



greater WELLINGTON
THE REGIONAL COUNCIL

Assessment of resource consent applications to take water from and undertake works in the bed of Lake Wairarapa

WAR 030126 S & S Barton

Attachment 1 to Report 03.669

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Resource Advisor
5 November 2003

1.0 Resource consent application WAR 030126 – S & S Barton

Stewart and Stephanie Barton have applied to take water from Lake Wairarapa and to maintain a channel in the bed of Lake Wairarapa. The application included an assessment of environmental effects (AEE) report, which gave details on the potential effects and outcomes of the proposed abstraction. The Planning & Resources Department decided to notify the applications under the newly available limited notification process (under the Resource Management Amendment Act). This is because it was difficult to determine potentially affected parties since the lake is considered to be of international importance for flora and fauna.

Water permit

The application is to take up to 33.5 litres/sec for 20 hours per day, 7 days per week, October to April inclusive. Water will be used to irrigate up to 60 hectares of dairy farm pasture. The proposed abstraction is from a natural channel that flows into Lake Wairarapa (see figure 1) from the Mangatete backwater on the eastern side of the lake.

Land use permit

The land use application is to maintain the natural channel between the proposed abstraction point and Lake Wairarapa, to ensure continuous access to the water during the irrigation season. Work will take approximately one hour to dig within the active channel that discharges to the lake (see figure 1).

Figure 1: Aerial photograph of proposed abstraction



2.0 Resource consent process

2.1 Limited notification

The following parties were individually notified of the water take application on 11 September 2003 as part of the limited notification process:

- South Wairarapa District Council
- Department of Conservation
- Wellington Conservation Board
- Ministry for the Environment
- QEII National Trust
- NZ Historic Places Trust
- Wellington Botanical Society
- Wellington Fish & Game Council
- Forest & Bird (Wairarapa Branch)
- Ducks Unlimited
- Rangitaane o Wairarapa
- Ngati Kahungunu ki Wairarapa
- Ngati Hinewaka me ona Karanga Trust/Kohunui Marae
- Te Puni Kokori
- Federated Farmers of NZ (Inc)
- South Wairarapa District Council Maori Standing Committee
- Wairarapa Yacht Club
- Opus International Consultants Ltd
- AJC Bidwill & DG Dobson
- ML & C G Moran
- RE Stout and WC Sewell
- CV & JA Bargh
- JW Martin and MG Allen
- BL Coe
- N & A Gray
- A G Wharrie
- Prairie Holm Trust
- NDR & BA Davies
- Lake Meadows Partnership
- Eric Snoek
- Policy and Planning Section, Planning and Resources

Following notification, Greater Wellington received an anonymous letter advising that the low summer lake level can be several hundred metres from the shore. As such, a channel to the water edge would need to be maintained to ensure continued access to the water. Following this, I determined that a land use consent for works in the bed of the lake was needed. I advised the applicants, and they provided an application for this activity. The land use activity was notified to the same parties as in the list above on 17 September 2003.

The period for lodging submissions for the water take closed on 13 October 2003. The submission period for the land use consent closed on 15 October 2003.

2.2 Submissions

Three submissions were received for the water take application, and three for the land use application. (see [Table 1](#) for summaries). Full copies of the submissions are available upon request.

I did not consider a pre-hearing meeting necessary because the issues raised in submissions could be easily resolved through consent conditions. The Department of Conservation and Rangitaane o Wairarapa requested to be heard at a hearing. Those submitters withdrew their right to be heard, subject to the proposed consent conditions. In my view, the proposed consent conditions satisfy the issues raised by the two parties who did not request to be heard at a hearing (Wellington Conservation Board and Ngati Kahungunu ki Wairarapa). The applicant agreed to the proposed consent conditions.

Table 1: Summary of Submissions**Water take application**

Submitter	Status	Summary
Wellington Conservation Board	Conditional support	Requested that the accumulative effects of combined current permits to take surface water from Lake Wairarapa need to be monitored rigorously to ensure that there are no harmful effects on the lake ecosystem. The Board would like to see measures put in place for a robust notification system for the drop in water levels.
Rangitaane o Wairarapa	Oppose	Concerned that the cumulative effects of all takes will nullify the National Water Conservation (Lake Wairarapa) Order 1989. Concerned that as farmers' herds become bigger, they will need more water for irrigation. Concerned about the sustainability of the application.
Department of Conservation	Conditional support	Requested that conditions are attached to ensure that the open channel to allow water in to the abstraction point follows the natural water channel in to Lake Wairarapa and does not cut across the existing bar. Asked that the open channel does not allow a water passage below the minimum operating level.

