the service levels of existing infrastructure.	In progress. Asset Management Plans to be completed by June 2010.
Completion of rating district works and annual meetings, and proportion of schemes performing to their agreed service level.	Organise and oversee maintenance of all rating district infrastructural assets to the service level consistent with the Asset Management Plan of each Rating District, or whatever level the community and the Council decide on as an acceptable risk.	In progress. Inspections carried out, discussed with the rating districts, including works to be carried out. Some works yet to be completed. All rating districts are maintained in line with the service levels stated in the LTCCP.
Completion of rating district works and annual meeting, and meeting the floodwall upgrade timeframe	Participate in the Greymouth Floodwall Committee, undertake annual maintenance works, and complete the upgrade of the floodwall by December 2010.	In progress. Meeting completed in October 2009. Design completed November 2009 and tenders called for. Upgrade began January 2010, due for completion May 2010.
Number of loans secured and promptness of loan money availability	Assist with organising and securing infrastructure loans for major capital works as and when required.	Achieved. Loan arrangements secured for Inchbonnie and Greymouth Rating Districts.
Number of advice items provided compared to number of requests for advice	Provide civil engineering advice on Council's behalf for consent applications and compliance matters within statutory timeframes.	Achieved. Advice has been sought for four applications since recording began in December 2009.

Vector Control Business Unit (Vector Control Business Unit Manager)

Performance Measure	Performance Targets	Achieved / Progress
Achievement of budgeted financial return	Tender for, and win, sufficient contracts to provide or exceed the annual budgeted return to Council.	Achieved. On track to meet this target.
Number of blocks passed or failed	Meet the performance objectives and contractual obligations set by the Animal Health Board for ground and aerial pest control contracts.	Achieved. 16 out of 17 blocks passed, one re-monitor on one block.
Number of recorded complaints and responses to assist the review of the Strategy	Keep sufficient pest plant work records to assist the review of the Pest Plant Management Strategy.	Achieved. One complaint received and actioned.
Availability of trained staff	Have staff available as a response unit for marine and terrestrial pollution spill events as per the MOU between the Council's Compliance section, Maritime New Zealand and Vector Control Services dated 11 November 2005.	Achieved. Eight staff trained to meet this target.
Compliance with Tier 2 oil spill response plan requirements	Maintain oil spill response equipment to the level required in the West Coast Tier 2 Oil Spill Response Plan.	Achieved. Quarterly inspections and maintenance programme carried out.
Number of new business areas	Develop new business areas as appropriate, complementary to existing roles.	Achieved. Continuing to Develop a relationship with Land care Research to provide research assistance. Providing monitoring services to DOC

THE WEST COAST REGIONAL COUNCIL

Prepared for:	Council Meeting
Prepared by:	Robert Mallinson – Corporate Services Manager
Date:	23 March 2010
Subject:	**NEW AUDITING STANDARD ON AUDITING SERVICE PERFORMANCE**

Our Audit Director John Mackey wishes to discuss with Councillors the implications of the new Auditing standard AG-4 issued by the Auditor General.

I attach notes that John Mackey has asked to be circulated to Councillors, which he will be speaking to.

RECOMMENDATION

That Audit Director John Mackey from Audit New Zealand be granted speaking rights so that he may speak to these discussion notes.

Robert Mallinson
Corporate Services Manager

West Coast Regional Council, Council Meeting- 13 April 2010

This discussion paper sets out information on changes to Audit Standards that will be applied to the audit of West Coast Regional Council's Statement of Service Performance this year.

The Auditor-General's Christmas letter

The AG's standard on auditing service performance reports is called AG-4. The standard sets out the AG's expectations on the approach to auditing service performance. Auditors who perform audits on behalf of the Auditor-General have to comply with the standard.

Over the last couple of years AG-4 was reviewed and the *revised* AG-4 adopted in June 2009. The revised AG-4 applies to local government audits for the 2009/10 audit.

Why has AG-4 been revised and reissued?

Increasing the emphasis on the audit of service performance was a key area of focus of the previous AG, Kevin Brady. Lyn Provost is also of the view that improvements in public sector service performance reporting remains a key area of focus for the Office.

