WELLINGTON
RECREATIONAL MARINE FISHERS'
ASSOCIATION (Inc)

WE RECOGNISE MANAGED FISHERIES

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21 January 2009

Board of Inquiry –Water
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Board of Inquiry – Water c/o freshwaternps@mfe.govt.nz

Dear Sir/Madam

SUBMISSION TO
THE PROPOSED NATIONAL POLICY STATEMENT FOR FRESHWATER MANAGEMENT

The Committee of the Wellington Recreational Marine Fishers Association (WRMFA) supports the view that there should be a National Policy Statement for Freshwater Management (NPS). With such a document, MfE has a chance to turn around the direction that regional, district and local councils have embarked upon through the failings of the Resource Management Act 1971 (RMA). This Act only requires councils to mitigate against adverse effects without once requiring them to describe what those effects would be.

The overarching reason for our submission is to highlight the importance of clean fresh water to the inter-tidal zone and subsequently the marine environment, and to highlight the degradation of waterways, ground water systems, and the destruction of aquifers. .

Recognising and protecting the life supporting capacity and ecological values of the inter-tidal zone is of paramount importance. It is important to recognise that the inter-tidal zone is as much fresh water as it is seawater, as when the tide goes out that section becomes fresh water. There are major changes to the inter-tidal ecosystems when the tide comes in as the sea water wedge comes under the fresh water and performs another function. It is this interaction that makes the inter-tidal zone 25 times more productive than the sea and four times more productive than the land. It is, however, also very fragile as our power point presentation will

highlight. Our submission will show that the inter-tidal zone provides the spawning grounds and food source of many marine specie. These specie, in turn, provide Maui dolphins with a food source. It is almost too late to save the Maui dolphins and science has a long way to catch up with local marine knowledge. However, as the Parliamentary Commissioner for the Environment (PCE), Dr J Morgan Williams, stated in a document called *Setting Course for a Sustainable Future* -

> *However, in an information scarce environment like the marine environment, informal information will often be a resource that marine managers cannot afford to neglect or ignore.*
>
> (1999, p.74),

It is evident that Government have been deceived by environmental groups who have lobbied to make the public believe Maui dolphin are disappearing as a result of nets, however, the rate of their disappearance is many times greater than the small number caught in nets. In the 298 page *Threat Management Plan for Maui dolphins*, produced by Mfish and DOC, they have included a mere 12 lines highlighting the fact that pollution may also be contributing to the disappearance of the Maui dolphins. This shows that they have a serious lack of inter-tidal marine knowledge. If environmental groups continue to divert research away from the value of the inter-tidal zone we will end up in the same situation as Sweden where they too allowed the inter-tidal zone to be destroyed by diverting research through their people in Government with other agendas (http://www.sns.dk/natur/netpub/skjernaa/engelsk/forudeng.htm and http://www.skovognatur.dk/Natur/Naturprojekter/LIFE/Odense/REGAIN.htm).

At the Board of Enquiry hearing, through a power point presentation, we will pass on the marine and inter-tidal knowledge we have gained over the last 50 years. This knowledge has also been acquired through being involved on a number of Government committees over the last twenty two years and having access to, and researching, many scientific papers. Through my involvement on the DOC NGO forum, I have been able to contribute to a major marine scientific discovery culminating in me co-writing a science paper with a senior marine scientist that describes the food source that beach cast seaweed provides to marine specie. This was one of a number of papers planned, as our research identified almost all the food sources of yellow-eyed mullet that are found in the inter-tidal zone.

Overseas research has identified that in fish that are subjected to chemicals from waste water, significant changes have occurred. Unfortunately both MfE and Environmental Risk Management Authority (ERMA) have failed to keep up with overseas research and provide limits. It is for this reason that we have compiled a detailed study of the life in the inter-tidal zone and the necessity for this to be reflected in the final version of the NPS.

The lack of scientific studies into the inter-tidal zone has been perfectly illustrated in a yet to be released NIWA publication *A review of land based effects on coastal fisheries and supporting biodiversity in New Zealand* by Morrison, Lowe, Parsons, Usmar and McLeod (this paper was received as a result of my involvement in the Mfish Inshore Working Group). They stated that little is known scientifically about our inter-tidal zone or the impacts of our

actions upon it. On page 25, they make a very important statement which must be taken very seriously by the Board when they described the impact of mud and silt on marine specie. They say in the draft, "most of our current knowledge concerning the effects of suspended sediments on fish are based on freshwater species" and "most existing information of the effects of suspended sediment is based on acute exposure laboratory experiments, with little empirical information available on chronic responses to high concentrations for extended periods, especially for marine species, or under natural field conditions".

Our power point presentation will not only illustrate the "natural field conditions" and prove that yellow-eyed mullet do not feed in dirty water, but that they also spawn in fresh water immediately after a stream runs clean. We have plenty of information to support this if required; however, we feel that the photos will provide the evidence required by the hearing.

The importance of clean fresh water to yellow-eyed mullet will be proven; as not once in all the different foods they were found to have eaten, did we find any evidence of mud or silt. These fish could be considered to be at the very beginning of the marine food chain as they convert the food in the inter-tidal zone into protein. They then in turn provide other marine specie and dolphins with their protein, which is essential for their successful spawning.

While this marine food chain may be known to experienced recreational, commercial and a few Maori fishers, it is largely unknown to science as yellow-eyed mullet is not a commercial specie and in the past some serious misinformation has been published about them. For example, the databases of both Mfish and NIWA state that yellow-eyed mullet spawn haphazardly out at sea, and knowing that to be false, it took me only one and half hours of target fishing to prove that they spawn up streams. An example of a yellow-eyed mullet, like those I captured with ripe running roe, had never been scientifically recorded before and they are now held at Te Papa thanks to Andrew Stewart and Clive Roberts.

In 2002, we wrote to Helen Clark, the then Prime Minister, to raise our concerns as to the lack of scientific knowledge about the inter-tidal zone (refer attachment). Three months later she announced the review of the New Zealand Coastal Policy Statement. The letter would have also led to the formulation of this proposed NPS as we knew the past Minister for the Environment Marion Hobbs had been made aware of the lack of information.

The NPS is going to be serious corrupted if the database errors of Mfish and NIWA are not corrected immediately. There are serious errors in the NIWA Freshwater Atlas for example they have stated for grey mullet "…like yellow-eyed mullet that they must return to the sea to spawn" and "for yellow-eyed mullet their spawning takes place at sea". They both spawn up rivers or streams and I found the error was made from an assumption in a science paper by Manikian where he noted a plankton trawl collected some yellow-eyed mullet eggs out at sea. He then made the assumption, without a scrap of scientific research, that "Large shoals of fish discharge their eggs haphazardly, to float freely in the surface waters of the sea". That assumption has subsequently been reproduced in a book called *New Zealand Fresh Water Fishers* by R M McDowall. The book is quoted as reference in the WRC Freshwater Plan.

The secret of why these fish move into rivers and streams, and why inter-tidal systems are so important, has only just been discovered through the pioneering night time research work of Daren Sutherland and Gerard Closs of Otago University. Their study was into the interface of marine and freshwater ecosystems in estuaries. They have stated that in an area of the Taieri River, that had been subjected to a number of daytime research projects, it was found to come alive at night, with huge masses of shrimps. They have proven that we have more than one native specie of mysid shrimps.

The Otago University, under Gerry Closs, is producing discoveries in the inter-tidal zone that are light years ahead of any other university in New Zealand. In another massively important, far-reaching, discovery they established the importance of a continuous flow of water to the sea from our rivers and streams. This team led by Gerard Closs included Bruno David, Lindsay Chadderton, Bernard Barry and Andrew Markwitz and researched the life cycle of the giant kokopu. They discovered by using microchemistry on their otolith that native fish travel in and out of the sea throughout their life cycle.

A few years ago I was invited to participate in a $32 million Foundation Research Science and Technology (FRST) programme on Natural Ecosystems and at the first meting we were told that there will be no Government funding into the inter-tidal zone until a commercial end user is found. This caused me a great deal of concern and I embarked on a study of yellow-eyed mullet. This concern has led me to co-write a science paper with a senior marine scientist describing one of the food sources of yellow-eyed mullet. A significant number of other science papers could easily be written describing the value of the inter-tidal zone and fresh water to a number of marine specie. My concerns were also expressed in a NZ Fishing Coast to Coast story called *Bad luck Hector you are dead meat* (refer Appendix 14).