Land use application

Submitter	Status	Summary
Wellington Conservation Board	Conditional support	Requested the applicant to ensure that silt removed during excavation is deposited in a place and in a manner where no indigenous habitat will be adversely affected. Requested that any fish life disturbed during the work is placed back in the water.
Ngati Kahungunu ki Wairarapa	Conditional support	Requested that fish passage (including eels) is not impeded.
Department of Conservation	Conditional Support	Requested that conditions are attached to ensure that the open channel to allow water in to the abstraction point follows the natural water channel in to Lake Wairarapa and does not cut across the existing bar. Asked that the open channel does not allow a water passage below the minimum operating level.

3.0 Statutory reasons for consent requirements

3.1 Water take

Section 14 of the Resource Management Act 1991 states the **restrictions relating to water:**

(1) No person may take, use, dam, or divert any.....

....(a) Water unless the taking, use, damming, or diversion is allowed by subsection (3).....

....(3) (a) The taking, use, damming, or diversion is expressly allowed by a rule in a regional plan (and in any relevant proposed regional plan) or a resource consent;

The current operative plan is the **Regional Freshwater Plan (RFP)**. Rule 7 of the RFP allows for the taking of up to 20,000 litres per day as a permitted activity, subject to four conditions. Any abstraction that does not meet the requirements of Rule 7 is considered a discretionary activity under Rule 16 of the RFP, and therefore requires a resource consent. The water take application referred to in this report does not meet Rule 7 requirements so a resource consent application has been made.

3.2 Works in the bed of Lake Wairarapa

Section 13 of the Resource Management Act 1991 states the restrictions relating to certain uses of beds of lakes:

(1) No person may, in relation to the bed of any lake...

(b) Excavate... or otherwise disturb the bed...

in a manner that contravenes a rule in a regional plan or proposed regional plan unless that activity is –

(c) Expressly allowed by a resource consent granted by the regional council responsible for the plan;

The current operative plan is the Regional Freshwater Plan (RFP). There are no permitted activities relating to the disturbance of lakebeds in the Regional Freshwater Plan. As such, a

resource consent application has been made under Rule 49 of the Plan (all remaining uses of lakebeds), which is a discretionary activity.

4.0 Matters to be considered

4.1 Section 104 - Resource Management Act (1991)

Section 104 of the *Resource Management Act 1991* outlines the matters that a consent authority is to have regard to when considering an application. Section 104 gives precedence to Part II of the Resource Management Act (RMA).

Section 5 of the RMA defines sustainable management as:

“managing the use development and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic and cultural well being and for their health and safety while:

- (a) Sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and*
- (b) Safeguarding the life-supporting capacity of air, water, soil and ecosystems; and*
- (c) Avoiding, remedying or mitigating any adverse effects of activities on the environment.”*

Section 6 concerns matters of national importance including the natural character of and public access to the margins of water bodies, protecting outstanding features, significant indigenous vegetation and fauna, and the relationship of the tangata whenua with ancestral lands, water, sites, waahi tapu and other taonga.

Section 7 addresses other matters, such as kaitiakitanga, efficient use and development of natural and physical resources and their finite characteristics, amenity values and ecosystems, heritage values, quality of the environment, and the habitat of trout and salmon.

Section 8 requires that the principles of the Treaty of Waitangi be taken into account. There is no land associated with the application that is in Maori ownership or of particular interest to Maori. The Treaty is addressed in general terms by ensuring that the effects of the proposal are adequately assessed and conditions set to provide protection to the environment.

