



Aquaculture in the Greater Wellington Region

A discussion document

Quality for Life



greater WELLINGTON
THE REGIONAL COUNCIL

Environment



Aquaculture - have your say

The laws that govern aquaculture are about to change. The Greater Wellington Regional Council (Greater Wellington) will soon become responsible for identifying aquaculture management areas (AMAs) on the coast. These are areas where the aquaculture industry will be able to carry out its activities. There will be no aquaculture in areas that are not identified as AMAs.

It's important for people and communities to have a say on what areas are set aside as AMAs. We want your comments on issues and concerns relating to aquaculture and AMAs. Your feedback will help us identify where aquaculture should be located and how it should be managed.

This discussion document is the beginning of a process that could lead to changes to our Regional Coastal Plan to include AMAs. It sets out:

- Information about our coastline;
- Information about aquaculture;
- Changes to the way aquaculture will be managed in the future, including AMAs; and
- Potential impacts of aquaculture.

To help prompt your ideas, we have identified some options and included some questions for you to consider. There is a map of the Greater Wellington Region that you can use to indicate specific areas where AMAs should be located or excluded. You can remove the questions and map from the document and send them back to us, or you can comment on the discussion document by contacting Stephen Karaitiana at Greater Wellington.

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You will need to send your comments to us by Monday 3 November 2003.

Some options for aquaculture management in the Greater Wellington Region

For the purpose of discussion, we are suggesting three options for aquaculture management in the Greater Wellington Region. These are listed below. You may want to suggest other options.

Option 1

Do nothing

We could choose not to include any aquaculture management areas (AMAs) in the Regional Coastal Plan. Such an approach would have the following implications:

- 1 Future changes to legislation will prohibit aquaculture unless we provide for it in the Regional Coastal Plan by identifying AMAs. No further aquaculture would be possible (some already exists).
- 2 Marine farmers could apply for a private plan change to establish an AMA. The cost of the plan change, and any research and information collection, would fall to the applicant.

Advantages of this option are that:

- there is no cost to ratepayers
- there is no loss of access to parts of the coast that would be occupied by aquaculture
- there are no associated adverse effects on the environment.

Disadvantages of this option are that:

- strategic planning for aquaculture developments is limited
- the potential for jobs and economic growth in aquaculture would be reduced.



Option 2

Create AMAs in areas where marine farmers have plans for developing marine farms.

This option would involve placing AMAs around existing marine farms, so that they can continue when their current consents expire. We could also identify AMAs where the aquaculture industry has indicated that there are plans for marine farms. Such an approach would have the following implications:

- 1 Aquaculture could progress in those areas where planning by the aquaculture industry is already underway.
- 2 Existing marine farmers could continue their operations by renewing their current resource consents when they expire.
- 3 Further plan changes could be made as the need arises or when the Regional Coastal Plan is reviewed.

This option could be chosen if there are already proposals for aquaculture that will not impact unduly on commercial, recreational and customary fishing, or on the marine environment.

Advantages of this option are that:

- it will provide for planned development of aquaculture
- economic growth, jobs, and flow-on effects for other businesses will be provided for.

Disadvantages of this option are that:

- there may be some adverse effects on access, visual landscape, natural character and the marine environment.

Option 3

Create AMAs over large areas where aquaculture is a possibility in the future.

We could include AMAs in the Regional Coastal Plan where aquaculture could be a possibility in the future. Such an approach would have the following implications:

- 1 Aquaculture could progress in areas where some planning by the aquaculture industry is already underway.
- 2 Research into the suitability of larger areas for aquaculture, and the impacts of aquaculture, would have to be undertaken.
- 3 Aquaculture could progress in these areas without any need for further plan changes.

This option could only be chosen if there is sufficient certainty that such large areas of aquaculture on the coast will not impact unduly on commercial, recreational and customary fishing, or on the marine environment.

Advantages of this option are that:

- it will provide for current and future aquaculture developments
- economic growth, jobs and flow-on effects for other businesses will be provided for
- it will allow for strategic planning of aquaculture development.