When DOC published the NZCPS review, through a DOC NGO agenda item I identified areas that were missed and was invited to review it. I identified 35 areas where we are legally destroying the inter-tidal zone. The Minister, Chris Carter, progressed the review to another stage when he instigated a division to identify Issues and Options of the NZCPS, which required further submissions. We supplied 48 pages and 200 pages of attachments. When the NZCPS review went to the Board of Enquiry they identified a major problem in recognising the value of the inter-tidal zone. Of all the submissions they received, the WRMFA submission including 230 power point slides was the only submission or presentation that described the importance of the inter-tidal zone.

The photos in the power point presentation have been taken by me over the years for the very purpose of proving that councils and Government have nowhere to turn to for designing and managing the inter-tidal zone and estuaries. For example, until I became involved on the FRST programme, NZ had not one database that named a native inter-tidal plant and still today there is not one science paper or book that describes their function. While DOC and Landcare NZ have now named two native inter-tidal plants they could not record their function as my informal marine knowledge is not accepted in our current scientific system.

The lack of information about the value of our native inter-tidal plants has resulted in councils such as the WRC not recording the value of any native inter-tidal plants in their planting guidelines and recommend that the most important inter-tidal plant be removed with poisons from all water ways. Both DOC and WRC have put this lack of inter-tidal knowledge on display at Moera by only planting one specie of native inter-tidal plant in the water and lining the banks with rocks. The removal of native inter-tidal plants with poison is now being carried out by local planting groups along stop banks, stream and rivers throughout NZ as if there is no tomorrow. It only takes a month and the result is immediate. With no protection the banks are collapsing and blocking water ways. The power point slides will show a number of examples of this mismanagement.

I searched the National Vegetation Survey Database, Marine Benthic Biology Collection, Ngha Tipu Whakaoranga Database, and Flax and Living Plant Collections, and not one of these sites mentions native ureure glasswort, nana eelgrass, wiwi and raupo inter-tidal plants. I looked at the web for ureure glasswort and found in NZ they are only mentioned as being a pretty colour. I have searched Massey University scientific databases looking for ureure glasswort using its scientific name *Sarcocornia quinqueflora* and there has never been any study of its importance to marine life in estuaries in New Zealand. I found two studies that mentioned the plant - one in Australia, and another in Portugal - neither describing the plant function.

In a draft study released by NIWA they describe the loss of nana eelgrass in our estuaries, estimating there is only 40% remaining. I have already seriously questioned this as in the thirty five years of my observation the figure should by less than 5% remaining. Nana eelgrass is the habitat that NIWA have found forty different specie of fish living in while in the first stages of life, some so small that Te Papa have had to spend time identifying them. There is not one publication or book that mentions the value of Raupo rushes, so up and down the country regional councils rip them out. These plants provide the shelter for the very early stages of life for yellow-eyed mullet, which always spawn within a few feet of them distributing their eggs into the mass of foliage. If we were to ask regional councils to starve hector dolphins and all specie of dolphins to death by destroying their food source they would not dream of it. However, through the lack of knowledge of the life cycle of yellow-eyed mullet and what they eat, they are destroying their habitat every day. A paper by Neumann and Orams (2003) has described the feeding behaviours of common dolphins and they itemised six species as their food source. Those named included yellow-eyed mullet, jack mackerel, kahawai and garfish. A study of Maui dolphins described they obtain their food when a river runs dirty as yellow-eyed mullet, grey mullet and native freshwater specie leave the dirty water.

There is also a lack of information in the Encyclopaedia of NZ either naming or describing the function of our native inter-tidal plants other than naming a couple of them that add colour to an estuary. The WRMFA power point slides carry a brief description, but as this will be the only presentation describing the inter-tidal zone you would have seen or read about, time should be allowed so that it can be fully described at the hearing. To the average person without a lot of marine knowledge discovering the value of the inter-tidal zone would be

almost impossible. For one scientist it would be extremely impossible as they specialise in only one aspect at a time and a scientific study of the inter-tidal zone would require a scientific background in many fields. If a scientific paper was requested for all the information it would require at least sixteen papers, but then you run into funding issues. While the presentation mainly targets the mismanagement of freshwater in the Wellington region it could have been done anywhere as I regularly receive information or requests for information from around the country.

We have found through many resource consent hearing experiences that pictures speak louder than words and we will use the attached power point slide presentation to expand on what the slides are portraying. We know you will be both shocked and disgusted that this is happening in New Zealand right under your noses. We would like you to reflect on what you are seeing as this information is completely unknown to science and ask yourselves what else you do not know about the inter-tidal zone. These discoveries have never been recorded in any publication other than in the stories I have written for the *New Zealand Fishing Coast to Coast magazine*. The importance of the discoveries has been acknowledged by past Ministers of Conservation Sandra Lee and Chris Carter. Their letters are included in the appendices.

Contents of the power point presentation

The presentation will:

1. Show both native fresh water and marine fish do not feed in dirty water.
2. Name and describe the function of native inter-tidal plants to marine and native freshwater specie.
3. Show councils and DOC are not consulting with those with marine knowledge and as a result have no idea of any functions of our native inter-tidal plants in our streams or estuaries.
4. Show that the council and DOC know of only one native inter-tidal plant but then have not a clue where it should be planted.
5. Prove sediment traps designs are not working and why they are not.
6. Prove sediment traps are being left full of mud to overflow in the next rainfall down streams.
7. Prove that all round the Wellington region sediment traps are being abandoned and are now so full of mud and rubble they are no longer able to collect any more mud and silt.
8. Will show that sediment in Porirua Harbour has decreased the harbour depth by over a metre in the last ten years.
9. Will show that construction site planning, and the resulting resource consent permits from the WRC, are failing to manage the water flow of a natural spring. Roads are being constructed that then blocks off the water from running down gullies that the water had created thousands of years ago.

10. Will prove that the WRC is not complying with provisions in the ***Resource Management Act as Section 107 (1) (g***) which states "…there must be no significant adverse effects on aquatic life".
11. Will prove the Parliamentary Commissioner for the Environment (PCE) Dr J Morgan Williams in his report **Growing for good**, Section 3.4.2 "Soil" page 50 has only described soil loss known from farming practices. If he was to include the soil loss from forestry, subdivision construction or dam construction and what can be seen though locked gates or threatening notices, then the figures he quoted could easily be trebled. However, in his report he quoted figures that states that "New Zealand loses between 200 and 300 million tonnes of soil to the oceans every year. This rate is about 10 times faster than the rest of the world, and accounts for between 1.1 and 1.7 percent of the world's total soil loss to the oceans, despite a land area of only 0.1 percent of the world's total".
12. Will prove that where the earth has been opened to the elements there is seldom any attempt to oversow the land, even when DOC is involved.
13. Will show logging waste is being discarded in flood plains and in a flood the logs create dams which then burst destroying the inter-tidal zone.
14. Will prove eight year old flood water dams were built with serious fish barriers.
15. Will prove fish barriers are being built for no purpose other than to prevent native fish migration.
16. Will describe the importance of a continual water flow to the sea for marine and native freshwater specie.
17. Will prove lake outlets are being completely mismanaged through the RMA process and fish are being denied access into freshwater.
18. Will prove artesian water supplies in Wellington are being placed in danger of sea water inclusion as in one generation the head of water has been reduced by over four metres.
19. Will prove that when an increase in fresh water rising at the Falcon Shoals was observed and identified as being caused by the fast ferries travelling over the springs, our warning was dismissed. The event was advised to the WRC in 1997 and the then Government Ministers of Conservation, Transport and Environment.
20. Will describe the mismanagement of artesian water supplies in the Wellington region that has reduced the regions ability to supply artesian water to future generations to the point where a $250 million dam is proposed.
21. The presentation will prove artesian water supplies have a number of dimensions and councils are failing to acknowledge their function partly due to a lack of Government direction as to how they should be managed.
22. Will describe that the submarine fresh water springs in Wellington Harbour that have been known to exist since 1908 are integral to the Wellington region's water supply, yet they have never been mentioned in any water supply management plan as having a function.