The relevant parts of section 104(1) of the Act are outlined below:

Matters to be considered -

- (1) Subject to Part II, when considering an application for a resource consent and any submissions received, the consent authority shall have regard to-*
 - (a) Any actual and potential effects on the environment of allowing the activity; This is discussed further in section 5 of this report.*

- (b) *Any relevant ... regional policy statement ...and a plan or proposed plan...*
The regional policy statement and Regional Freshwater Plan are operative - relevant sections are discussed in section 4.2. There are no additional matters in the South Wairarapa District Plan that relate to this application that are not covered under other planning documents.
- (c) *Any other matter the consent authority considers relevant and reasonably necessary to determine the application.* Lake Wairarapa is subject to the National Water Conservation (Lake Wairarapa) Order 1989. The Lake Wairarapa Management Guidelines 1991 were developed in response to the granting of the water conservation order. As such, both of these documents are relevant in considering this application. These documents are discussed further in section 4.4.

The operation of the Barrage Gates plays a critical role in maintaining specified lake levels. The Land and River Operations Department of the Wellington Regional Council hold a resource consent to operate the Barrage Gates. In determining this application, conditions on this resource consent need to be considered.

4.2 Regional Policy Statement

RPS policies for water take

The Regional Policy Statement (RPS) contains three objectives relating to fresh water in the Region:

- (1) The *quantity* of fresh water meets the range of uses and values for which it is required, safeguards its life supporting capacity, and has the potential to meet the reasonably foreseeable needs of future generations.
- (2) The *quality* of fresh water meets the range of uses and values for which it is required, safeguards its life supporting capacity, and has the potential to meet the reasonably foreseeable needs of future generations.
- (3) Freshwater resources of significance or of high value for cultural, spiritual, scenic, ecosystem, natural, recreational, or other amenity reasons are protected or enhanced.

Sixteen policies were developed, in line with the objectives, and were incorporated into the RPS. The relevant policies that need to be taken into consideration when assessing the water take application are:

- Policy 5.1 Manage fresh water quantity and quality for a wide range of uses and values. In particular for surface water any adverse effects on aquatic ecosystems are avoided, remedied or mitigated.
- Policy 5.2 Promote water conservation and efficiency.
- Policy 5.10 Manage quality and quantity of water in Lake Wairarapa, which is identified as having regional significant natural features; indigenous vegetation and habitats; heritage and recreational values.

- Policy 5.13 Recognise cultural relationship of tangata whenua with rivers including managing significant sites.
- Policy 5.14 Protect the healthy functioning of wetlands and their biological communities from inappropriate uses of water.

RPS policies for land use activity

The relevant policies of the RPS that need to be taken into consideration when assessing the land use application are:

- Policy 5.9 Avoid, remedy, or mitigate the adverse effects of modifications to the beds of water bodies on water quality, groundwater, aquatic ecosystems, and the amenity and cultural values of water.
- Policy 5.12 Avoid, remedy, or mitigate any adverse effects of any new or existing use and development where these effects impact on the natural character of wetlands, lakes, rivers and other water bodies, and their margins.
- Policy 5.14 Protect the healthy functioning of wetlands and their biological communities from inappropriate land uses.
- Policy 9.4 Avoid, remedy or mitigate the adverse effects of activities on ecosystems, in particular to avoid: reduction in the indigenous biodiversity of an ecosystem, including nutrient flows and energy cycles, from operating effectively; prevention of the natural processes of an ecosystem; simplification of the structure of indigenous ecosystems.

The full relevant policies of the RPS identified are available upon request.

4.3 Regional Freshwater Plan

The Regional Freshwater Plan (RFP) has identified issues, objectives, policies, rules, and methods for managing freshwater resources and lakebeds in the Wellington Region.

Section four of the RFP outlines general provisions for the use and development of fresh water resources. These general provisions are grouped into tangata whenua values, natural values, amenity values, and use and development. There are certain policies that are pertinent to both the water permit and land use applications:

- Policy 4.2.10 Avoid adverse effects on Lake Wairarapa and its margins, when considering the protection of its natural character.
- Policy 4.2.11 Avoid, remedy, or mitigate the adverse effects of the use and development of water bodies by having regard to maintenance of biological and physical processes, habitat, diversity, fish movement and spawning, and prevention of irreversible adverse effects.
- Policy 4.2.15 Avoid, remedy, and mitigate any adverse effects of use of Lake Wairarapa which is regionally significant for its amenity and recreational values by managing water quality and lake levels in

accordance with policy 6.2.12.

