

A Lawyer's Perspective on the Aquaculture Reforms

1. The Government has been persuaded by the aquaculture industry that substantial economic returns can be achieved if there is a large increase in the amount of marine farming on the New Zealand coast. In response to this the Government has introduced the Aquaculture Legislation Amendment Bill (No.3). The Primary Production Committee has considered submissions to the Bill and reported back to the House, recommending that the Bill be passed with some amendments. It can be expected this legislation will become law in the near future.
2. The stated purpose of the Bill to provide an efficient legislative and regulatory framework to enable sustainable development of aquaculture within the CMA is a laudable one. However, the Bill introduces new provisions and procedures which go much further than is needed (or legally justified) to achieve that purpose. And, in apparent haste to enable new marine farming ventures, the legislation overrides the rule of law and important participatory processes of the RMA.
3. The introduction into the RMA of the procedure whereby aquaculture management areas (AMAs) were used as a method for managing marine farming activity was triggered by the problems which emerged with the methodology that is now to be returned to.
4. In the Marlborough Sounds, hundreds of applications had overwhelmed the consenting system and potential submitters. It was widely acknowledged there had been a "gold rush" of applications. Speculation in consented permits for aquaculture is well-documented.
5. The AMA method (with controlled activity status for the structures and occupation inside the AMA, and prohibited activity status for aquaculture outside AMAs) was modelled on the zoning process for land use planning. By and large this has worked well as a way of managing land use. The AMA methodology was implemented successfully in the Waikato Region, where an AMA has provided space for aquaculture for some time. In the Tasman/Golden Bay CMA, the process of establishing AMAs became bogged down in appeals and then challenges to Environment Court; decisions to the High Court. In my opinion that was not because the

method was flawed, but principally arose because of the competing interests of marine farmers and the scallop industry.

6. Aquaculture – or marine farming – is a form of industrial activity. To put it another way, it is farming, but in the sea rather than on the land. Whether the significant increase in aquaculture development the legislation will enable is *sustainable* environmentally, and whether the industry will meet the real cost of its activities, as other farmers are expected to do are questions which ought to be addressed.
7. In that regard I suggest the following matters are relevant:
 - Despite some discussion from time to time about introducing coastal occupation charges or some other regime whereby marine farmers pay for the benefit of occupation of coastal waters to derive personal profit, nothing has happened. Unlike their counterparts on land, marine farmers pay nothing for the space they occupy and for the “feed” they take from the water column to produce their product. This is a significant economic advantage which comes at a cost to the environment and other users of our coastal waters.
 - In many important respects, marine farming is unable to avoid, remedy or mitigate the adverse effects of its activities. Individual small farms can have reduced effects through careful siting selection, and the visual navigational and discharge effects can be comparatively low. But once large areas are allocated to marine farming there is little that can be done to avoid or mitigate effects.
 - Shellfish farmers do not treat the waste from the farms, and I am not aware of any marine farms being refused consent because of the adverse effects of waste on the underlying seabed. It has always been accepted that these will be “assimilated” by the receiving environment.

- The adverse effects of untreated waste on water quality and sea bed health will be a major issue if finfish farming proceeds, as the reform legislation intends.¹
- At this stage, apart from some areas in the Marlborough Sounds, the area of coastal waters occupied by marine farming is modest by world standards. That won't be the case if the industry's intentions are realised. The predicted increase in economic returns can only be achieved if a much greater area of the coastline is used for marine farming. Necessarily, this requires permanent occupation, and for lengthy periods. Understandably the most favoured sites for marine farming are those which are close to the coast and (preferably) sheltered.²
- This will not just impact on navigation and recreational boating; it will adversely affect existing environmental values, and other commercial users of coastal waters. I don't believe the wider public understand that to meet the industry's expansion intentions, not tens, but thousands of hectares of inshore coastal waters will be occupied by marine farms.
- The adverse visual effects of large areas of mussel farming are unable to be mitigated in the way many land use activities are required to do. There are no design solutions (apart from the largely untried practice of using a sub-surface buoy system). The only mitigating solution is to move the farms sufficiently offshore to diminish the adverse visual/amenity effects for those on land. But the best sites for marine farms are sheltered and so close inshore.
- There is already a history of failed marine farms (particularly oyster farming) and abandoned structures to be seen on our coast lines. These have a lasting adverse environmental effect. There has been some discussion about a bonding regime but as far as I know little has been achieved. The reform legislation has extended the life of existing

¹ The WWF estimated in 2000 that salmon farms in Scotland's coastal waters discharged the waste equivalent of over 9 million people (Scotland's population at that time was 5.1 million).