23. Will prove that the WRC failed to record the submarine fresh water springs in their Regional Coastal Policy Statement as Areas of Significant Conservation Value and then used them as dredge waste dumping sites. Then through the media called the springs natural holes and depression in the harbour that they were filling in.
24. Will prove chemicals in waste water kill marine and freshwater life.
25. Will prove endocrine chemicals found in waste water causes serious problems to fish reproductive systems.
26. Will prove that soaps today are full of petroleum based chemicals that overseas research is finding to be destroying the natural instincts of fish to school for protection.
27. Will prove dolphins will not pass through waste water slicks yet these slicks are where they find their food. A number of science reports are confirming Maui dolphins are being affected by human diseases. Research has also found that after a major outbreak of brucellosis, that caused thirty miscarriages in Dunedin, it also affected the sea lions as they had not one live birth. By coincidence they haul out onto the beach is where the Dunedin City Council decided to place a sewage outfall.
28. Will prove mud and silt slicks discharged into sea water can remain on the surface for twenty five kilometres or more.
29. Will prove after the Wanganui floods the commercial catch of blue cod from cod pots in stat area 41 around the Patea reef dropped from 38 tones to 15 tones even though the fishing fleet had trebled.
30. Will prove the impact of silt and mud from the fast ferries underwater wake in the Marlborough Sounds. They caused all marine life to be covered in a layer of silt and prevented seaweed from growing. This then resulted in blue cod moving out of the Sounds and the Ministry of Fisheries management at a Soundings public meeting dismissed environmental factors as not being their concern. The *1996 Fisheries Act Section 9 Environment Principles* makes it clear they could have used the Act to prevent the demise of blue cod in the Marlborough Sounds.
31. Prove that of our eight nationally recognised databases four have major errors and omissions.
32. The presentation will prove through photos that Government has not provided councils with the scientific tools and the knowledge base in which to make an inter-tidal estuary in the capital city Wellington.
33. The presentation will prove that a separate National Policy Statement for fresh water management, which takes these factors into account, is essential.

There is no way management of fresh water can continue under the present system and our photographic evidence will leave you in no doubt that management of fresh water has to be totally changed. As described earlier, the biggest problem is the lack of scientific information to support local knowledge. Then as we have experienced, the WRC refuses to consult with anyone with marine knowledge and believe that by contracting people with fresh water

knowledge they can build inter-tidal wetlands. The whole structure within regional councils has to be changed before fresh water management can be considered to be effective.

COMMENTS ON PROPOSED OBJECTIVES

Our comments and supporting evidence on the proposed objectives are as follows:

Objective 2 – Ensuring integrated management of effects on fresh water

To ensure effective integrated management of the effects of Land-use Development and discharges of contaminants on quality and available quantity of fresh water.

It is noted that there is a concern that land use planning and freshwater management is often not well integrated. There is perfect example of this lack of integration by the Northland Regional Council. They wanted more fresh water to supply the growing towns of Omapere and Opononi so they applied to themselves for resource consent to extract water from the Waimamaku River. That may appear to be reasonable but local Maori report that in dry years water from it fails to reach the sea.

There is also another problem that has not been raised in regional councils' freshwater management plans and is the lack of communication between divisions within a council. I asked the Northland Regional Council if they are going to upgrade their waste water plant to cope with increased waste water and they had not thought about it. The implications of this lack of planning are massive as fresh water remains on the seawater for miles and with the plant operating beyond its capacity the chemical slick from the waste water pipe in the middle of the harbour will travel up into the Hokianga Harbour for miles contaminating major spawning grounds. Harbours and deep inlets are where snapper spawn and research into their dna has established that the Kaipara Harbour snapper travel down the west coast and around into Wellington. The impact of excessive runoff will have a major impact on their recruitment levels even though the Kaipara Harbour has benefited from protection from land runoff in recent years.

Objective 3 – Improving the quality of fresh clean water

To ensure the progressive enhancement of the overall quality of Freshwater Resources, including actions to ensure appropriate Freshwater Resources can reach or exceed a swimmable standard..

We agree that the term 'reach or exceed' avoids the potential interpretation that a swimmable standard is a capped objective and that water has uses and values which may require a higher quality.

To begin improving the quality of water a whole new standard of water testing will have to be implemented. For example, we see testing of pollution upstream of the discharge, or hours after the event; or, as the consultants to the Hutt City Council reported in their assessment, they tested the water quality of their waste water discharge at Pencarrow one and half kilometres from the discharge. Likewise the Wellington Regional Heath Authority recommended testing the WCC waste water contamination 1800 metres from the outfall walking past divers collecting seaweed for food on the closet reef to the outfall, a distance of only 500 metres away. The lack of marine knowledge by the Health Authority is disgraceful as they must know seaweed absorbs chemicals and that is where they should have been testing water quality years ago.

Objective 4 – Recognising and protecting life supporting capacity and ecological values

To ensure the life supporting capacity and ecological values of Freshwater Resources are recognised and protected from inappropriate –

(a) Taking, use, damming or diverting of fresh water; and

(b) Land-use Development; and

(c) Discharges of contaminants.

Protecting life supporting capacity

Although the RMA includes wording around the importance of "…preserving those natural characters of the coastal environment including wetlands lakes and rivers and their margins", what is happening in practice, due a lack of inter-tidal marine knowledge, is that councils are working in the dark and are using consultants who are working without any marine knowledge. Or they are asking DOC, who also have no marine knowledge–when their work is analysed it can be seen that they have created a environmental disaster for all to see.

In Wellington the Hutt News ran a story describing how both the WRC and DOC had been involved in the construction of the Moera Estuary. The story (appendix 30) describes how the work is being done so that inanga will return to and spawn in the Opahu Stream, but this estuary has nothing to do with the Opahu Stream as it is not connected. The photo of the WRC display board taken years before clearly shows how the stream would feed the estuary and work commenced. However, when it was almost complete the whole lot was ripped out and another idea was commenced. I had been keeping a photographic record of this estuary construction, as our offer in 2002 to help the WRC at a public meeting in February at the Moera Community Hall was declined where I was told that the meeting "…was not to discuss the environmental concerns that I was raising".

A visit at low tide to the completed Moera Estuary has established there have been a number of errors made in the design as at low tide the estuary is far too shallow to support spawning fish of any specie. To add to this environmental disaster, at low tide the water that enters the estuary through the Hutt River inlet pipe is now draining back out the same pipe and dropping

some 150 millimetres back into the Hutt River. With pipe angle and position in the fastest section of the river, the velocity of the water entering the Moera Estuary in a flood has ripped out the bank and a silt bar some twenty metres long has formed half way down the estuary preventing any fish access.

To make matters worse the planting programme DOC designed is a complete shambles, with only one specie of our many native inter-tidal plants used in the waterway. Along the banks the plants that had been protecting the banks have been poisoned and now large sections of the banks are falling into the estuary adding to the silting of the estuary. Then to really make sure no aquatic life can escape from the estuary, the WRC has built a perfect fish barrier of stones at the very outlet.

A manmade lake at Waikanae has its outlet higher than the river preventing fish migration. Almost every stream in the region has a fish barrier.

The depletion of oxygen in freshwater is another issue the Board will have to raise as waterways are continually being modified or wetlands reclaimed. In one instance we stopped the dumping of concrete slurry in the Makara Stream as no one knew that concrete slurry, being partly lime, absorbs oxygen in a stream.

Another example that the provisions of the RMA are falling on deaf ears at councils and DOC is at the Fitzroy and Pencarrow Lakes, where a resource consent was granted to mine the sand at the lake outlets. The mining waste of rocks replaced the sand and now the lake water falls into the rocks and never flows to the sea. Not only have the lakes lost their native fresh water specie, but yellow-eyed mullet lost this region's major spawning zone, and within a couple of years yellow-eyed mullet had almost disappeared from Wellington Harbour. Once again through the actions of the WRC and DOC, and through their disregard for the provisions of the RMA, dolphins lost their food source. These lakes have the native inter-tidal plants that marine and fresh water fish use for spawning and the ignorance of the value of our native inter-tidal plants function by DOC is being played out throughout New Zealand. Attached (as appendix 15) is a story I wrote for the NZ Fishing Coast to Coast magazine called *They are killing our beaches... Everything is connected* which details the history of how these lakes' outlets were destroyed. The power point photos will make it easier to see what went wrong.

The RMA Section 6 states that its purpose is to give relevance to "…the protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna". Yet where is the information that describes or names this vegetation or what are significant habitats in the coastal environment? Where is the scientific back up to describe what "significant habitats" means to a council. There is none, and when you look at our nationally recognised databases there is no information. Then what are significant habitats of indigenous fauna and if you know that, what is its function? The FRST programme I was invited onto said there will be no Government funding into the inter-tidal zone so where was a council going to obtain the information to build a wetland. The man made wetland at Bexley in Christchurch is hopeless as they control the seawater into the wetland as if man has discovered the biological clock of fish.

