File No: ENV/05/01/17
22 July 2008

Ministry for the Environment
PO Box 10362
Wellington 6143

Submission on the Proposed National Environment Standard on Ecological Flows and Water Levels

Thank you for the opportunity to comment on the *Proposed National Environmental Standard on Ecological Flows and Water Levels* (the standard) and the supporting document *Draft Guidelines for the Selection of Methods to Determine Ecological Flows and Water Levels* (the guideline). The standard and guideline are important parts of central government's Freshwater Programme of Action, and we support recognition of the pressures facing New Zealand's water resources.

The standard will have implications for two Divisions of the Greater Wellington Regional Council – the Water Supply, Parks and Forests Division, which is responsible for water supply to Wellington, Porirua, Hutt and Upper Hutt cities under the Wellington Regional Water Board Act 1972, and the Environment Division, which is responsible for regulating the taking and use of water under the Resource Management Act 1991. The Environment Division will be responsible for implementing and enforcing the standard.

Greater Wellington supports the overall approach of the standard, in particular:

- the interim limits on the alteration to flows and/or water levels in those rivers, wetlands and groundwater systems for which there are no limits set in a proposed or operative regional plan

- a process for selecting appropriate methods for evaluating ecological flows and water levels.

Greater Wellington's main concern with the standard is the lack of any transitional provisions for minimum flows that don't comply with the guideline when operative regional plans are reviewed. This issue and other concerns and changes we are seeking are set out in more detail below, followed by a summary of all the changes we are seeking.

Review of minimum flows in operative regional plans

A significant omission from the standard is what happens to minimum flows that don't comply with the methods to determine ecological flows and water levels (the guideline) when operative regional plans are reviewed. The review of the Regional Freshwater Plan for the Wellington region commences next year. Many of the minimum flows in it were established using methods that will not meet the guideline, and there is insufficient time to apply the guideline to all rivers already in the operative plan. A transitional period is needed for appropriate low flow evaluation work to be completed; otherwise the interim flows in the standard will have effect.

Most of the water allocated in the Wellington region (72 percent) is for public water supply. Application of the interim limits would have very serious consequences for Greater Wellington and, potentially, for other water suppliers. For example, at Kaitoke weir on the Hutt River the minimum flow would increase from 600 litres per second to 1,200 litres per second. At Wainuiomata the minimum flow would increase from 100 to 160 litres per second, and at Orongorongo from 100 to 220 litres per second. The reduction in available water would be 63 million litres per day, or about 40 percent of the water supplied to the Wellington metropolitan area.

Greater Wellington is currently evaluating new water sources for supply to the Wellington metropolitan area to meet population growth. To provide another 63 million litres per day to replace water potentially lost through increased minimum flows would require immediate construction of a major storage dam at a cost estimated to be $142M. The lead time for construction of a large storage dam is estimated at eight to ten years. Any sudden increase in minimum flows would have very serious consequences for supply of drinking water to the Wellington metropolitan area.

Significant resources are required to implement the methods in the guideline and it essential that time be allowed to enable the work to be done properly. The change to the standard we seek is that it provides a transitional period that enables flows in operative regional plans to be retained when they are reviewed, so that work can be completed according to methods in the guideline. We suggest a ten year transition period would be appropriate.

The following are comments on the questions as outlined in your Discussion Document:

Question 1 - Problem statement and issues

Do you agree with the problem statements and the three key problems that were identified as benefiting from national direction?

The problem statement and issues give a national perspective, and we can only comment on the situation in the Wellington region. The issues in section 3 of the discussion document are relevant in the Wellington region to varying degrees. The two issues about resource consent decisions being made without environmental flows or water levels and available water not being defined are not really applicable here. Our Regional Freshwater Plan (operative since December 1999) has allocation limits for 68 aquifers and minimum flows and allocation limits for 14 rivers. In addition, eight rivers have allocation limits, although minimum flows have yet to be established for these.