² Off-shore sub-surface farming is a possible but challenging option. How these will last in heavy storm conditions remains to be seen.

permits or approvals given under pre-RMA legislation, with no real opportunity for review of the terms. New consents need to address this, and bonding for removal seems to be the only realistic method. This cost is not presently a burden on marine farming.

- People living in the Marlborough Sounds have complained for years about the debris from marine farms that regularly washes up on the coastline. This is also the case in other areas such as the Coromandel. Some of this can be put down to bad working practices; however requiring the potential adverse effects of the activity to be contained within the site boundaries is simply not a workable option.
8. It may be that many of the adverse effects are not capable of being avoided, or even meaningfully mitigated, in which case there needs to be a compensatory "cost" of occupation and use which reflects this reality. Then the industry can advance its case for allocation of coastal water space on an even footing with other commercial users. A good example is the requirement on the commercial tourist boat fleet which operates in the Bay of Islands to have holding tanks for waste and to discharge ashore for treatment and disposal. This is a reasonable cost imposition on these coastal water users.
 9. This is important because marine farming takes place where there are competing demands for the space the industry requires, and the resource is of value to others for productive purposes. As the CMA is public open space, there is an expectation of its availability and that its use for commercial purposes does not come at a cost to the public (for example as to water quality, or of adverse effects on valued natural resources), without compensation.
 10. The prospect of substantial expansion of marine farming activity on the Northland coast has particular implications for the tourism industry. The presently stalled Northland Plan Review appeals had been the subject of an agreed settlement following discussions between industry representatives and other parties, including recreational boating interests. The industry's request for additional space for marine farming was modest by comparison to the Council's AMA proposals, but no doubt based on its

appreciation of the economics of farming and processing shellfish in the north. The settlement was blocked by the Council.

11. From my involvement in marine farming applications and plan reviews I have learnt how few employees are required to manage relatively large areas of marine farming. Meaningful employment numbers only occur when processing plants are established on shore. Many coastal areas where marine farming appears an attractive proposition are remote, not only from processing plants but from essential transport linkages including airports that provide international cargo connections.
12. Making it “easy” to get consents for marine farming invites speculators (as has happened before), and those with little or no experience in the industry to “give it a go” – a laudable Kiwi trait but one which can have disastrous consequences for the environment, and an adverse economic effect that trickles down through lending institutions and suppliers of products and services.
13. I consider some important questions about the true economic advantages to New Zealand of greatly expanding marine farming on our coastline need to be debated. The nature and extent of the potential downsides have not been transparently identified and discussed, and are often discounted.
14. Returning to the legislative intervention that has occurred this year, as a lawyer I consider it important that the normal participatory process of the RMA is used when deciding what provision there should be in a region for marine farming and whether marine farming consents should be granted. The potentially serious environmental consequences of aquaculture expansion need to be dealt with through the established planning procedures. In this regard, the amending Bill takes the extraordinary step of including Schedules in the Bill which change the Waikato and Tasman Regional Coastal Plans. This is an abrogation of the expected rule of law. The amending legislation overrides the expected participatory process enshrined in the Resource Management Act.
15. Provisions in the reform legislation will grant retrospective resource consent to an existing unlawful marine farm in the Coromandel Harbour (known as

MFP364). The legislation includes a schedule which contains the consent conditions. This "approval by legislation" follows two High Court judgements and an Environment Court decision determining that the marine farm was unlawful. The reform legislation would enable those using the farm to seek a resource consent in the usual way. The Waikato Regional Council supported this legislative intervention, despite its powers as a consent authority being overridden. A stated reason in the Select Committee report for legislating the consent was that the Regional Council had not taken action to close the activity down. To others, this looks like favoured treatment.

16. It is one thing to enable the development of aquaculture activities in the CMA with a liberal legislative regime, if the policy direction is to "free up" opportunities for consenting, remove unwieldy or cumbersome bureaucratic processes, and enhance investment certainty. It is another to remove or circumvent critical processes of public participation and decision-making in the Resource Management Act. The Bill provisions (particularly those in the schedules) have been written to achieve speedy and "streamlined" outcomes, but in my view without a full appreciation of the environmental risks and potential consequences.
17. It is a reasonable expectation that as knowledge about aquaculture activity grows through research, through monitoring of existing marine farms, and through knowledge gained as a result of marine farming experiences and research overseas, changes can be made to existing marine farming activities which will be beneficial to the environment. There may be known problems (for example in relation to effects on the nutrient balance in the water column, or the effects of discharge of waste, or navigational problems) with an existing marine farm that deserve consideration in a proper participatory RMA process, and may lead to changes to that farming operation. In some circumstances, this may merit relocation of an existing farm when an opportunity arises through expiry of an existing licence or permit. This is effectively removed by the Bill which deems existing leases and licences to be coastal permits. A review provision is included but only at the behest of the consent authority and within a very limited period. Further, the opportunity for appeal or objection is restricted to a consent holder's opportunity, with no third party

involvement. The same unsatisfactory features are found in other parts of the Bill.

