



22 April, 2008

Buller District Council  
C/- West Coast Regional Council  
PO Box 66  
**GREYMOUTH**



Meridian Energy Ltd  
PO Box 2454  
**CHRISTCHURCH**

**SUBMISSION ON AN APPLICATION FOR RESOURCE CONSENT UNDER SECTION 96 OF THE RESOURCE MANAGEMENT ACT 1991**

**SUBMITTER NAME AND ADDRESS:**

Fish and Game NZ - West Coast Region  
P.O. Box 179  
**HOKITIKA**  
Ph: (03) 755 8546

Fish & Game NZ **oppose** the application of **Meridian Energy Ltd (RC07150)** for a resource consent to construct, operate and maintain a hydro electric power scheme within the Mokihinui River Valley.

**Reasons for making a submission**

Fish and Game NZ West Coast is established by the Conservation Act 1987 for the purposes of the *management, maintenance and enhancement* of sportfish and gamebirds in the West Coast Region. (26P)

Section 26 Q (e) (I) of the Act provides, as one of the Councils functions, a statutory responsibility "to represent the interests and aspirations of anglers and hunters in the statutory planning process," while 26 Q (e) (vii) provides Council with the authority to "advocate the interests of the Council including its interests in sportfish and gamebird habitats".

Given the magnitude of the proposed HEPS in the Mokihinui River we submit that insufficient information has been provided by Meridian Energy Ltd to adequately gauge effects on the sportfishery. In particular;

- During consultation with Meridian Energy Ltd Fish & Game requested further information on the likely effects of the proposed dam on the back country/wilderness angling experience. This request was pursuant to Fish & Game's responsibility under the Conservation Act 1987 to "represent the aspirations of anglers". A fundamental item of information required to ascertain the effects is the preferred angling experience sought by

*Statutory managers of freshwater sports fish, game birds and their habitats*

**West Coast Region**

anglers using the Mokihinui River. There is no information provided in the Greenaway & Associates "Recreation and Tourism assessment of Effects" as to the aspirations or expectations of anglers using the upper Mokihinui above the proposed dam site. For example, is it the expectation of catching large fish, lots of fish or is the back country/wilderness experience the primary attraction? Without this information it is not possible to gauge the effects of the dam on the angling amenities of the Mokihinui fishery.

- Also during consultation Fish & Game asked questions about the effect of the dam on larger (>3kg) migrant trout. It is stated in the Cawthron Institute report on 'Trout Movement & Passage' that "*trout exceeding 2.5kg are uncommon and those exceeding 3kg are rare*". There is no reference to the information that this statement is derived from. Fish & Game is unaware of any trout size distribution surveys conducted in the Mokihinui River, other than drift dive surveys, which do not provide weight information.

Otolith analysis was performed to ascertain migration patterns and the need for connectivity to the lower river to preserve the size and abundance of fish in the upper and lower rivers. However conclusions such as those drawn about trout migration were based on the analysis of only four fish from each tributary. It is Fish & Game's view that the sample size is inadequate to be certain about the predictions made. The Cawthron Institute report on 'Trout Movement & Passage' states "*Of ~~four~~ North Branch trout analysed in detail using multiple trace elements, two had moved between the estuary and the North Branch, and a third had moved downstream of the North and South Branch confluence.*" Fish & Game believe basing the extent of movement of trout throughout the North Branch on four fish is inadequate. Especially when other analysis performed on the 17 trout collected in the North Branch shows that "*only four trout showed clear evidence of no movement out of the North Branch catchment.*" Due to the limited extent of this analysis, and others, there is no statistically sound information to ascertain if there is a seasonal influx of larger spawning migratory fish in the winter months (May – August) that require access to or from the lower Mokihinui. Another extract from the Cawthron Institute report on 'Trout Movement & Passage' states "*The growth modelling indicated that trout from the headwaters of the Mokihinui River would not have to move downstream to the lower river, past the proposed dam site to grow to the sizes ~~observed~~...*" If this is based on the same small isolated sample taken for Otolith analysis, then Fish & Game believes this is insufficient to gauge the migration patterns of larger fish. More replicates are needed at differing times of year, such as, the pre and post spawning period to effectively gauge the frequency of larger (>2.5kg) trout in the system.

- Despite the limited sampling undertaken and the few trout used to draw conclusions it is stated that "*The average size of trout should not decline but there may be a reduction in larger fish that may have grown large in the lower river – estuary returning to the headwaters (especially the North Branch).*" It is further stated that the lost ability to migrate downstream in larger fish will be mitigated by the impoundment area "*...Moreover, water temperature regimes downstream of the forks are currently sufficient for trout to grow in excess of 3kg ~~providing food is not limiting~~, and the proposed reservoir will improve thermal conditions for trout growth even further.*" In the potential effects listed in the Cawthron Institute report on 'Trout Movement & Passage' the impoundment area is "*predicted to have low to moderate productivity and a small but productive littoral zone which should support ~~moderate food resources for trout~~.*" With this statement and predictions about the productivity of the impoundment area based on modelling with a significant number of approximated variables, Fish & Game believe

there is a need for more research on the mitigating effects of the impoundment area on large trout abundance in the North Branch, accompanied by appropriate monitoring conditions. We also seek concrete mitigation options in the event that predictions regarding productivity prove to be false.

- In the NIWA 'Lake Water Quality and Habitat Report' regarding the release of anoxic water downstream it is stated that *"There is always a chance, however small, that difficulties could arise, associated with anoxic conditions during the first few years of operation. We recommend that a program be put in place to monitor the seasonal evolution of oxygen and temperature as depth profiles in the reservoir near the dam, and at two or more points in suitable cross-sections downstream of the dam. This would allow operators to respond appropriately, as described above, should the need arise."* Owing to the significant potential effect of an event where anoxic water is discharged to the lower river Fish & Game endorse the proposal to monitor the oxygen levels in discharged waters.
- In the event that further research and information regarding the Mokihiui sportsfishery corroborates work already provided in the AEE regarding trout migration Fish & Game would support the recommendation in s5.4 of the Cawthron Institute report on 'Trout Movement & Passage' which states *"In recognition of the uncertainty in our assessment of the effects of downstream passage over the dam on trout in the lower river and disruption to migration on trout above the dam we recommend that the trout population and fishery be monitored before and after dam construction."* The report lists appropriate measures to avoid, remedy or mitigate any effects likely to be discovered through the proposed monitoring program. Fish & Game endorse these measures and if these were to be provided for in the final consent conditions we believe they would constitute an appropriate 'safeguard' should the proposed monitoring regime reveal adverse effects to the trout fishery.

Fish & Game therefore wish the Consent authority to **decline** this application pending more certainty regarding the above mentioned issues.

We **do wish to be heard** in support of our submission.

Fish & Game have served a copy of our submission on Meridian Energy Ltd as per Section 96 (4) of the RMA.

Signed:

Date: 22 April 2008



Chris Tonkin  
**Manager**  
FISH & GAME NZ - West Coast Region