Disadvantages of this option are that:

- information will need to be collected for areas where aquaculture may not occur in the near future
- there may be some adverse effects on access, visual landscape, natural character, and ecology.





Table of contents

1.	Greater Wellington's coast	6
2.	Aquaculture	7
2.1	Nation-wide	7
2.2	The Greater Wellington Region	7
3.	Aquaculture management	8
3.1	Before the moratorium	8
3.2	The moratorium	8
3.3	After the moratorium	9
4.	Aquaculture management areas	10
4.1	What are they?	10
4.2	What is the status of aquaculture activities in an AMA?	10
4.3	Where can AMAs be established?	11
4.4	How will space be allocated within an AMA?	11
5.	What are the potential effects of aquaculture activities on the environment?	12
6.	Claim of customary rights to the foreshore and seabed	13
Appendix 1:		
	Potential adverse effects of aquaculture management areas	14



1. Greater Wellington's coast

Greater Wellington manages the coast for the Region's people and communities. The Region's coastline extends from just north of Otaki in the west of the Region across to the Mataikona River on the Wairarapa Coast, north of Castlepoint. Our responsibility is from the mean high water mark to 12 nautical miles out to sea.

The sea and the coast are important elements in the lifestyle of many people living in the Region. Our coastline varies from the rough and rocky features of the Wairarapa coast to the sandy beaches along the Kapiti coast. There are many estuaries and river mouths. In some places, such as the Wellington and Porirua Harbours, the environment is significantly altered. In others, a high degree of natural character remains.

The coast is highly valued and is enjoyed by people in many ways. It is the source of kaimoana (seafood), a place for active recreation such as surfing, walking and swimming, for passive recreation and contemplation, and for boating and fishing. Use and development of the coastal marine area should be managed in balance with these values and activities.



Ngawi – Wairarapa Coast

The coast also has significant economic value. The fishing and tourism industries provide many jobs, and the port is a vital transport link to national and international markets. There is potential for further economic growth if the resources of the marine area are sustainably developed.

2. Aquaculture

2.1 Nation-wide

Aquaculture currently contributes over \$300 million to the New Zealand economy annually. Most of this revenue is from the export of green-lip mussels to overseas markets. It is a fast growing industry - the NZ Aquaculture Council have predicted that export earnings will exceed \$1 billion by 2020. This level of production will require about 17,000ha of inshore mussel farms, as compared to the current 4,500ha.



Mussel buoy lines. Source: NIWA

As inshore coastal space is allocated and aquaculture technology and methods develop, aquaculture is moving offshore. The offshore operations are less intensive, larger, and will mainly be submerged. The space required for an inshore mussel farm ranges from 3ha to 50ha. The space for an offshore operation can be up to 10,000ha. There are several proposals for offshore aquaculture in New Zealand ranging between 3000ha and 5000ha (30 to 50 square kilometres).

By the end of 2001, when the moratorium discussed in Section 3 of this document was initiated, there were over 200 applications nation-wide for marine farming operations (a total of nearly 50,000ha). The increase in demand for marine farms is placing pressure on parts of New Zealand's coast. It is also highlighting conflicts between the aquaculture industry and other coastal users about the way resources on the coast should be managed in the future.

2.2 The Greater Wellington Region

There has been very low demand for aquaculture on the Region's coast. At the present time, there are three resource consents for aquaculture operations in the Region. One is for a 2.9 hectare marine farm in Mahanga Bay in Wellington Harbour. The other two consents are in the Wairarapa, for an area of 0.16 hectares and 4 hectares respectively.

The Regional Coastal Plan does not address aquaculture as a specific activity. Instead, it addresses associated activities that occupy or disturb the seabed and addresses the placement of structures. These are all part of aquaculture development.





3. Aquaculture management

3.1 Before the moratorium

At the present time, aquaculture is managed by regional councils under the Resource Management Act 1991 (RMA) and by the Ministry of Fisheries under the Fisheries Act 1983. Greater Wellington is responsible for the occupation of coastal space, the erection of structures, disturbance of the seabed and any discharges to the coastal marine area. The Ministry of Fisheries is responsible for issuing marine farming permits.