Regional councils are already ignoring the provisions in the RMA and as for "…safe guarding the life supporting capacity of water as a part of sustainable management", that's a joke. They are all doing their level best to destroy it. Take for example the Kapiti District Council who drain the lake alongside the Waikanae River for two days every month, from spring to autumn, and have been doing it for years. Another is the Thames Coromandel District Council who destroyed the Whangamata Estuary fresh water springs and a native plant inter-tidal zone to build a marina car park after becoming elected councillors. The Whangamata Marina proposal also exposed another failure of the Environment Court to recognise the value of the inter-tidal zone as it traded the zone with its natural freshwater springs–carrying the status of an Area of Significant Conservation–for a car park. In return the Environment Court decided to call an area described as a bog by locals as their replacement inter-tidal wetland.

The past Minister of Conservation Chris Carter had, by that time through my correspondence, become aware of the importance of the inter-tidal zone and tried to stop the development only for the then Minister for the Environment David Benson Pope to overrule his decision laying down conditions that were then ignored by the Council. History can now see how this happened thanks to this proposed NPS from the MfE. Judging from this proposed freshwater national policy statement it is extremely unlikely he would have found anyone in the Ministry that could have advised him of the inter-tidal zone's value. However, for a Minister for the Environment to give advice to fill in fresh water springs, just as a previous Minister of Conservation Nick Smith did to the Wellington Harbour submarine freshwater springs, is unbelievable environmental vandalism no matter what the reason is for their decision.

The fresh water management plan must contain a reference that we cannot continue destroying fresh water springs and they must all carry the status of Areas of Significant Conservation Value. These recent events also prove the MfE document Managing Waterways on Farms was also compiled with a lack of inter-tidal knowledge as four chapters have serious errors.

For the Ministry for the Environment, Department of Conservation, Ministry of Fisheries and everyone in Government to allow the Thames Coromandel District Council, Environment Waikato and the NZ Environment Court to destroy an inter-tidal wetland and replace it with a wall of rocks has exposed this country's lack of knowledge at the highest level. Obviously the function of our native inter-tidal plants is completely unknown to Government and councils and the NPS for Freshwater Management must introduce plans to correct this lack of knowledge.

ERMA has also failed to identify or record in their publications the results of overseas research showing that pharmaceuticals are entering our food chain. These chemicals are being blamed for severe reproductive problems in many fish species. Overseas studies have found that fish have tested positive for pharmaceuticals such as analgesics, antibiotics, antidepressants, antihistamines, anti-hypertension drugs and anti-seizure medications. However, wastewater plants around our coast are unable to strip out these chemicals and ERMA has failed to provide any minimum requirements for viruses and chemicals in

wastewater discharges. This is totally unacceptable given that all of this country's wastewater plants do not strip out chemicals and all wastewater is discharged into waters less than thirty metres deep or down rivers. While we have managed to have endocrine chemical testing included by the WCC in their resource consent application, the testing will only take place when ERMA catches up with standards set overseas**.**

We have a country applying chemicals to farm land equivalent to the depth of the farmers' pockets and we will show in photos the impact of waste water chemicals on marine and inter-tidal life. This life is in turn eaten by yellow-eyed mullet which in turn are the food source of Maui dolphins. These fish travel out of estuaries when the water runs dirty and help to provide a food source for the dolphins. It is Government propaganda that fools the nation that nets are killing dolphins as they are disappearing at rate that far exceeds the number caught in a net. We as a nation are killing Maui dolphins through ignorance of the value of fresh water and we have a RMA system that allows it to be contaminated with mud, silt and chemicals.

The removal of pines has to be the most destructive method of farming a crop that there ever has been. Not only is the earth left bare so that one day weeds may grow to cover the bare earth on Government, council or private land, but the logging waste is always left in the flood zone of a stream or river. The consequences of this practice causes flood waters to pick up the logs that then causes log dams behind which water becomes trapped. The resulting dams then burst taking out river banks or houses and fill in what was once deep pools with rocks and shingle. It is rubbish to believe the resulting damage to marine and inter-tidal life is to be expected when a log dam bursts as it would be preventable with better management and hopefully a NPS forFreshwater Management will achieve this. A log dam bursting would be the cause of recent flooding in Tauranga and at Waikanae as both had logging operation in their head waters.

At the Waitangi Tribunal in a report prepared for the Mohaka River inquiry, the Crown was criticised for being slow to act to arrest erosion. Researcher George Thomson wrote that, as early as 1906, Government geologists were "…warning that unabated clearfelling of some catchments on the East Coast would result in major erosion". He quoted two geologists, Henderson and Ongley, as issuing another warning that the downstream effects of deforestation would be "Greatly increased sheetwashing of the soils; great increase in the number of slips, slumps and rain gullies; aggradation of the stream bed; wandering of the streams over valley bottoms; burying of culverts and bridges; and more severe and frequent flooding".

We have vast areas planted in pines in the belief that they stabilise the hills yet when they are harvested, the hills are left bare until water running off the hills creates ruts and the velocity of the water increases taking more land with it. All the silt then ends up in the inter-tidal zone either smothering shellfish beds or decreasing the depth of water.

At a recent DOC NGO meeting I raised this issue as an agenda item as DOC was clearing a forestry block on Crown owned land along the Wainuiomata Coast Road. Rivers of mud were flowing into the stream rutting out the track they had made. It would appear there is no

requirement to oversow Crown land and DOC is providing a poor example of land management to private forestry block owners. Government should have displayed best practice and been the leaders in land management after pines has been removed as this dirt is impacting on marine life. This should be addressed in the NPS.

A hidden factor in the processing of logs is occurring at every load out site as they are nearly always in the only flat ground and that is in a stream bed. The pine produces a very sticky sap that attracts dirt, which is not acceptable to the end processor and at debarking a chemical is added to neutralise the sap which then flows down the streams and into the sea. The management of pine removal on hillsides, near streams and in their flood plans has to be addressed through the NPS.

Through our power point presentation you will be shown the function of our native inter-tidal plants that not only provide a food source but also provide the habitat and shelter for other native specie so that the marine food chain can begin. A major function of native inter-tidal plants is to trap in their foliage the eggs of the many specie that spawn in that estuary so that they can hatch. With that little piece of information you can begin to understand what the result is from councils removing these plants and replacing them with rocks. The belief they are protecting the banks is a double edged sword as the councils are straightening rivers thereby increasing the flow and the result is causing more damage.

When native inter-tidal plants are doing their job in a flood they lay down and protect the banks but when they are replaced with rocks the rocks become the habitat for rats that wait and eat the fish eggs as they are smashed to pieces on the rocks. There are a number of marine specie that spawn up rivers but without the knowledge of the function of the inter-tidal zone its management is being seriously exposed. Our photos show what happens when a council without marine knowledge or consultation embarks on a project to build an estuary in the inter-tidal zone.

Whangamata has provided another example to add to the WCC resource consent wastewater environmental disaster where the NZ Environment Court has rubber stamped the destruction of the inter-tidal zone by councils. On the web the Marina Society state that they put forward an Ecologist, Graham Don, from Bio Researches Ltd to the NZ Environment Court who stated -

> *Without human intervention this salt marsh would probably dry up of its own accord.*

The Marina Society explained this –

> *was readily accepted by the Environment Court. Yet natural springs feed this inter-tidal zone and the water flow is described on the internet. Other native life is also threatened when fresh water springs are destroyed as everything has its place in the world and it was revealed by Iwi that Mokomoko Skinks (Oligosoma Moco) had been found at the Whangamata inter-tidal zone and that there is only one of two known colonies on the mainland.*

http://www.whangamata-marina.co.nz/ And Surfbreak Protection NZ

But it is not only councils involved in destroying the inter-tidal zone as Transit at Taitua did just that and then proudly referred to it as their Swampy Project, which was to destroy wetlands. Rather than bridging the wetlands they reclaimed a vast area destroying the habitat for many native specie including bird life. Another was a past Minister of Conservation, Sandra Lee, who gave her OK to destroy the native inter-tidal plants at Whitianga to build channels and exposed DOC as not having any marine inter-tidal knowledge either.

It would not have been too difficult to have had areas set aside as "critical spawning areas for marine specie" and provide these areas with native inter-tidal plants or have cleared them of invading mangroves, which have only established themselves due to poor land management in the past. On land development sites DOC and eco groups have successfully promoted the concept of setting aside areas of native plants to provide habitat for migrating native bird specie. However, first there has to be an understanding of what to plant. At the present point in time Government has not a database from which obtain the knowledge, as the WRC has proven. This is one area the NPS should address. If it is environmentally sound practice to protect native plants on land then surely we should be doing it in the inter-tidal zone?