- Policy 4.2.23 Have regard to benefits arising from the proposal.
- Policy 4.2.24 Have regard to effects on other established activities.
- Policy 4.2.31 Ensure that the process for making decisions is fair and transparent.
- Policy 4.2.33 Provide for activities which have no more than minor adverse effects on the environment.

Section five of the RFP outlines issues, objectives, policies, and methods for water quality. Relevant policies in this section are:

- Policy 5.2.2 Manage water quality in Lake Wairarapa in accordance with the National Water Conservation (Lake Wairarapa) Order 1989.

Section six of the RFP outlines issues, objectives, policies, and methods for water quantity and the taking of fresh water. Relevant policies in this section are:

- Policy 6.2.6 To allocate water for irrigation purposes up to a maximum rate of 350 m³/hectare/week.
- Policy 6.2.7 To encourage users to take groundwater as an alternative to surface water resources.
- Policy 6.2.12 Manage water levels in Lake Wairarapa according to the table below:

Time Period	Water level (chart datum)
1 December to 29 February	10.15 metres
1 March to 31 May	10 metres
1 June to 30 September	9.95 metres
1 October to 30 November	10 metres

- Policy 6.2.18 To have regard to whether the amount of water required is reasonable given the intended use.

Section seven of the RFP outlines general provisions for land uses within river and lakebeds. These general provisions are grouped into flood erosion mitigation, structures in lakebeds, disturbance of lakebeds, planting in lakebeds and reclamation of lakebeds. There are certain policies that are pertinent to the land use part of the applications:

- Policy 7.2.2 To not allow the use of river and lake beds for structures or activities that have significant adverse effects on: tangata whenua values; natural or amenity values; lawful public access along a river or lake bed; the flood hazard; river or lake bed or bank stability; water quality and hydraulic processes; the safety of canoeists or rafters.
- Policy 7.2.11 Ensure that the use of any river or lake bed which is not covered by water does not disturb nesting birds or any of the nationally threatened plant species

identified in Appendix 3, RFP.

The full relevant policies for the RFP identified above are available upon request.

4.4 National Water Conservation (Lake Wairarapa) Order 1989 and Lake Wairarapa Management Guidelines

The **National Water Conservation (Lake Wairarapa) Order 1989** recognises that the outstanding features of the wildlife habitat, particularly on the eastern shoreline, are in part due to the natural fluctuations of water levels. The order states that no water rights shall be granted if the effect would be to diminish significantly the outstanding wildlife habitat features of any part of the lake. A full copy of the national water conservation order is available upon request.

The **Lake Wairarapa Management Guidelines**, developed in 1991, are essentially an extension of the national water conservation order for the lake. The guidelines specify minimum lake levels, which are reflected in the Regional Freshwater Plan (refer to table above). Section 2 of the guidelines outlines objectives for water management in Lake Wairarapa and its immediate margins. There is a specific part in this section that relates to water rights. Section 2.1.4 (b) states:

“To allow water extraction, diversion, and discharge in the core area in accordance with the provisions of the National Water Conservation (Lake Wairarapa) Order 1989 for Lake Wairarapa, and so that the wildlife habitat features of the rest of the core area are not diminished significantly.”

The Hearings Committee is required to have regard to these issues, objectives, policies in the Regional Policy Statement, Regional Freshwater Plan, Lake Wairarapa Water Conservation Order 1989, Lake Wairarapa Management Guidelines, and consent conditions of Operations Department Barrage Gates consent, when considering this application.

5.0 Assessment of resource consent application and resolution of submissions

The assessment of the resource consent application includes outcomes of resolutions from submissions. The assessment is broken down into the following categories:

Water take:

- W 5.1 Minimum water levels for Lake Wairarapa
- W 5.2 Water quality in Lake Wairarapa
- W 5.3 Effects on fish
- W 5.4 Effects on tangata whenua values
- W 5.5 Water conservation and efficiency
- W 5.6 Alternative methods to taking surface water

Land use: disturbance of the lakebed

- L 5.1 Natural character of the lake margin
- L 5.2 Production of suspended sediment

- L 5.3 Trout spawning
L 5.4 Native fish and fish passage

W 5.1 Minimum water levels for Lake Wairarapa

The AEE report supporting the application assessed the potential effects of the proposed abstraction on the water level of Lake Wairarapa. The lake would be expected to drop by 3.6 mm after 100 days of continuous pumping¹. The cumulative effect of the proposed abstraction and existing consents to take water from Lake Wairarapa and its margins would result in a decline of 39 mm after 100 days of continuous pumping.