In practice, resource consents are obtained from regional councils before the Minister of Fisheries considers the application for a marine farming permit. The adverse effects of activities on the coastal marine area are considered when resource consents are sought, except for the impacts on fishers and fisheries resources, which are considered as part of the marine farming permit application.

This dual permit system creates difficulties for regional councils, the Ministry of Fisheries, communities and the industry. Often community concerns revolve around the impacts of a marine farm on recreational, customary or commercial fishing. These issues are often raised at resource consent hearings, but regional councils cannot consider them under the RMA.

3.2 The moratorium

The Resource Management (Aquaculture Moratorium) Amendment Bill 2002 was developed in response to the large number and scale of aquaculture applications being received by regional councils, and the need to improve the way aquaculture is managed. The Bill was enacted on 25 March 2002.

The moratorium imposed a ban on new aquaculture activities in the coastal marine area including the receipt of new aquaculture applications, applications for extensions to existing farms and the consideration of existing applications for new coastal permits and extensions. Existing aquaculture operations and those for which a hearing had started were not affected. The moratorium applied retrospectively from 28 November 2001. Applications lodged prior to 28 November 2001 but for which a hearing had not yet started (at that date) were also subject to the moratorium.

The moratorium gives central government time to prepare new legislation for aquaculture management. It also allows time for regional councils to prepare for the implementation of the new legislation when it is passed.

3.3 After the moratorium

Central government is working on new legislation for the management of aquaculture. While the legislation has not yet been introduced to Parliament, it is likely to include:

- Streamlining the application process for new marine farms by providing a single-permit process. This will require changes to the Resource Management Act 1991 and the relevant fisheries legislation.
- Providing regional councils with greater powers to manage and control the development of aquaculture by requiring marine farming to take place within clearly defined AMAs. These areas will be included in regional coastal plans.
- Allowing regional councils to call for tenders for the right to apply for coastal permits, including tenders for individual marine farm sites within each AMA.
- Retaining the existing requirement that aquaculture should not have an “undue adverse effect” on customary, recreational and commercial fishing. The Ministry of Fisheries will provide regional councils with an assessment of any undue adverse effects that aquaculture development may have on fishing. The legislation will also provide for negotiation between aquaculture interests and commercial fishing rights holders where an aquaculture development has an undue adverse effect on commercial fishing rights.
- Moving all existing marine farming leases, licences, and permits into the new regime.



4. Aquaculture management areas

4.1 What are they?

Aquaculture management areas (AMAs) are areas that have been set aside for marine farming. Aquaculture will be prohibited outside AMAs. Different types of aquaculture have different requirements and some of them are incompatible with each other. This will need to be considered when developing AMAs.

AMAs are established by including them in a regional coastal plan. In the Greater Wellington Region, this means that we will have to make changes to our Regional Coastal Plan once AMAs are identified. This is a formal process that requires publicly notifying the proposed changes, requesting and receiving submissions, further submissions and holding hearings. The changes can only be included in the operative Regional Coastal Plan if there are no appeals to the Environment Court, or when any appeals have been resolved.



Mussel buoy lines. Source: NIWA

4.2 What is the status of aquaculture activities in an AMA?

Aquaculture activities within an AMA must be either controlled or discretionary activities in the Regional Coastal Plan. This means that a resource consent will be required. If aquaculture activities in an AMA are controlled, any application for a resource consent must be granted and conditions can be placed on the consent. For discretionary activities, there is less certainty that a resource consent will be granted because a resource consent application for a discretionary activity can be declined.

Deciding whether aquaculture activities in an AMA should be controlled or discretionary activities will depend on the information that is available on the fishery, the natural resources in the AMA, and the effects of the type of aquaculture that is proposed.

4.3 Where can AMAs be established?

AMAs can be established in areas where the adverse effects on the environment, fishing activities, and other uses of the coastal marine area can be avoided, remedied, or mitigated. If an AMA is positioned in such a way that it has undue adverse effects on customary or recreational fishing, the Ministry of Fisheries will have the power to decline the establishment of the AMA.