I was recently invited to describe the Makara Estuary to the Meridian Mill Creek wind turbine resource consent proposal as the Ohariu Valley Preservation Society's expert marine and inter-tidal witness. At the hearing, through photographs, I proved yellow-eyed mullet are the most abundant fish in any estuary in New Zealand, and that they would be seriously affected by any runoff into that stream. Not once in my field based research of this estuary have the yellow-eyed mullet food samples shown that they have consumed mud or silt. The wind turbines planned for Mill Creek would if granted be in complete breach of the RMA as in Section 107 (1) (g) it states there must be *"no significant adverse effects on aquatic life"*.

This provides a serious challenge for the Commissioners as the construction of Meridian's West Wind turbines has caused a massive mud and silt runoff in complete breach of the conditions as the sediment trap design of the WRC is useless. The photographs to be shown at the Board of Inquiry hearing will show that the claim made by Meridian in the NZ Fishing Coast to Coast magazine that there would be no runoff is incorrect as the runoff has been out of control since day one.

The million dollar clean up plan for the Waiwhetu Stream is also going to run into serious problems as it has nothing to do with flood protection or ensuring the chemicals and pollution does not return. The poorly thought out clean up has ignored the fact that the Hutt City Council have their main emergency waste water pipe in the stream 150 metres from the Hutt River and the stream only floods in a southerly and heavy rain. Then the emergency pipe starts discharging the excessive product into the stream, which the pipe to Pencarrow via Eastbourne cannot handle. Added to that is the fact that the stream outlet is almost at right angles to the Hutt River flow and it becomes blocked with shingle in a flood. This then causes the wastewater to flow back up the stream. Photos will support this.

In our experience of attending two resource consent hearings involving wastewater discharges there is some serious misinformation being presented by councils to support their waste water

discharges into the environment. The major issue is there is not one wastewater plant that strips out chemicals, so while the known product is reduced the chemical such as chlorine is not. Unfortunately smell is another problem with waste water plants and to reduce the smell they introduce another dangerous chemical, a class 8 caustic. The WCC waste water plant at Moa Point receives 40,000 litres of this product a week and when it rains this is trebled.

Through the media we have learnt that New Zealand spends on chlorine products in one year the equivalent to the whole conservation budget, and that product is entering our waste water systems at an unacceptable rate. The impact from house cleaning can be seen at storm water outlets to the sea, as when it rains as all the algae disappears. Throughout New Zealand towns and cities are discharging their so-called "treated" waste water product into rivers and streams, knowing it is full of chemicals they are not required to remove as MfE has not established chemical discharge guidelines. We experienced the Wellington Regional Health Authority's knowledge of chemicals on marine life and, if that is the standard throughout New Zealand, then that is a very serious issue the fresh water management plan has to address.

There is a serious lack of information describing the importance of algae or the different specie. Algae grows when fresh water runs over an area previously covered in sea water. This still lacks scientific study, nor is any value placed on it by science. Mussels feed off the alga that grows on the mud flats when the tide goes out after the flats have been flushed by the surface layer of fresh water from the rivers. Up north mussel farms are continually being contaminated with chemicals from waste water and excessive runoff to the point where this is seriously impacting on the future of aquaculture in NZ. When the first mussel farm was established in the Marlborough Sounds NIWA could not understand why he had placed his farm near the mud flats of a river, but by telling them he harvests three times a year they quickly caught on. The highest yield of mussels has always been from the inner Sounds down current from the rivers that feed the Sounds around Havelock. The importance of these algae has only received a little research and that is in Portugal. There has never been any research into the impact of pines grown along the foreshore but it is massive as you will not find shellfish beds where pines line the foreshore, nor will you be able to catch a fish there either.

Chemicals in wastewater have never been taken into account as of importance to micro ecosystems. This was proven by all involved in granting the WCC resource consent to discharge waste water into Lyall Bay. A visit to the Wellington South Coast rock pool marine life will prove what a class of schools boys discovered and presented to the resource consent for a marine complex on the south coast - nothing lives in the rock pools. This is understandable as the chemicals wash the rocks twelve hours a day with products we use to kill mould, which is after all algae.

So called state of the art tips such as the WCC Newlands tip was never fully sealed and three springs carry the chemicals into the Wellington Harbour. The chemicals from these tips contaminating the sea can be seen in our power point presentation.

The RMA has a provision that outlines the purpose of the Act in Part 2. In section 5 it lays out a number of these purposes, however, when you participate at resource consent hearings, through mediation, and then through the Environment Court, it is as if this section 5 never existed. What has happened is that case law is being quoted that counters these points of law. The problem is there has never been any research to back up this section 5 of the RMA. Our power point presentation will show that this has been the only study of the impact on the inter-tidal zone.

The WCC resource consent to discharge waste water into recreational waters at Lyall Bay for a further thirty five years provides the evidence to support this concern as we will show you the impact on marine life is total destruction for months.

The Hutt City Council's discharge of waste water through their emergency pipe in the Waiwhetu Stream will show that all marine life dies when it comes in contact with a waste water discharge and that this product then flows upstream to the end of the tidal influence for twelve hours a day.

Yet Government's knowledge of the marine environment has been seriously exposed as they are prepared to spend millions of dollars on a stream restoration that becomes contaminated whenever the main sewage pipe to Pencarrow is broken. The fact that it breaks once a year and waste water flows up the stream for four weeks a year has been completely missed by everyone. There was a study of the pollution of this stream but the study never went near the emergency waste water discharge point. The history of how to destroy this stream has been published in a NZ Fishing Coast to Coast story called *Paint it Black* written by me.

While it is identified that there is "…a lack of effective action to diffuse discharges of contaminates on water quality in some catchments". Now that you have made this statement, from where are you going to find the science to prove there is an impact. It is all very well saying the water has this or that chemical now in it but what is the impact on aquatic life down stream from the discharge. When you view our power point presentation you will see there is an impact, but that is informal information acquired over many years, and to raise the bar and to achieve the time frame, allocating million of dollars for science to catch up with local knowledge will take too long.

Through the latest WCC resource consent hearing to discharge wastewater and chemicals into Lyall Bay for thirty five years, a 1993 study of a die dispersion test made by marine consultant Paul Barker employed by the Cawthron Institute, was described in his brief of evidence. His peer reviewed paper stated that 700 to 4400 litres per second of waste water will mix with seawater inside 100 or 200 hundred metres. There is not a river in the world that can do that in the quantities and distance described.

Available on the internet is a study by the Department of Environment Queensland at Moffat Head sewage outfall for the town of Caloundra, where they used the same dye (rhodamine WT) as the WCC marine consultant Paul Barter. This study established the dye used in the test, when conducted under the manufactures recommendations, travelled 800 hundred

metres in one hour before travelling out to sea and along the coast. This study was on a wastewater flow nine times less than Wellington's and from a pipe half the diameter. It is obvious to all who live above the outfall that Wellington's wastewater flows every day completely through the Taputeranga marine reserve.

Based on the Caloundra report, and knowing how fast the surface currents travel into Lyall Bay, the surface wastewater slick would in one hour cover the whole of Lyall Bay and most of the south coast contaminating all the rock pools. We have recorded current speeds of 5 knots off Island bay while Victoria University has recorded 7 knots. So in one outgoing tidal movement of 7.3 hours the surface plume of contaminated surface waters would have travelled 12,964 metres right through the marine reserve and well past Sinclair Head, 7100 metres to the west. It is disappointing that the DOC marine reserves unit had insufficient marine knowledge to make a submission exposing this fact as the discharge is in breach of the Marine Reserves Act every day. The WCC advised us that a wastewater bypass on the 1 May 2008 was for 13 hours 21 minutes and had a maximum flow of 4,420 litres a second and of that only 29,530 cubic metres was partially treated. The plant can only treat 3000 litres a second and has a design capacity of 4500 litres a second. Even with a planned UV plant it will not be able to strip out the chemicals or prevent emergency sewage over flows into Tarakena Bay, which has a high recreational use.

Objective 5 – Addressing freshwater degradation

To control the effects of Land-use Development and discharges of contaminants to avoid further degradation of Freshwater Resources.

The RMA has failed to provide the tools for councils to manage fresh water. Examples of the RMA's failure are everywhere. But in Wellington alone our artesian water supply is contaminated by the leachate from the region's largest rubbish tip at Silverstream and to compound the situation the WRC has create rapids where the water has been proven to enter the aquifer. They also constructed a resource consent that gave the impression the Silverstream tip was not contaminating the region's water supply.