How does AG-4 revised impact on the Council?

The change is subtle but very important.

Under AG-4, we form an opinion on whether: Council has reported accurately against the forecast performance measures as set out in the LTCCP. We were ***not*** required to express a view on whether the SSP fairly reflected the performance of the entity.

We would only qualify if the service performance framework was "fundamentally misleading or senseless".

Under the *revised* AG-4, we form an opinion on whether:

- **Council has fairly reflected its actual performance for the year,** ie ***not*** just reports against forecasted service performance. Or to put it another way, we form an opinion on whether Council has fairly reflected its service performance for the year *including* reporting against its forecasted service performance in the LTCCP.

  We have to be able to verify the results.

- **Service performance is based on an appropriate performance framework.** An appropriate performance framework means a framework which links outcomes–impacts–outputs and has performance measures, standards/targets that are reliable, relevant, understandable and comparable.

Entities risk qualification if:

- What it reports ***does not*** fairly reflect its performance for the year.
- The performance framework is inappropriate.

Haven't we already audited the Council's performance framework when we audited the 2009–19 LTCCP?

The short answer is yes we have. The LTCCP opinion states "*in our view the forecast information and performance measures within the LTCCP provide an appropriate framework for the meaningful assessment of the actual levels of service provision*".

However during the audit we will:

- Reconfirm the appropriateness of the performance framework, taking into account any changes in activity since the time of the LTCCP audit. This will involve updating our understanding of the Council's business (new activities if any), risks and issues. Where significant these should be reflected in the performance framework regardless of whether they were in the LTCCP.

- Ensure the Council tells a compelling story of its achievements and performance for the year.
- Form a view on the reliability/accuracy of reporting, we will review and test systems and controls for capturing information – are the non-financial systems for collecting information as good as the financial ones?
- Ensure the Council reports against its forecast LTCCP performance measures.
- Check for compliance with the requirements and disclosures set out in Schedule 10 of LGA.

We will be reviewing the management control environment, systems and updating our knowledge of the business during the interim audits. Our findings will be reported to the Council.

What can the Council do to prepare for the audit?

- Review the appropriateness of the performance framework.
- Report well on service performance (ie not just against forecast service performance).
- Review systems and controls for capturing information for reporting purposes.
- Check the Council has an internal quality assurance programme that gives you confidence about the quality and relevance of information from internal service performance management and monitoring, and subsequent external reporting.

Does AG 4(revised) apply to CCOs, CCTOs and COs in 2010?

No. It applies to Local Authorities and Regional Councils. No decision has been made at this stage as to when it applies to CCOs, CCTOs and COs.

What will the audit opinion look like?

The OAG is yet to issue their standard audit reports for the 2010 year. However we do know that the opinion will encompass both "appropriateness" of the performance framework and "verification" of reported performance.

It appears we will be undertaking more work than we have done in the past. How much is this extra work going to cost?

Our aim is to make these changes cost neutral to the Council.

During the LTCCP audit we concluded on the appropriateness of the performance framework, at that point in time. We do need to do further work to "bridge the gap" between the LTCCP framework and what is appropriate now, as described above.

In our discussions with Council's since the LTCCP audit we have been making it clear our expectations - that Councils have in place:

- service performance information and reporting that clearly describes your achievements/progress;
- service performance information systems and controls (including collection, aggregation, and monitoring and reporting systems) to ensure that the information is accurate and relevant; and
- mechanisms in place that provide confidence about the quality and relevance of information from internal service performance management and monitoring, and subsequent external reporting.

If Council does not meet our expectations as to the quality of their service performance information, reporting and control environment, and this results in cost overruns, we may seek fee recoveries, just as in the way we would for the financial audit.