The main issues and questions we will face when we review our Regional Freshwater Plan next year are:

- Are the flows, water levels and allocation limits in the operative Plan set at appropriate levels? The methods in the guideline will help us determine this, but it is going to take far more than a year to revise flows, water levels and allocation limits according to the guideline.

- How do we address the small rivers and wetlands that don't yet have minimum flows, minimum levels or allocation limits? The interim limits in the standard will be of great help for these.

- How do we address groundwater/surface water interaction? The standard is of little help here.

The remaining issue in the discussion document - that the processes for setting flows and water levels is costly and contentious - has not been a significant one in this region, to date. The operative Regional Freshwater Plan (1999) and three subsequent plan changes include minimum flows, levels and allocation limits for 68 aquifers and 22 rivers. Overall, there were ten submitters involved in the statutory processes for the relevant plan provisions, and none of the Council's decisions were appealed to the Environment Court. However, Greater Wellington is well aware of increasing community interest in water allocation issues, resulting from recognition that most of the region's water resources are now fully allocated at times during the year.

Question 2 - Assessment and evaluation of alternatives

Do you consider that all available options have been covered? Do you have comments on the assessment and evaluation of alternatives?

Greater Wellington supports the option selected. However, we believe the ticks in Table 1 of the discussion document overstate the degree to which the proposed standard will resolve allocation issues. The proposed standard presents appropriate technical methods that can be used in any given situation rather than specifying exactly what should be done. Also, the standard does not specify how results from applying the methods should be interpreted.

Question 3 - The need for interim limits

Do you support the need for, and introduction of interim limits set through a national environmental standard?

We fully support the inclusion of interim limits in the standard. Greater Wellington has considered using such an approach in the Regional Freshwater Plan. However, extensive investigation by the Environment Court into the establishment of minimum flows in a regional plan in the case of the Minister of Conservation vs. Otago Regional Council 2002 (C071/02) indicates that the use of such interim limits in a regional plan could be successfully challenged. We think the approach of setting interim limits is appropriate because of the overall benefits to managing water bodies, and national environmental standards are not subject to the Environment Court.

Question 4 - The interim limits

Do you have comments on the numbers for interim flows and water levels? Are there sufficient divisions of rivers and streams and groundwater systems?

Comment on the interim limits

The rationale for the interim limits stated in the discussion document is "to have some measure in place that protects values and allows some taking of water until there is sufficient demand for water-monitoring data and/or information to justify a catchment-specific environmental flow" (p20). Greater Wellington supports this approach. It is appropriate for interim limits to be "conservative", so that the need to "claw-back" water is reduced when "effects based" flows, levels and allocation limits are established.

Interim allocation limits for rivers and streams

As already mentioned in our response to question 1, Greater Wellington's Regional Freshwater Plan includes allocation limits and minimum flows for 14 rivers. Comparison of minimum flows in the Regional Freshwater Plan with interim flows in the standard suggest that, in most cases, the interim minimum flow does take a precautionary approach. However, comparison of allocation limits in the Regional Freshwater Plan with allocation limits in the standard suggests that the allocation limits in the standard are sometimes too high.

Our observation that allocation limits in the standard are sometimes too high to apply to all rivers is consistent with the numbers in Table 2.3 of the guideline. The proposed allocation limit of 30 percent of mean annual low flow and 50 percent of mean annual low flow for small and large rivers, respectively, fall into the medium or high "degree of hydrological alteration" categories in Table 2.3 of the "draft guideline". The text below Table 2.3 states "Abstraction of more than 40 percent of mean annual low flow... would be considered a high degree of hydrological alteration - irrespective of region or source of flow."

We do not think the interim limits should allocate amounts of water that are too generous, because this will result in "claw-back" being required once environmental flows and allocation limits have been properly assessed. It's also noted that allocating too much water will create "security of supply" problems because allocation limits that are too high mean that people will have to cease their takes frequently to meet the minimum flows in the standard. Greater Wellington recommends that allocation limits for rivers and streams with mean flows of less and greater than five cubic metres per second are 25 percent and 35 percent of the mean annual low flow, respectively.