The Hutt Ground Water Supply is a perfect example of a mismanaged artesian water supply. First Government allowed the Hutt City Council (HCC) to build a massive rubbish tip at Silverstream, then watched as Mayor Dowse built a $5 million road into the valley, and then when the HCC ran out of money, refused to help seal it. Chemicals that were dumped at the tip only took three days before they entered the Hutt River and thirty years ago and killed absolutely everything in the river died downstream from the tip. Failing to seal the tip was dumb as a thousand metres downstream the ground water enters the Hutt Ground Water Supply and this has been known since 1908. Leakage from the tip continues down to Stokes Valley where still locals will not take their dogs for a swim. Instead they need to travel to above the Silverstream tip for this purpose.

However, the greatest impact on the environment is at the Waiwhetu Stream as after thirty years of the leachate running into the Hutt River from three settling ponds, it has now been piped into the Hutt sewage system where at times of heavy rain, or when the Pencarrow sewage pipe breaks, the product flows into the stream and on the incoming tide travels up past the Marae at Waiwhetu.

There are a number of towns and cities that discharge waste water into rivers and streams and the MfE and ERMA have failed to keep up with overseas research into the impact of endocrine chemicals and soaps on aquatic life. Chemical are absorbed into seaweed and inter-tidal plants which then become a food source for marine and fresh water specie. There are over thirty papers published a year describing the impacts of chemicals on marine life. Toxic algae blooms originate from agricultural chemicals that have accumulated in streams over the summer months. Overseas toxic algae blooms have provided a food source for mackerel which in turn were eaten by pilot whales resulting in hundreds of these whales dying.

The belief that "…discharges are reasonably well controlled at present" (p.32) has been made in complete ignorance of the real world and this statement should be deleted or the wording changed. Discharges are out of control. Even when the WRC were advised of a valley with abandoned sediment traps over flowing, instead of immediately preventing any more discharges the WRC were more interested in finding some legal way to extract money from the contractor. Regional councils have the most useless design of sediment trap imaginable and are promoting them as working. On the front cover of the WRC sediment management recommendation is a sediment trap at Kaitoki that failed in the first downpour and the mud slick it created went out of Wellington Harbour past Baring Head and over the horizon. Our photos will support this.

All around the Wellington region sediment traps have been forgotten and remain full of mud to the point that weeds grow or they are surrounded in gorse. When there is only a little rain they overflow with years of accumulated mud. The design errors are so obvious that it is a sad reflection on regional councils' lack of interest in fresh water management. The traps could be made into quite good sediment traps with a simple addition. Unfortunately the WRC have a management structure that refuses to accept advice, neither do they consult. I have spoken with engineers who hate to talk about the sediment trap design and shake their heads in disbelief and state that if they were to make a modification the council then hold them responsible for any leakage.

Complying with the WRC sediment trap design has its benefits for contractors as when a major sediment trap failed and filled the Pauatahanui Stream and inter-tidal zone with mud, silt and rocks the contractor, engineer and land owner were each find a mere $500. The low level of the fine shows the WRC's guilt in having a faulty sediment trap design, but they have done nothing to correct it.

At other sites we will show a fresh water spring with its flow blocked off by a contractors' road. The spring water has been flowing for years down the gully and instead of the water being piped under the road the contractor dug a ditch along side the road and now the water

never reaches the vegetation that would have been supported by the spring. Photos will support this.

Our photos will show that councils have to redesign sediment traps, introduce weekly removal of mud and silt and install industry designed sediment tri tanks that catch water before is discharged into streams. If a machine works in mud on a construction site the dirt on the tracks can be washed into a sediment trap which then flows into a stream. If that machine was transported onto an industrial site with mud on the tracks you cannot wash the dirt into a stream of storm water system it has to be washed down in a purpose built wash down that has tri traps and they have to be removed of mud on a regular basis. The double standard that regional council employ on sediment management has to be regularised as at present it's illogical.

Objective 6 – Managing demand for fresh water

To ensure that demands for fresh water are sustainably managed in a manner that has regard to the following:

(a) available supply of fresh water;

(b) the need to provide resilience against the biophysical effects of climate change (such as through infrastructure for supply, storage and distribution of fresh water);

(c) the adverse effects that arise from those demands.

The identification of climate change factors has to be consistent throughout Government and regional council resource consent processes and not modified to suit the situation. Throughout the Wellington City Council resource consent to continue to discharge waste water containing chemicals into Lyall Bay, whenever we mentioned climate change it was dismissed as a factor by WCC, DOC, WRC and then the NZ Environment Court Judge. The WRMFA showed that we are already experiencing climate change factors and that the use of the emergency overflow into Moa Point bay would increase, but this was dismissed. Our concern was that the pipe outlet was only 800 metres from a marine reserve and its waters would be contaminated 12 hours a day, but this was dismissed. We predicted that due to climate change there will be far heavier rainfalls and the pipe should be extended into the faster Cook Strait currents or replaced with another pipe into waters at least fifty metres deep, but this was dismissed.

We went to the Environment Court mediator and she dismissed climate change factors. We then requested that Environment Court Judge Thompson step in to sign off the resource consent application as we had refused to be part of an environmental disaster. He also dismissed climate change factors and our 130 pages brief of evidence proving the resource consent had been compromised with scientific misinformation, was also dismissed. Three months later the heavy rain we predicted caused the WCC treatment plant capacity to be

compromised and untreated waste water forced the closure of the Moa Point, Island and Lyall Bay beaches.

Objective 7 – Efficient use of fresh water

To ensure that allocated fresh water is used efficiently particularly in terms of the following:

(a) avoiding wastage;

(b) avoiding excessive contamination;

(c) facilitating opportunities o increase benefits from the use of fresh water.

There is a perception that if a respected firm is used to do a stocktake of environmental matters, and in this case freshwater management, then they have been able to report on everything, but they would have missed heaps. For example, the Wellington Regional Coastal Plan fails to mention the submarine fresh water springs in Wellington Harbour. That omission has far reaching impacts as the springs are integral to the Hutt Ground Water static head of water, but if the report did not cover that omission it begs the question what else was missed. Was the ground water at Waikanae disclosed to be undrinkable before it was connected to the regions water supply? The lack of research into where ground water enters an aquifer also occurred to those who live at Porangahau when a pine plantation was established in the aquifer seepage zone - now their artesian water is undrinkable. We have seen in the past such reports that are only what appears to be the truth, but this country is too small for a major consultant to go around upsetting regional councils, so a lot would have been not reported or not disclosed by a council.

We suggest a separate management plan must be made for aquifers as regional councils such as the WRC still have not a management plan that covers all the factors. For example their flood protection division continually make the river into rapids exactly where the water enters the aquifer. In early photos of the Hutt River these sections had deep pools which would have provided the extra head of water pressure to assist seepage into the aquifer. Unfortunately councils have become so set in their ways that it will take a strongly worded NPS to get them to snap out of their lack of management of aquifers.

Adverse effects on the environment are not covered because there has been no research. I know the WRC has never taken into account in their Hutt Ground Water supply management plan, the impacts on the marine life that exists along the Petone Beach and the Wellington Harbour's submarine fresh water springs. When too much water is extracted those with marine knowledge can see the result. One generation ago fresh water would bulge the surface waters of Wellington Harbour, and boats before travelling to the sounds would fill their fresh water tanks from them.

In 1997 we wrote to the WRC and the then National Government describing how the fast ferries underwater wave was destroying the end cap of the Hutt Ground Water Supply as we

could see there was a massive increase in fresh water rising at the Falcon Shoals since the WRC had allowed them over the Shoals. Now in 2008 the sea water has entered the aquifer to a point where serious salt water inclusion has occurred and now the WRC are asking for help to build a $250 million dam.

The WRC still today is sending shipping over the end cap of the aquifer at the Falcon Shoals even after being advised it is causing massive quantities of fresh water to be released when they sent the fast ferries over them. Now time has proven our concerns were correct as the aquifer pressure is still dropping.

COMMENTS ON EVALUATION OF POLICIES 1, 2 AND 3

Cost to individuals and groups degrading water quality

"Methods to improve discharges…. Riparian planting and wetland restoration and public education programmes". It is all very well writing such statements but DOC, MfE and councils have not the knowledge or ability to advise anyone of the functions of our native inter-tidal plants and where they should be planted. The photos will prove that Government and councils are the people that will need to be educated as public awareness of what is wrong is well ahead of Government in many areas.