An AMA that has an undue adverse effect on commercial fishing cannot be used unless the marine farmer can reach an agreement with the affected fisher.

4.4 How will space be allocated within an AMA?

The Regional Coastal Plan will need to state how space will be allocated for aquaculture activities within an AMA. The table below, identifies some possible methods for allocating the space within an AMA.

Tendering	Applicants would tender for space within the AMA. A successful tender would give that person or company the right to apply for a resource consent for aquaculture activities in the area defined. Tendering can be effective when there is high demand for space. If there is low demand, then tendering may not be the best method for allocating space.
First-come, first served	The current method of resource allocation is first-come, first-served. This method tends to work well in areas where there is low demand for a resource. High demand for space in an AMA could lead to a 'gold rush', with a high number of applications being received for the same area.
Ballot	Balloting is a lottery in which a name is drawn at random from a list of interested parties.
Fitness of applicant	The 'fitness of applicant' method requires judgements to be made about the technical and economic ability of the applicants to undertake the proposed activity. This method is only as good as the information supplied.
Allocation by share	Apportionment by share would attempt to fairly and equally divide up the available space amongst all the applicants. Issues arise when high numbers of applicants are allocated space that decreases to a size where it is not useful. Equal space does not always mean equal quality or usefulness.



5. What are the potential effects of aquaculture activities on the environment?

The effect of aquaculture activities on the environment can be both positive and negative. Current growth in the industry is occurring because of the potential economic benefits that are mentioned in Section 2. However, there is also the potential for other effects, which must be considered when we are establishing AMAs.

Most aquaculture operations require land based facilities. This may include offices, processing and packaging facilities, coolstores, hatcheries, stock pools, laboratories, equipment storage areas, jetties and boat ramps. These facilities may also require power and water supply, waste disposal and roading infrastructure. The requirements for land based facilities and infrastructure should be taken into account during the establishment and development of AMAs to avoid conflict later on.

Some potential adverse effects of aquaculture are listed below, and are explained further in Appendix 1 of this report.

- Loss of public access
- Loss of or reduction in visual amenity and natural character
- Damage to ecosystems
- Navigational safety concerns
- Impacts on fishing (commercial, recreational and customary).



Mussel buoy lines. Source: NIWA

6. Claim of customary rights to the foreshore and seabed

In October 1997, the Maori Land Court considered an application seeking a declaration that the foreshore and seabed of the Marlborough sounds are customary land. The Court made an interim decision in December 1997, finding that customary rights to the foreshore remains unless the land has been sold or the rights extinguished by legislation. This decision was appealed by several parties including the Crown. The Court of Appeal made a decision, released in June 2003, that supports the Maori Land Court jurisdiction to investigate and determine the existence of customary rights to foreshore and seabed.

The Government considers that this decision has revealed significant gaps in the law. It is working on establishing a statutory framework that will ensure exclusive title is not created over areas of foreshore and seabed, and ensures that claims of customary rights are investigated. Greater Wellington recognises that the outcomes to the recent Court of Appeal decision will have a bearing on how aquaculture is managed in the future.



Appendix 1: Potential adverse effects of aquaculture management areas

Public access

Marine farms do not necessarily exclude the public as there are often access ways through them that can be navigated. However, people may avoid these areas because of navigation difficulties, safety concerns and the reduced aesthetics of the area. There is a degree of exclusion even if it is not complete exclusion.

Natural character and visual amenity

Natural character relates to the 'naturalness' of the environment. The degree of natural character ranges from a pristine environment to a completely developed one. All environments, even highly modified ones, will have some natural character. Natural character is subjective and many people will consider the same environment in different ways. Many of us value the natural character of wilderness areas that we have never seen.

Coastal environments also have visual amenity. Many people value areas that are uncluttered by structures. Aquaculture changes the natural character and visual appearance of seascapes in ways that people can find undesirable. The marker buoys and linear nature of marine farm structures and layout will have a visual impact.



Mussel harvest barge Source: NZ Marine Farming Association

Ecosystems

Aquaculture in shallow and sheltered waters can have adverse effects on ecosystems. These are identified below. Currently, there are no large offshore aquaculture ventures operating on which to assess the nature of environmental effects.