There is a risk that audit costs will blow out if we are not efficient and focussed in the way we undertake our audit work. In planning and performing our work we have ensured that:

- We have placed maximum leverage on the knowledge the Council's operations that we have built up through previous audits and the audit of the LTCCP;
- We are smart and focussed in the way we assess and identify material activities and performance measures – the rationale for our decisions reflects our client knowledge of the specific issues ands risks relevant to the Council;
- Our senior staff hold early discussions with the Councils to update our understanding of the business, and assessing the control environment with respect to SSP reporting and performance management. The results of these assessments will direct our audit work;
- We think smart about the way we assign fieldwork to staff. We must not audit the SSP in isolation to the financial statements; and
- If we do have any concerns about the performance framework, our underlying systems we bring them to the attention of Council as soon as possible – this cannot be left to the final audit visit

THE WEST COAST REGIONAL COUNCIL

Prepared for:	Council Meeting 13 April 2010
Prepared by:	Robert Mallinson – Corporate Services Manager
Date:	1 March 2010
Subject:	**2010 WEST COAST REGIONAL COUNCIL ELECTIONS**

Several years ago the Grey District Council electoral officer was appointed as the electoral officer for the West Coast Regional Council. This "shared service" arrangement works very well and minimises the cost of the election to this Council. (Our share of the costs of the other three local territorial authorities' election costs in 2007 was $19,524).

The GDC electoral officer has requested that the Council pass resolutions pursuant to the Local electoral Act 2001 allowing for early processing of votes and the order of candidate names on voting documents.

RECOMMENDATION

1. *That the West Coast Regional Council reconfirm the appointment of the Grey District Council Electoral Officer as the Electoral Officer for the West Coast Regional Council Electoral Officer for the 2010 Local elections pursuant to section 12 of the Local Electoral Act 2001.*

2. *That the West Coast Regional Council agree that the returned voting documents for the 2010 elections be processed during the voting period, such early processing to be undertaken in accordance with section 79 of the Local Electoral Act 2001 and the Society of Local Government Managers' Code of Best Practice.*

3. *That the West Coast Regional Council require the ordering of candidates names in alphabetical order pursuant to section 31(1) of the Local Electoral regulations 2001.*

Robert Mallinson
Corporate Services Manager

Grey District Council

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fph

E/1

2 March 2010

The Chief Executive Officer
West Coast Regional Council
PO Box 66
GREYMOUTH 7840

Dear Sir

2010 WEST COAST REGIONAL COUNCIL ELECTIONS

Since 1998 the Grey District Council and West Coast Regional Council have passed a resolution to allow the early processing of documents over the voting period. To enable this to continue, a new resolution is required for the 2010 elections.

EARLY PROCESSING

Section 79 of the Local Electoral Act 2001 permits a local authority to process returned voting documents over the voting period.

Early processing of voting documents was introduced for the 1998 elections (but restricted to the 84 hours before the close of voting) and was used very successfully throughout the country. Because of the success of early processing in 1998 and the benefits which early processing provides, the early processing period was subsequently increased to the whole three week voting period now provided under the current legislation. The immediate benefit of adopting early processing is that much, if not all, of the cumbersome and time-consuming task of extracting and checking the voting documents is undertaken progressively over the three week voting period (under strict security and under the supervision of a Justice of the Peace). This means a quicker and more accurate result can be achieved on polling day.

SUGGESTED RECOMMENDATION

That the returned voting documents for the 2010 elections be processed during the voting period, such early processing to be undertaken in accordance with Section 79 of the Local Electoral Act 2001, the Local Electoral Regulations 2001 and the Society of Local Government Managers' Code of Best Practice.

Also required is a resolution on the order of candidates names on voting documents.

ORDER OF CANDIDATES' NAMES ON VOTING DOCUMENTS

Formerly candidates' names were required to be listed on the voting documents in alphabetical order, by surname. This was changed from the 2007 elections to the following;

Clause 31(1) of the Local Electoral Regulations 2001 now allows the council to decide whether the names are to be arranged on the voting documents in alphabetical order of surname, pseudo-random order, or random order. In the absence of any council resolution approving another arrangement, the candidates' names must be arranged in alphabetical order of surname.

The features of each arrangement are described below :

Arrangement 1 - Alphabetical Order of Surname

This is the order which has been required to be used at previous elections and is self-explanatory.