The eastern shoreline has significant wildlife values. The shoreline has a very shallow gradient that causes significant fluctuations of water levels along this shoreline. This is part of the key to this area's ecological values. I consider that the proposed abstraction will not diminish the outstanding wildlife values of Lake Wairarapa (particularly the eastern shoreline). This is because climatic conditions and operation of the Barrage Gates are likely to cause more significant changes in lake levels. In addition, affects arising from this activity can be appropriately mitigated by consent conditions.

The applicant's property is surrounded by pastoral farmland and borders the J K Donald Reserve. The reserve supports a remnant of the wetland that covered much of the lower Wairarapa valley before the widespread land drainage of the 1960s and 70s. The proposed abstraction point is near the southern end of this reserve. Water levels in the reserve are governed by controlled inflow from the Otakura Stream and Lake Wairarapa. The water level at the proposed abstraction point is governed by Lake Wairarapa, so the abstraction is unlikely to affect the water level in the JK Donald wetland. The applicant has stated that a clear channel will be maintained between the abstraction point and the lake during the irrigation season (hence the need for a land use consent to disturb the lakebed).

I propose a condition that will prevent the taking of water below minimum lake levels specified in the Lake Wairarapa Management Guidelines, Regional Freshwater Plan, and Barrage Gates consent held by GW Operations Department. The applicant has accepted proposed conditions relating to maintaining minimum lake levels. A key to the conditional support expressed by the Department of Conservation was that a condition be placed on the consent (if granted) that prevents the taking of water below minimum lake levels. The Department of Conservation have provided written approval to the condition and withdrawn their right to be heard at a hearing.

W 5.2 Water quality in Lake Wairarapa

The application did not provide an assessment of potential effects of the proposed abstraction on water quality. It is my view that the proposed abstraction will not adversely affect water quality in Lake Wairarapa, due to the insignificant changes in lake level caused by water abstraction from the lake, and the maintenance of minimum lake levels as discussed in section 5.1.

¹ This assessment assumes a lake area of 6700 hectares when the lake level is 10.0 metres.

W 5.3 Effects on fish

The applicant has stated that the pump intake will be screened to prevent fish entry. I propose to include this as a condition of consent to mitigate potential effects on fish by preventing them from being sucked into the pump intake.

W 5.4 Effects on Tangata Whenua values

Lake Wairarapa is of great significance to local iwi. Both local iwi authorities Ngati Kahungunu ki Wairarapa and Rangitaane o Wairarapa were notified when the application was lodged. Submissions were received from both iwi. The issues raised in submissions from iwi were easily resolved through consent conditions.

The proposed consent conditions are consistent with the Lake Wairarapa Management Guidelines and National Water Conservation (Lake Wairarapa) Order 1989 (of which local iwi and hapu made significant contributions). As such, I am satisfied that tangata whenua values have been appropriately considered and addressed.

W 5.5 Water conservation and efficiency

The applicant proposes to irrigate 60 hectares. This equates to a maximum application rate of 281 m³/hectare/week. This is below the maximum irrigation rate of 350 m³/hectare/week specified in the Regional Freshwater Plan. I am satisfied that the amount of water requested is reasonable given the intended use, and that it complies with policy in the Regional Freshwater Plan. A standard condition of consent requires that the irrigation systems are designed and maintained so that any excess water does not run to waste.

W 5.6 Alternative options

The applicant's AEE assessed alternative options for an irrigation supply. The only alternative option is groundwater. Greater Wellington has placed a moratorium on groundwater abstractions in this area (Kahutara sub-area of the Lower Valley groundwater zone). The moratorium was imposed because current levels of abstraction from this area may be approaching or may have exceeded the aquifer safe yield. The applicant said that it may be possible to source water from deeper aquifers (80+ m deep), but the applicant believes that taking water from Lake Wairarapa is a more sustainable option. I am satisfied that the applicant has appropriately considered alternative options as required by policy in the Regional Freshwater Plan.