18. Part 4 of the Bill amends the Resource Management Act 1991. Amendments to the RMA should have proper regard to the purpose and principles of the Act. A fundamental tenet of the RMA is the participatory process the Act established in 1991 and which has stood the test of time. This applies to planning instruments and to the consenting process.
19. The amending provisions include new powers given to the Minister of Aquaculture to “interfere” in the RMA process. The procedure under the RMA is that the Minister responsible for the Act is the Minister for the Environment (with some powers relating to conservation issues referenced to the Minister of Conservation). There is no good reason to change that process.
20. The most concerning changes this Bill will introduce to the resource management process are found in s.96 of the Amendment Bill, inserting new sections 360A-360C into the Resource Management Act. The new section 360A would enable the Government, by Order in Council, to amend provisions in a regional coastal plan “that relate to the management of aquaculture activities in the coastal marine area”.
21. These provisions enable the Executive of Government to sidestep a fundamental process in the Resource Management Act, whereby planning instruments which set out the objectives, policies, methods and intended outcomes for a district or region are subject to a participatory process. What is the justification for this procedure being legislated for one form of commercial or industrial activity only? On what basis could Parliament resist requests by other industries (for example, the dairy industry or the forestry industry) that they be given this particular benefit of securing changes to regional or district planning documents through executive intervention by Order in Council?
22. A stated aim of this reform legislation is to facilitate fin fish farming in New Zealand coastal waters. Before this legislation is law, the Government announced a proposed 300 ha fishing zone in the Firth of Thames,

intended for finfish farming of two native fish species – kingfish and hapuku.

23. There has been no public debate about the merits and risks of native species fin fish farming in our coastal waters. New Zealand has a highly valued (and valuable) wild fish resource, and the threats to that from fin fish farming need to be understood and debated, but this has not occurred.
24. This highlights the potential risks for the community of making the proposed legislative changes to planning documents that guide the use and development of the natural and physical resources of New Zealand (including coastal resources), and set out the objectives and policies, rules and criteria under which decisions about resource exploitation are made. The current procedure set out in Schedule 1 to the RMA ensures that there is full consultation (including with Maori), and public notification of new or varied plan provisions including Regional Coastal Plans, thus enabling full public participation in the process.
25. Section 360C obliges a Regional Council whose plan is or will be amended by regulation to give public notice that the regulations have been made, the date on which the regulations come into force and “a general description of the nature and effect of the regulations”. The Schedule 1 process is explicitly overridden.
26. The Tasman and Waikato regions will have plan changes made by the Bill provisions. Section 100 of the Bill amends the Tasman Regional Coastal Plan in the manner set out in Schedule 2. The section directs that this becomes operative on 1 July 2011. The same process applies through s.101 and Schedule 3 to the Waikato Regional Coastal Plan.
27. Schedule 3 to the Bill sets out amendments to Chapter 6 of the Waikato Regional Coastal Plan. No public debate is available as to whether the amendments are appropriate, accurate or reflect current information. The proposed Coromandel Marine Farming Zone has been identified as “suitable” for fin fish farming, and two target species have been identified. Material provided to interested persons in relation to that matter includes

a report from NIWA, which is supposed to provide technical support for the zone.

28. The changes to Chapter 6 include statements about opportunities for new types of marine farming which are not established as viable by the NIWA report, and about which there is little if any information known as to their suitability in New Zealand coastal waters, let alone in the Firth of Thames. A statement will be inserted that *"demand for space for new marine farming development is high, particularly off-shore from the Wilson Bay area, and changing species could allow for high value use of existing space"* which is not independently verifiable.
29. An inserted new policy 6.1.1A referring to diversification of aquaculture in the region refers to providing for *"the diversification of marine farming and the use of multi-trophic farming systems"*. This is referred to in the NIWA report as Integrated Multi-Trophic Aquaculture (IMTA). The NIWA report acknowledges that in New Zealand, IMTA research is at a very early stage³. A conceptual diagram of the IMTA model is acknowledged by the NIWA report to be *"still in its theoretical stage"*. NIWA states development of the model provides a research tool for assessment of IMTA practices, to understand species interactions, and predict productivity of IMTA farms as well as *"getting a handle on the bio-remedial role of co-culture species"*⁴. Conceptual design of an IMTA block within the proposed 300ha zone in the Firth of Thames is included in the NIWA report at Fig 5.3. The report acknowledges that at present the aquaculture of seaweeds in New Zealand is virtually non-existent, and none of the species referred to in the report as potentially appropriate have reached the stage of commercial cultivation.
30. The NIWA report states that the *"trial and error"* learning approach is a largely unavoidable due mainly to *"new husbandry and site design"*.
31. The report acknowledges that mussel farming in close proximity to fin fish culture may on the one hand prove effective in controlling parasite transfer to and from fin fish cages, but there is evidence that mussels in proximity of fin fish cages can provide for certain life stages of parasites