Arrangement 2 - Pseudo-Random Order*

Under this arrangement the candidates' names for each issue are placed in a hat (or similar receptacle), mixed together, and then drawn out of the receptacle, with the candidates' names being placed on all voting documents for that issue in the order in which they are drawn.

***Note:** *Although the term "pseudo random order" is used in the Local Electoral Regulations to describe this arrangement, this is a somewhat imperfect description in that the term 'pseudo random' is understood by mathematicians and/or information technology specialists to have a quite different meaning.*

Arrangement 3 - Random Order

Under this arrangement the names of the candidates for each issue are shown in a different order on each and every voting document utilising software which permits the names of the candidates to be laser printed in a different order on each paper.

The Regulations provide that if a local authority has determined that pseudo-random order or random order is to be used, the Electoral Officer must state, in the public notice required to be given, the date, time and place at which the order of the candidates' names will be arranged. Any person is then entitled to attend while the arrangement is in progress.

Comparative Costs of Each Arrangement

The cost of printing the voting documents employing either Arrangement 1 or Arrangement 2 will be identical. Should the Council adopt Arrangement 3 (random order) there will be some increase in cost because of the need to individually laser print each voting document. While it is not yet possible to give an estimate of the likely additional costs which will arise from this arrangement, these are not expected to be substantial.

Yours faithfully

Alan O'Connell

ALAN O'CONNELL
Electoral Officer

THE WEST COAST REGIONAL COUNCIL

Prepared for: Council Meeting – 13 April 2010
Prepared by: Robert Mallinson – Corporate Services Manager
Date: 1 April 2010

Subject: **ADOPTION OF 2010/11 ANNUAL PLAN STATEMENT OF PROPOSAL FOR PUBLIC CONSULTATION**

Following the workshop held on 30 March, I now attach the 2010/11 Annual Plan Statement of Proposal for formal adoption at this meeting.

The special consultative procedure set out in Section 83 of the LGA 2002 requires a public consultation period of not less than one month.

Following approval of the Annual plan at this meeting, I intend to publicly notify the document as available for public consultation on 15 April.

The one month public consultation period will run to 4.00 pm on Monday 17 May.

I will be preparing a two page Summary of Information to run in the 5 May edition of the West Coast Messenger.

Councillors have indicated their preference for a public hearing date of Monday 31 May.

Councillors will be able to consider these public submissions and finally confirm the Annual Plan for 2010/11 at its ordinary meeting on 8 June.

RECOMMENDATION

1. *That the 2010/11 Annual Plan Statement of Proposal be adopted for public consultation pursuant to section 83 of LGA 2002.*

2. *That public hearings be held on Monday 31 May commencing at 10.30 am.*

Robert Mallinson
Corporate Services Manager

THE WEST COAST REGIONAL COUNCIL

Prepared for: Council Meeting 13 April 2010
Prepared by: Chris Ingle – Chief Executive
Date: 25 March 2010
Subject: **CHIEF EXECUTIVES REPORT**

Meetings Attended
The meetings I have attended since the 9 March Council meeting include:

- Met with the Conservator of the Department of Conservation on 16th of March regarding the schedule 2 DoC wetlands maps and their verification.
- Took part in a teleconference at DWC to discuss with SKM consultants the development process for a West Coast Renewable Energy Strategy.
- Attended the IRIS Regional Council software development meeting in Wellington on 18th March.
- Attended Regional Affairs Committee Meeting on 18th and 19th March accompanying the Chairman.
- Chaired the Envirolink Governance Committee meeting on 19 March in Wellington.
- Participating in the Annual Plan workshop on 30 March with all Councillors.
- Meeting with management from Westland Milk Products on 1st of April to discuss progress with implementing our "Working Together" agreement.

Regional Affairs Committee
Cr Scarlett and I attended the two day Regional Affairs Committee (RAC) meeting on 18 and 19 March. The meeting commenced with the new Chairman of Environment Canterbury Alec Neill explaining his Council's recommendations to the Government regarding the ECan governance review. He was not personally aware of the seriousness of the water management problems at ECan and he sought the RAC's ongoing support for the regional council's elected members.