Application of the allocation limits to rivers and streams at moderate to high flows

Our interpretation of the interim allocation limits for rivers and streams is that they apply at all river flows. Our Regional Freshwater Plan currently provides for a "core allocation", which is the equivalent of the "allocation limit" in the standard. The Regional Freshwater Plan also has a "supplementary allocation" which provides for greater amounts of water to be taken at moderate to high flows. Water harvesting schemes can be designed to abstract water during periods of moderate to high flow, when the ecological impacts are negligible. Provision should be included in the interim river and stream allocation limits for the taking of more than the allocation limit at moderate to high flows to allow additional water to be taken for water harvesting.

Application of allocation limits for river and streams to impoundments

There is no mention in the interim standard of impoundments, such as the water behind dams. It is not expected that they would be regarded as "rivers and streams". A clear statement should be made in the standard that the interim river and stream allocation limits do not apply to the water in impoundments.

Estimating mean annual low flow

Greater Wellington is concerned about application of the interim limits for rivers and streams, in practice. One specific issue is how will the mean annual low flow be estimated? The standard says the mean annual low flow is "as calculated by the regional council". A minimum amount of data is needed to obtain a reasonable estimate. If there are insufficient data, then a resource consent applicant could be required to obtain the data. The standard also needs to identify whether the mean annual low flow is naturalised or not. We recommend that central government, with input from regional councils; develop a protocol or guideline for estimating mean annual low flows in rivers that have little hydrological data. The protocol or guideline will need to be developed before the standard is gazetted.

Where are interim flows measured?

Another concern we have about the application of the interim flow limits for rivers and streams is the lack of clarity on whether the interim limits apply to a river reach, at the point of take, at the river mouth, or somewhere else on the river or stream. In practice, establishing minimum flows in any river requires at least one location where flows are measured, which is used as a reference point for other parts of the river. Without such a reference point it is not possible to manage a river according to any identified flow. Identifying the location where interim limits apply is needed in the standard to avoid water abstractions in the same catchment applying at different minimum flows.

Wetlands

The interim limits for wetlands suggest that any water take that may impact a wetland cannot be granted. This is a good idea in principle although the "water level variation that has already been provided for by existing resource consents" may be difficult to assess because wetland water level monitoring is generally very limited.

We are uneasy about the wording "No change in water levels, beyond the water level variation that has already been provided for..." because, depending on interpretation, this may allow some additional abstraction from wetlands (provided the extremes in water levels do not exceed the extremes experienced in the past due to existing resource consents). In other words, the proposed interim limit for wetlands addresses only the *variation* in water levels, not the *duration* for which the extremes are experienced. The wording of this interim limit needs to be revisited, if the intent is to prevent any additional abstraction from wetlands.

In addition, we believe that clarification is required as to whether the interim limits for wetlands will apply to all takes that may affect water levels in a wetland, or only to direct takes from wetlands.

Estimating average annual groundwater recharge

Similar to our comments under the heading "Estimating mean annual low flow", Greater Wellington sees benefits in standardising how "average annual recharge" is estimated. The standard says the average annual recharge is "as calculated by the regional council". A minimum amount of data is needed to obtain a reasonable estimate. If there are insufficient data, then a resource consent applicant could be required to obtain the data. We recommend that central government, with input from regional councils; develop a protocol or guideline for estimating average annual recharge in aquifers. The protocol or guideline will need to be developed before the standard is gazetted.

Groundwater surface water interactions

The proposed interim limits for groundwater (section 5.1.1) states: "*For groundwater that is shown to be connected to adjacent surface water, the environmental flow or water level set for the surface water body will also apply to the management of the groundwater takes*".

While the intent of this part of the standard is understood and supported in principal, it is unclear how it would be implemented. Most aquifers are connected to surface water in some way and there are going to be many situations where it will be unclear whether groundwater should be managed through the interim limits for groundwater or surface water.