The councils of the Wellington region supported by planting guides from the WRC are poisoning plants along waterways, which results in the dirt being exposed and the banks collapsing into the streams. There are a number of examples of this misguided planting programme from councils in our power point presentation. With WRC not naming a native inter-tidal plant, a number of examples of wetland plants planted on top of banks instead of in the water, and not one Government database describing the function of a native inter-tidal plant there will need to be some serious rewriting of databases by Government for councils to refer to before they can consider themselves able to educate anyone. In fact until five years ago there was not one nationally recognised database that named a native inter-tidal plant and unless you recognise informal marine knowledge you cannot record their function. All around the country the inter-tidal zone is being destroyed or made into a rubbish tip as at Coromandel. In other areas such as at Bexley they have little understanding of the function of inter-tidal plants as they control the flow of seawater into their wetland as if they have discovered the biological clock of fish.

Social benefits

The path to an improved public awareness about the importance of water quality, especially with regard to the inter-tidal zone has to start at the door of Mfish, NIWA, MRST, FRST, DOC, MfE and Landcare who have to correct their databases and websites as they have allowed their web sites to be corrupted with unscientific rubbish and misinformation. That both Mfish and NIWA are still claiming both yellow-eyed mullet and grey mullet spawn out at sea, when there is ample proof they do not, is unbelievable and totally unacceptable rubbish. I have proven that they spawn up rivers and streams just as flounders do (evidential

samples were identified and recorded by Te Papa who hold them in storage). I have contacted many people who have seen them spawning in estuaries and it does not take very long for a person with little marine knowledge to see where they spawn in streams, just as they have been scientifically proven they do in Australia. In our power point presentation there are a number of photos describing this food chain and the proof they spawn up streams.

An example that yellowed mullet spawn in the inter-tidal zone was on display in 1999 through the Easter break at Kuaotuna up the road from Whitianga where the estuary had been blocked off to the sea for some months. There trapped inside the estuary were tens of thousands of 7cm long yellow-eyed mullet. The fishers at that time were using Coke bottle fish traps and they could catch 15 inside the bottle at one time. To accept the theory that "Large shoals of fish discharge their eggs haphazardly, to float freely in the surface waters of the sea" as stated in the Mfish website. You would also have to believe fish eggs fly in their thousands as these little fish could never swim over a sand bar.

The other piece of misinformation from Mfish is the statement that "…*older fish preferring more saline water than juveniles sometimes found in fresh water".* This is pure guess work and its not true as large yellow-eyed mullet travel into streams at night and in summer can be seen spawning before travelling up stream to the deep holes to recover after spawning.

The NIWA website also makes similar erroneous statements, for example -

> *Grey mullet have a worldwide distribution and New Zealand is at the southern limit of their range. Hence, they are mainly found in the North Island, and only in the Cook Strait area during the summer months. Although primarily a marine species, grey mullet will penetrate considerable distances upstream. In the Waikato River they are found as far inland as Karapiro Dam and travel up the neighbouring Waip*a *River to Te Kuiti. However like the yellow-eyed mullet, they must return to the sea to spawn.*

Once again a government science provider making statements without scientific proof and this sort of misinformation has been the primary cause of why the inter-tidal zone has been destroyed. Grey mullet spawn up past the sea water influence of a river and their spawning has been observed by many.

We also know that flounder spawn up rivers and their food source but Government has a lot of catching up to do before a freshwater management plan can fully describe the ecosystem benefits of fresh water. The value of the Avon-Heathcote Estuary in Christchurch was briefly described by B F Webb in 1973 in paper that proved both NIWA and Mfish have had it wrong for years and have failed to correct their databases.

A section of Webb's paper follows:-

> *Breeding seasons and sizes at first maturity for nine species of fish in the Avon-Heathcote Estuary, Christchurch, New Zealand, were: sand flounder, Rhombosolea plebeia, mid-winter to spring at 200 mm +; yellow-belly flounder, Rhombosolea*

leporina, winter and spring at 260 mm +; common sole, Peltorhamphus novaezeelandiae, did not breed in the estuary but reached first maturity at 220 mm +; yellow-eyed mullet, Aldrichetta forsteri, spawned twice a year, winter and summer, at 220 mm +; kahawai, Arripis trutta, bred outside the estuary at 520-540 mm +; spotty, Pseudolabrus celidotus, spring to autumn at 200 mm for males and 160 mm for females; cockabully, Tripterygion nigripenne, spring and early summer at 52-57 mm +; common bully, Gobiomorphus basalis, spring and early summer at 45- 50 mm +; and globefish, Speroides richei, spring to autumn at 147 mm + for males and 120 mm + for females. The successive stages in gonad development are described for these species. In pelagic species, e.g., flatfish and kahawai, x/sup 2/ analyses showed that for most months females are more numerous than males, and that migration is of major importance. in littoral species, e.g., common bully and cockabully, there is a 1:1 sex ratio in the breeding season, but this ratio subsequently breaks down. The Avon-Heathcote estuary was used mainly as a nursery area by juvenile fish, although some species, such as sand flounder, yellow- bellied flounder, yellow-eyed mullet, and cockabully spawned in the estuary.

Webb, B.F. (University of Canterbury, Department of Zoology. Christchurch). New Zealand Journal of Marine and Freshwater Research. 7(1/2) (1973) : 45-66 13 refs; 26 tables, 1 appendix..

Ecosystem benefits

Once the value of freshwater to native freshwater and marine specie is established then a better understanding of their requirements can be made available to regional and district councils.

One of the biggest myths put forward by Government science providers is that eels travel out to sea and spawn in a trench off Tonga. They believe that because, to them they see them travelling out to sea from stream and rivers. Experienced recreational fishers and Maori have observed them travelling into other streams in their thousands and watched them spawning. This myth that they have travelled to Tonga is because they can not find them, as in winter they go into hibernation in the banks of a stream. The WRC proved they did not know where the eels went in winter and their consulting scientists could not advise them either so they authorised the clearing of drainage ditches in the Wairarapa in winter whereupon they pulled thousands of eels onto the banks and, being in a state of hibernation and completely disorientated, they died in their thousands. I immediately knew the cause when advised of the deaths as for experienced fishers this is basic information that must be somehow included in a fresh water management plan.

Not surprisingly there is little information in NZ on the impact of noise on aquatic life. However noise travels seven times faster, and a lot further underwater, and its impact on marine specie is just coming to light. An interesting report came out of the Tauranga Harbour when the past Minister of Fisheries, Hon John Luxton, selected Judge Tapsell to find a cause as to why the snapper numbers had declined. He found it was caused by the environmental damage to the snapper spawning areas and loss of native wetland plants. He also noted that

the wading birds that have migrated in recent years were eating the small fish as they hatched. Another factor identified by commercial fishers was that for three weeks after a powerboat race the snapper would leave the harbour before returning. Likewise a speedboat race in Wellington Harbour drove over four hundred flat fish into a set net, that normally only produced ten on each setting. The report therefore identified underwater noise as a major factor in fish disappearing. Schematic surveys off Taranaki are also impacting on fish as commercial fishers report that few fish can be caught within five hundred miles of these surveys. Recently it was reported that whales moved a number of kilometres away from their usual route and it was considered to be caused by sand mining in the area. I have no doubt that machinery constantly pushing shingle in a river is also impacting on native fresh water specie just as it does on marine specie, a factor the Board should also consider in a management policy statement.

Costs and benefits for environmental flows and water levels

The management by Government policy of the water level in aquifers is long overdue but it may be too late to save the Hutt Ground Water Zone water supply. In one generation the WRC has managed to reduce the static height by over four meters to the point that in times of drought, salt water enters the bores and the extraction has to be shut down at Waterloo. Failing to manage the Wellington Harbour's submarine fresh water springs is by far the major cause and allowing shipping over the fresh water springs at the Falcon Shoals has all contributed to their water pressure loss. With the WRC failing to record the springs in their Regional Coastal Policy Statement, even though they hold science papers dating back to when they were first discovered in 1908, shows a regional council that has no understanding of how to manage artesian water supplies. To make matters worse they selected a group of submarine springs as a dredge waste dump site in 1999 and applied to themselves so that Winstones Ltd could dump 100,000 tones in them over ten years. We objected as we knew their value and the ecosystems within them and asked the Minister of Conservation, Nick Smith, and Minister for the Environment, Simon Upton, to interfere and have them described as Areas of Conservation Value, but they would not. Then to prove this country's artesian water supply has to be taken out of the hands of regional councils, the WRC described to the public through the media they were filling in natural holes and depressions in Wellington Harbour.