Assessment of land use effects

L 5.1 Natural character of the lake margin

The applicant proposes to maintain the natural channel between the proposed abstraction point and Lake Wairarapa. Work will take approximately one hour to dig within the active channel that discharges to the lake.

I consider that the bed disturbance works are unlikely to disturb natural character of the lake margin, because the applicant undertakes to only work within the existing natural channel, rather than cutting a straight channel directly through to the lake.

L 5.2 Production of suspended sediment

The applicant estimated the proposed work to take approximately one hour to complete, once a year. Some of this work will be in the part of the lakebed covered by water. It is reasonable to expect that works in the lakebed will temporarily affect water quality; any movement of bed materials will disturb fine silts and sands, which will increase suspended solids and raise turbidity levels in the vicinity of the works. There are a number of adverse effects that the release of suspended solids may have on the aquatic life of Lake Wairarapa², including:

- Reduction in light penetration causing reduced ability of aquatic plants to photosynthesise.
- Reduction in visual range for sight-feeding fish and birds.
- Clogging of bed gravels causing potential adverse effects on fish egg survival.
- Avoidance of waters with high levels of suspended solids by invertebrates, fish and birds.
- Accumulation of particles on body surfaces and respiratory organs of fish.
- Reduced water clarity and settlement of particulate matter can reduce primary production and invertebrate feeding efficiency.

Despite the potential effects listed above, monitoring data³ of Lake Wairarapa show that the lake is highly turbid, with median turbidity approaching 50NTU. For comparison, drinking water has a limit of >1NTU. This turbidity is the result of silt run off and winds stirring up the bed of the shallow lake. Given the existing level of turbidity in the lake, I consider that the suspended sediment resulting from the proposed works will be extremely minor. Even so, to help mitigate adverse effects of sediment release, I recommend conditions on the consent requiring the applicant to:

- keep all works in the part of the lakebed covered with water to a practical minimum;
- take all practical steps to minimise the release of sediment during work in the lake.

L 5.3 Trout spawning

Although Lake Wairarapa is not identified in the Regional Freshwater Plan as having important trout spawning habitat, a number of rivers and streams that flow into the lake are identified as having this habitat. Standard land use conditions of consent require that work in the lakebed covered by water is not undertaken during the trout spawning season of May to August.

² Davies-Colley *et al.* 1992. Effects of clay discharges on streams in *Hydrobiologia*

³ GWRC water quality monitoring data. Water quality in Lake Wairarapa is monitored at four points.

L 5.4 Native fish and fish passage

Lake Wairarapa is likely to provide habitat for native aquatic species. The applicant stated that the works could uncover freshwater mussels or kakahi (*Hyridella menziesii*). In this situation, the applicant undertakes to return any mussels to the lake. I recommend this be included as a condition of consent. The applicant stated that it was unlikely that eels would bury in the silt during the irrigation season because the substrate in this area would become too hot. Even so, I recommend a condition requiring the applicant to return any eels to the lake if uncovered by the works.

The channel between Lake Wairarapa and the Mangatete Backwater becomes blocked in some conditions. I consider that the proposed work is likely to have a positive effect on fish passage because it will maintain an open link between the lake and the backwater.

Given that the physical works are estimated to take one hour, I consider that any adverse effects on fish passage during works are likely to be of short duration and minor. I recommend a condition of consent requiring fish passage to be maintained at all times and that no refuelling be carried out in any area of the lake covered by water.

6.0 Consent term and monitoring

The recommended long term expiry date for water take consents for the Lake Wairarapa catchment area is 30 September 2014. All other consents to take water from Lake Wairarapa are set to expire on this date. I recommend the consent be subject to a review condition. Greater Wellington requires water meters to be installed on all takes greater than 20 litres/second.

The abstraction will be inspected once every three years, as required under the Resource Management Charging Policy. The consent holder is required to contact Greater Wellington at least 48 hours before undertaking works in the lakebed to arrange a compliance inspection.