In most situations, groundwater storage needs to be taken into account and delays will be encountered between the starting and stopping of groundwater abstractions with resulting effects on any interconnected surface water body. More work on this part of the standard is required to ensure its workability and clarity.

Question 5 - Time bound

The proposal does not set a time limit for how long the interim limits will apply. Do you think the interim flow and water levels should apply for only a limited period?

Greater Wellington has an ongoing science programme for establishing minimum flows and water levels in rivers, streams and aquifers. Our priorities are based on demand for water from individual rivers/catchments and the values that people place on each river/catchment. We will be assessing new rivers and revisiting some rivers over time. Some smaller rivers may not be assessed over the next 10 years and managing these will rely on the interim limits. There is also the opportunity for resource users to undertake work themselves when applying for resource consent applications or private plan changes.

Establishing flows, water levels and allocation limits will be done by obtaining appropriate information using available resources, not by setting time limits. We see no good reason why the interim flows and water levels should only apply for a limited period, particularly for small rivers.

Question 6 - Inclusion of existing consents within allocation limits

As currently structured, the interim allocation limits include all existing consents. Implementation of the limits will, therefore, not require claw-back of existing consents to meet the interim allocation limit. Claw-back is an option allowed when an environmental flow is set through a regional plan. How do you think the situation, where the amount of water allocated to existing consents exceeds the numeric interim limit, should be addressed?

Greater Wellington supports the approach of including existing consents in the interim limit. The need to "claw-back" water should only occur once and it should only happen when effects based information is available that establishes it is necessary. The interim limits are applied in situations where there is insufficient information to apply flows, water levels and allocation limits that are effects based.

Question 7 - The need for an NES on the selection of technical methods

Do you support the aim to provide consistency in the selection of methods for assessing ecological values? Does consistency need to be provided in a national environmental standard or would guidance documents be sufficient?

Greater Wellington supports the need for consistency in the selection of methods for assessing ecological flow requirements. Subject to some matters raised in this submission, we consider that the guideline provides such a consistent approach. The guideline should be linked, or referred to in the standard in some way that ensures it has to be followed.

Question 8 - The approach outlined in the technical document

Do you have any comments on the approach outlined in the technical document "Draft guidelines for the selection of methods to determine ecological flows and water levels"?

Greater Wellington is disappointed that the draft guidelines for rivers are for determining ecological flows rather than environmental flows. Some of the ecological methods could be applied to assessing recreational and other values also. It should not be assumed that ecological values present the highest instream flow requirements and agreed methodologies for assessing environmental flows would be extremely helpful to regional councils.

The groundwater section of the guideline introduces a "Decision Pathway to Setting Ecological Flows and Water Levels" (section 4.3.2). The logical and specific pathway set out is helpful and will provide additional consistency around the country on how flows and water levels are decided. Greater Wellington supports the use of appropriate decision pathways to be set out in the sections for "Rivers", and "Lakes and Wetlands" and we would like to see them included.

Greater Wellington supports the approach of determining the degree of hydrological alteration and linking this through to selection of methods for assessing ecological flow and water level requirements. However, there needs to be more justification (e.g. referencing) for the thresholds of hydrological alteration, and description of how the numbers in Table 2.3, 3.5 and 4.2 were derived so they can be used with greater confidence.

Question 9 - The inclusion of new methods if they become available

How should new and emerging methods be incorporated into the process outlined in the proposed Standard?

As set out in response to question 7, Greater Wellington believes the guideline should be linked, or referred to in the standard in some way that ensures it has to be followed. New methods and improvements to current methods will be developed over the next five years, and it's important that updating the guideline is a straightforward and relatively simple process.

Question 10 - NES approach to breaches

How do you think the national environment standard should address applications for resource consents that breach the interim limits?

Greater Wellington supports breaches of the interim limits being a non-complying activity. This is the approach we have taken in the Regional Freshwater Plan to allocating water from rivers and aquifers that we have identified as being fully allocated. Policies in the plan state that the allocation limits shall not be exceeded. The non-complying status means that resource consent applications to take additional water can only be granted if the adverse effects are no more than minor, or taking water is not contrary to objectives and policies in the Regional Freshwater Plan.