Such is the lack of knowledge as to the function of the submarine fresh water springs they almost completely destroyed the aquifer waters when they gave the Hutt City Council the OK to remove the old Point Howard oil wharf. With only two weeks notice we wrote a submission that proved they could not remove the wharf as it had penetrated the aquifer and by removing the wharf's piles the fresh water would escape just as it did when they constructed it, but by that time they had already cut off two piles. The construction of the Seaview Wharf was also a environmental disaster and the only thing that stops the piles coming out is the decking. The oil pipe bridge also went through the aquifer, and with little weight to hold the piles in the sea bed, after a major Hutt River flood the pressures increase, the pipes move, and the pipe bridge has to be repaired.

The management by Government policy of the water flows in and out of lakes is also long overdue and our power point presentation will show three lakes in the region that have had their ecosystems destroyed by the WRC. Through a number of RMA applications they have failed to ensure the lakes' water flows to the sea all year around as the beach was stripped of its life supporting sand. The value of a flow to the sea is because native fresh water specie migrate around the country in the fresh water layer lying on the sea surface after a flood. Also marine specie that once entered these lakes to feed and spawn have now lost their major spawning grounds. With the WRC unwilling to communicate with groups with marine knowledge, they continually demonstrate their lack of marine or fresh water knowledge. The photos will support this concern.

The management by Government policy of the water in wetlands is also long overdue. A series of photos will describe the environmental disaster that the WRC have created at Moera alongside the Hutt River. What makes this even worse is that they refused our offer of help in designing the estuary and went ahead without consulting with anyone with marine knowledge. They have made a complete mess of the estuary - they once displayed on a board they would take the water from a stream. Then when the estuary was almost complete they pulled it out and started on another plan. They had a brain explosion as they then installed a massive pipe to take water from the Hutt River but they installed it too high and now at low tide the water drains back of the estuary. With no knowledge of the function of native inter-tidal plants, and a continuation of their policy of poisoning everything in a water way, the banks are now collapsing into the estuary. Now a twenty metre long sand and mud bar has been made halfway to the sea. Then to make sure every thing that enters the estuary has no show of surviving the estuary is not deep enough at low tide for a dog to swim in and have built a fish barrier of rocks just to make sure nothing lives.

CONCLUSION

It is good to see that the proposed NPS for Freshwater Management has recognised the importance of aquifers. Those formulating the final version of the NPS for Freshwater Management have the opportunity of giving recognition to the importance of fresh water to the inter-tidal zone and the value of native inter-tidal plantings.

Unfortunately there is not one document that mentions marine fish specie enter fresh water, I have looked for this type of information in the following documents: the Wellington Regional Council Wetland Action Plan, NZ Directory of Wetlands, Wellington Conservancy, the WCC Biodiversity Action Plan, NZ Plant Conservation Network, Constructed Wetland NIWA, MfE Managing Waterways on Farms, and the draft NPS for Freshwater Management. Our power point presentation will show both yellow-eyed and grey mullet enter fresh water to feed and spawn however if I had time I could also prove both flounder and kahawai spawn up rivers and that snapper spawn in harbours and estuaries. The lack of scientific knowledge of what specie uses the inter-tidal zone is a national disgrace. With a lot of personal effort I could write another 16 science papers, but Government has one paper already co-written with a senior marine scientist, and still has not published it. This important research should be a

Government responsibility, and not left for me and the Wellington Recreational Marine Fishers Association, an incorporated society which receives no government funding, to do.

The NPS must "…raise the bar… and set a time frame for achieving those outcomes". When you see our power point presentation you will realise that there is no time to waste as freshwater management by regional and local councils is terrible. To "raise the bar" then you must include the inter-tidal zone in this important document as without its inclusion councils will continue to destroy it.

WE WISH TO BE HEARD and be able to deliver a power point presentation providing a detailed description of the value of the inter-tidal zone, the function of native inter-tidal plants and clean freshwater to marine specie.

A signed copy is in the mail.

Yours sincerely

Jim Mikoz
President
Wellington Recreational Marine Fishers Association

APPENDICES

Summary of Comments NZCPS

1. Letter from Sandra Lee, Minister of Conservation. 28 March 2002.
2. Letter from Chris Carter, Minister of Conservation. 6 January 2003.
3. Letter from Chris Carter, Minister of Conservation. 7 February 2005.
4. WRMFA letter to Helen Clark, Prime Minister. 17 March 2002.
5. Letter from David Benson-Pope, Minister for the Environment. 17 March 2002.
6. WMRFA letter to David Benson-Pope, Minister for the Environment. 3 January 2006.
7. DOC NGO meeting agenda item *Autopsies of Stranded Mammals.* 17 February 2005.
8. WMRFA letter to Wellington Regional Council re dredging. 30 January 2000.
9. WMRFA newsletter re consent to fill in fresh water springs in the Wellington Harbour. September 1999.
10. WMRFA letter to Sandra Lee, Minister of Conservation. 18 June 2000.
11. Wellington Surfcasting & Angling Club to Wellington City Council re water quality. 3 September 1993.
12. WMRFA letter to John Terris, Mayor Hutt City re aquifer. 16 November 2000.
13. Mikoz, J S, Heath, A C G, West, I F. 2006. Kelp fly larvae (Diptera: Coelopidae) in the diet of yellow-eyed mullet (Aldrichetta forsteri) at Makara, Wellington, New Zealand.
14. Mikoz, J S. 2005. NZ Fishing Coast to Coast. *Bad luck Hector you are dead meat.*
15. Mikoz, J S. 2005. NZ Fishing Coast to Coast. *They are killing our Beaches...Everything is connected.*
16. Mikoz, J S. 2007. NZ Fishing Coast to Coast. *The Royal killers of dolphins and marine life*.
17. Mikoz, J S. 2006. NZ Fishing Coast to Coast. *Paint it black.*
18. Mikoz, J S. 2006. NZ Fishing Coast to Coast. *Springs of life… Dead and buried.*
19. Mikoz, J S. 2006. NZ Fishing Coast to Coast. *Lock the gate. Government poisoning of marine life in progress.*

20. Mikoz, J S. 2006. NZ Fishing Coast to Coast. *Reading the water: who pays for the monument?*

21. Mikoz, J S. 2006. NZ Fishing Coast to Coast. *Letter to the Editor from F69 spokesperson and my response.*

22. Mikoz, J S. 2004. NZ Fishing Coast to Coast. *Nuking stream and green eyed monsters.*

23. Mikoz, J S. 2006. NZ Fishing Coast to Coast. *When marine science gets it wrong.*

24. Mikoz, J S. 2006. NZ Fishing Coast to Coast. *Recent happenings.*

25. Mikoz, J S. 2006. NZ Fishing Coast to Coast. *Fishing around Wellington… There are no rules fish the rules.*

26. Mikoz, J S. 2005. NZ Fishing Coast to Coast. *The dirt behind wind turbines… Your fishing is at serious risk.*

27. Mikoz, J S. 2005. NZ Fishing Coast to Coast. *Letter to the Editor from Meridian spokesperson and my response.*

28. Williams, B & Elsworth, S. 13 January 2009. The Courier Mail. *Two-headed fish larvae blamed on chemicals in Noosa River.*

29. *Drugs in water causing troubling problems to fish, wildlife.*

30. Edwards, S. 14 October 2008. Hutt News. *Volunteers help restore whitebait habitat. Opau Stream prepared for inanga breeding.*

31. Udanga, R. 30 October 2008. Manukau Courier. *Eeels die fleeing stream pollutionetter to the Editor from F69 spokesperson and my response.*

32. Duddy, N. 5 September 2008. Eastern Courier. *Estuary life at risk from pollution.*

33. Memon, A & Nicolle, K. 21 September 2007. The Press. *Water debate vital.*

34. Nicholls, L. 13 July 2005. Dominion Post. *Wind farm could 'devastate' fish.*
Paul, R. 13 July 2005. Dominion Post. *Makara lists its windfarm worries.*

35. Sharpe, M. 17 January 2009. Dominion Post. *Beach protest over Muzza's holiday home.*

36. The Wairoa Star. *All Black faces angry Mahanga scrum.*

37. Greater Wellington Regional Council. 12 December 2008. *Toxic algal mats pose potential danger in parts of Hutt River.*

38. WMRFA letter to Hutt City Council re Point Howard Wharf. 18 October 2000.