³ Section 5.2, page 67

⁴ NIWA report, page 69

and thus exacerbate issues of fish parasites. Despite that the NIWA report boldly suggests “the scene is set to invest in IMTA research and uptake in New Zealand, and a proposed 300ha site is prime sea space for such an initiative⁵.

32. In my view, this is not an appropriate basis on which to include provision by way of amended policy in the Regional Coastal Plan for multi-trophic farming systems. Little is known about many of the proposed farm species, and the NIWA report acknowledges the whole concept is still at a highly experimental stage. As a result, the sub-paragraphs that follow the statement of policy that diversification of marine farming and use of multi-trophic farming systems should be provided for, and which identify certain “safeguards” and matters to be addressed, does not mean that the statement of policy is acceptable or appropriate. The Firth of Thames is an exceedingly important resource within the Hauraki Gulf, not the least as an important feeding and breeding ground for wild fish populations. Although there has been considerable research undertaken about the effects of existing mussel and oyster farming within the Firth of Thames, the much more serious environmental effects of fin fish farming are not known with the degree of certainty sufficient to justify enabling provisions to be inserted in the coastal plan.
33. Fin fish farming is presently carried out on a relatively small scale in New Zealand using an exotic species (Chinook salmon). Because a non-indigenous species is being farmed, and because of the relatively small scale of fin fish farming currently taking place, the risks associated with fin fish farming on a much larger scale, and particularly if native species are to be used, are not known with any certainty. This is clear from studying the NIWA report on the proposed 300ha fish farming zone in the Firth of Thames, by considering other research and articles referenced in the NIWA report, and from what can be learnt about what has happened overseas. This is described and discussed in reputable international research and peer reviewed reports.
34. While shellfish aquaculture involves intensive farming, the food source is drawn from the existing nutrient available in the water column. The

⁵ Section 5.4, page 72.

significant difference with fin fish farming is that the farmed animals are carnivorous, introducing a new element into intensive farming operations in New Zealand, even land based.

35. An unavoidable requirement of fin fish farming is that the fish are dependent upon large quantities of fish meal and fish oil. Research has shown that over 3 tonnes of wild fish are required to produce 1 tonne of farmed salmon, and for other marine fish this can rise to over 5 times,⁶ leading to a net loss of marine resources and a drain on the capture sector. The demands of this industry for fish meal and fish oils has led to major concerns in other parts of the world, with recorded disastrous over-fishing of the “lower grade” fish species required to feed the carnivorous fish species being farmed.
36. Researchers have identified five fundamental issues as problems with sea cage fish farming (that is, farming in coastal waters rather than on land). They are:
 - (a) the waste output from sea cage fish farms;
 - (b) the negative impact of escapes of farmed fish on wild fish species;
 - (c) the proliferation of diseases and parasites in sea cage fish farms, and the consequential effect on wild fish populations;
 - (d) the use of chemicals to control diseases and parasites, introduced into the sea cages as part of the feeding process;
 - (e) the serious depletion of wild fish resources to provide the fish meal and fish oil required to for feed.
37. These issues have not been given sufficient informed attention before a decision has been made to encourage fin fish farming in New Zealand. Whilst the proposed amended policy 6.1.4 in Schedule 3 of the Bill refers to “a limited amount of fed aquaculture” being provided for in the Firth of Thames, a report prepared on the proposed 300ha zone states that even

⁶ Naylor et al: 2000; some industry sources suggest a lower ratio, and NIWA in their December 2010 report on Waikato Finfish farming used scenarios of Economic Feed Conversion Rate (EFCR) of 1.3 and 1.7 to encompass a range of farming efficiencies.

at a 4,000 tonne/year production level (the proposal is to allow for up to 8,000 tonnes per annum of king fish and 8,000 tonnes per annum of hapuku), this would represent New Zealand's largest fin fish venture to date.

38. At present, there is no commercial farming of either species. An experimental sea cage for king fish has been unsuccessfully trialled in the Marlborough Sounds. NIWA acknowledged that the water temperature is too cold for a successful commercial venture in that location. Not even experimental work has been carried out with hapuku in a coastal sea cage at this stage. Provision for this venture by obligatory amendments to the Waikato Regional Coastal Plan is premature and inappropriate.

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