Discussion with the standard raises concerns about the use of a "non-complying" activity status in the absence of a strong planning framework. We agree that there is little value in making breaches of the interim limits non-complying activities without a strong planning framework.

breaches of the interim limits non-complying activities without a strong planning framework. Such a framework has been included in the operative Regional Freshwater Plan where activities have been made non-complying. We don't think the stated concern is a valid one because central government has the opportunity to direct regional councils on the strength of their allocation policies in the national policy statement on fresh water that is intended as part of the National Water Programme of Action.

Greater Wellington does not think it is appropriate for breaches of the interim limits to be prohibited activities because there will be circumstances when breaches have minor adverse effects. For example, taking more water than the interim limits allow when flows and water levels are high usually has only minor adverse effects. Also, it is not appropriate to make an activity prohibited when the interim limits are based on "rule of thumb" with limited scientific basis.

Nor do we think it is appropriate for breaches of the interim limits to be discretionary activities. Such an approach would severely compromise the objectives set out in the discussion of the standard (page viii). There seems to be little point in having a standard that is a discretionary activity whether or not it is breached.

Question 11 Application of the NES to existing and replacement consents

How should the national environmental standard apply to existing and replacement resource consents in each of the situations outlined in Table 2?

Greater Wellington agrees with the comments in the columns for "interim limits" and "methods for determining ecological flows and water levels" in Table 2 of the Discussion Document.

One important matter the discussion document is silent on, including in Table 2, is that nowhere does it say whether the minimum flow or allocation limit prevails in situations where they are in conflict. For example, the amount of water allocated could lead to the minimum flow being breached and it is unclear which is paramount. This inconsistency must be addressed in the standard.

Summary of amendments sought to the standard

Greater Wellington seeks the following changes to the standard:

- A ten year transition period that enables flows in operative regional plans to be retained when they are reviewed, until work is completed according to methods in the guideline.
- Interim allocation limits in the standard of 25 percent and 35 percent of the mean annual low flow for rivers and streams with mean flows of less and greater than five cubic metres per second, respectively.
- Provision in the interim river and stream allocation limits for the taking of more than the allocation limit at moderate to high flows to allow additional water to be taken for water harvesting.
- A clear statement in the standard that the interim river and stream allocation limits do not apply to the water in impoundments (i.e., behind dams).
- Development of a protocol or guideline for the estimation of mean annual low flows in rivers with little hydrological data.
- Revisit the wording of interim limits for wetlands to address the duration of water levels and clarify whether the interim limits will apply to all takes that may affect water levels in a wetland, or only to direct takes from wetlands.
- Clarification in the standard of where interim flows will be measured in rivers.
- Development of a protocol or guideline for the estimation of average annual groundwater recharge in aquifers with little data available.
- Further work and clarification of the part of the proposed interim limit for groundwater that requires application of the environmental flow or water level set for a surface water body to the management of connected groundwater takes (section 5.1.1).
- Provision in the standard of clarity on where interim flows will be measured in rivers.
- Clarification, or deletion if it cannot be made workable, of the part of the interim groundwater allocation limit that requires application of the environmental flow or water level set for a surface water body to the management of connected groundwater takes.
- Inclusion of decision pathways for setting ecological flows and water levels in the "Rivers" and "Lakes and Wetlands" sections of the *Guideline for the Selection of Methods to Determine Ecological Flows and Water Levels*, similar to the approach taken in the "Groundwater" section of the draft "guideline" (section 4.3.2).

- Provision in the "guideline" of better justification (e.g. referencing) for the thresholds of hydrological alteration, and description of how the numbers in Table 2.3, 3.5 and 4.2 were derived.

- Clarification in the "standard" of whether the minimum flow or allocation limit prevails when the interim limits for rivers and streams are applied, and the minimum flow and allocation limit are in conflict.

Fran Wilde
Chair
Greater Wellington Regional Council