Operational waste material and debris. Rope, buoy ties and anchors from marine farming operations can accumulate on the seabed underneath and on the adjacent foreshore. Service barges and boats can discharge sewage and bilge water that can contain fuel and oil.

Plankton depletion. Mussels are filter-feeders - they eat the microscopic plankton that drifts past. Dense farms can consume the supply of plankton within the water column. It is thought that the concentration of plankton recovers very quickly beyond the aquaculture area.

Mussel wastes. Deposits of mussel wastes on the seabed have a mud-like texture. If these are dropped on to a reef or stony bottom they can alter the composition of the seafloor and impact on the organisms living there.

Mussel shell debris. Some mussels and shells are dislodged from the crop lines and settle on to the seafloor. In calm conditions these accumulate directly under the lines and can create rows of miniature shell reefs. If a current flows through the farm, the deposits are scattered over a larger area. It is expected that the deposition effects will be reduced in the large offshore farms as they are less dense and the sea currents will be stronger.

Predator fish. Young mussels are preyed upon by many fish such as leatherjackets, snapper and kingfish. There is uncertainty as to whether this actually boosts the population of fish or merely lures them in from surrounding areas.

Cage or net fish farms (e.g. salmon). The effects of these operations are much greater than mussel farms. As caged fish require feeding, there is a substantial build-up of organic matter on the seabed. In extreme cases the anaerobic conditions can destroy organisms living under the farm.

Navigational safety

Aquaculture developments need to be well marked with marker buoys, radar reflectors and navigation lighting buoys. The maintenance and design of structures over the lifetime of the aquaculture operation will need to ensure that the structures will not break away and become floating or sunken obstacles. The navigational lighting of structures also needs to be maintained in order to provide appropriate demarcation of the structures at night.





Fishing activities

Commercial, recreational and customary fishing. AMAs must not have an “undue adverse effect” on fishing activities. The Ministry of Fisheries is currently developing criteria for an “undue adverse effect”. An undue adverse effect may include location of an AMA over or close to fishing grounds.

Taiapure. A coastal area that has customary significance to iwi as a source of food or for spiritual or cultural reasons. Taiapure are established under the Fisheries Act 1996. A management committee is established to give advice and recommendations to the Minister of Fisheries about the management of the fisheries within the taiapure. The establishment of taiapure will have an effect on the establishment of AMAs and vice versa.

Mataitai reserves. An area of customary importance for food gathering that is managed by tangata whenua. Mataitai reserves are established under the Customary Fisheries Regulations 1998. Tangata kaitiaki (guardians) are appointed by tangata whenua to manage the area, issue permits and to monitor effects and fishing activity.

Feedback form

When sending your feedback, please complete and send us the details below. This will allow us to send you further information about aquaculture in the Wellington Region as we progress.

Name:

Address:

Name and address of organisation, company or iwi (if relevant):

Contact phone:

Email address:

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Some questions for you to consider

- 1 What areas do you think **should be** considered as AMAs in the Greater Wellington Region? You can mark them on the map and send it to us, or describe the areas.



- 2 What areas do you think **should not be** considered as AMAs in the Greater Wellington Region? You can mark them on the map and send it to us, or describe the areas.



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- 3 Should aquaculture activities in AMAs be discretionary or controlled activities? Section 4 of the discussion document describes discretionary and controlled activities under the heading “*What is the status of aquaculture activities in an AMA*”.



- 4 Should AMAs cover large areas of the coast or should they be confined to areas where marine farmers have plans for aquaculture development?



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- 5 What approach do you think we should use to allocate space within AMAs? Some methods are listed in the table in Section 4 of the discussion document.



- 6 Which of the options for aquaculture management detailed on pages 1-3 do you prefer, and why? Can you suggest any other options?



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Water, air, earth and energy: elements in Greater Wellington's logo combine to create and sustain life. Greater Wellington promotes **Quality for Life** by ensuring our environment is protected while meeting the economic, cultural and social needs of the community.

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