The RAC acknowledged water management in Canterbury is a matter of national significance, and that Canterbury has some serious issues to address. RAC also strongly supported ongoing democracy in Canterbury and recommended the Environment Canterbury proposal to the Government. That proposal involves an advisory group to be formed consisting of 2 members from the RAC, 1 member from Ngai Tahu, 1 member from the Canterbury Mayoral Forum, the Govt appointed Commissioner/advisor and the Chair of Environment Canterbury. This group would establish milestones and set the key achievement indicators to reach the milestones. The elected representatives would be retained, preserving the public voice and accountability.

There were also presentations from the Local Government Minister Hon Rodney Hide; the Treaty Negotiations Minister Hon Chris Finlayson; and the CEO of the Ministry for the Environment Dr Paul Reynolds. Dr Reynolds confirmed to RAC members that the likely changes at ECan are not needed elsewhere in New Zealand. They are in response to a water management issue specific to Canterbury. When questioned about the implications of the Proposed Freshwater NPS Dr Reynolds advised the Minister has referred that to the Land and Water forum as he believes a collaborative approach to regulating water management, involving all stakeholders, will lead to the best long term outcomes.

RECOMMENDATION

That this report be received.

Chris Ingle
Chief Executive

THE WEST COAST
REGIONAL COUNCIL

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31 March 2010

The Auditor General
Office of the Auditor General
PO Box 3928
Wellington 6140

Dear Madam

Application for Dispensation for Elected Members

The seven members of the West Coast Regional Council are concerned about the implications resulting from the recent Auditor General report on Environment Canterbury, where four Councillors being found to have voted on a matter where they had a conflict of interest.

West Coast Regional Councillors will be in a position in June 2010 of voting to adopt an Annual Plan under the Local Government Act 2002, which sets user charges for consent applicants and consent holders. It also sets targeted rates for River Protection Rating Districts; and a targeted rate for bovine TB management (on all properties in the region that are larger than 2 hectares).

It seems from reading the ECan report that West Coast Councillors could potentially be seen to have an interest greater than the public if they voted to adopt the 2010 Annual Plan and were either:

1. A consent holder liable for a fee for a consent application or for compliance inspection(s); or
2. A member of one or more River Protection Rating Districts; or
3. A property owner of a land parcel greater than 2ha.

In practice, there are unlikely to be any proposals this year that might significantly alter the status quo in relation to how these activities are funded. However, it is possible that any submitter to the annual plan may seek to alter the current funding approach. In this situation are am left wondering if any of our members are technically allowed to vote, as most if not all will have a conflict of interest in relation to items 1, 2 or 3 above.

I would therefore like to request that the Office of the Auditor General grant a dispensation to all seven elected members of the West Coast Regional Council, under S6(4) of the Local Authorities Members Interests Act, to allow voting on the West Coast Regional Council's Annual Plan 2010 to proceed as normal.

Yours sincerely

Chris Ingle
Chief Executive

THE WEST COAST REGIONAL COUNCIL

To: Chairperson
West Coast Regional Council

I move that the public be excluded from the following parts of the proceedings of this meeting, namely, -

Agenda Item No. 8.

37 – 40 8.1 Confirmation of Confidential Minutes 9 March 2010

8.2 Overdue Debtors Report (to be tabled)

Item No.	General Subject of each matter to be considered	Reason for passing this resolution in relation to each matter	Ground(s) under section 48(1) for the passing of this resolution.
8.			
8.1	Confirmation of Confidential Minutes 9 March 2010		Section 48(1)(a) and in particular Section 9 of 2nd Schedule Local Government Official Information and Meetings Act 1987.
8.2	Overdue Debtors Report		

I also move that:

- Chris Ingle
- Robert Mallinson
- Simon Moran
- Colin Dall

be permitted to remain at this meeting after the public has been excluded, because of their knowledge on the subject. This knowledge, which will be of assistance in relation to the matter to be discussed.

The Minutes Clerk also be permitted to remain at the meeting.