



# Use of underwater breathing apparatus (UBA) in selected shellfish fisheries

MPI Regulatory Impact Statement

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# Regulatory Impact Statement

## USE OF UNDERWATER BREATHING APPARATUS (UBA) IN SELECTED SHELLFISH FISHERIES

### Agency Disclosure Statement

This Regulatory Impact Statement has been prepared by the Ministry for Primary Industries (MPI). It provides an analysis of the options to:

1. Enable the development of the underutilised and developing kina (SUR), sea cucumber (SCC) and horse mussel (HOR) fisheries.
2. Increase diver safety in the paua (PAU) 4 and SUR 4 fisheries, in relation to great white sharks interactions, which industry feedback reports has been increasing in these fisheries.

The analysis considers the costs and benefits of options to allow the use of underwater breathing apparatus (UBA) in the shellfish fisheries of kina (SUR), sea cucumber (SCC), horse mussel (HOR), and the Chatham Island paua fishery (PAU 4). It relies on information held by MPI and supplied by the fishing industry, tangata whenua and other stakeholders.

The proposal does not override any fundamental common law principles or impair property rights. There will be additional compliance costs for those fishers that wish to use UBA in the selected fisheries proposed but should be balanced against the benefits gained.

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## Summary of option analysis <sup>[1]</sup>

Summary of Options	Objective 1: ensure stock sustainability	Objective 2: protect the aquatic environment	Objective 3: maximise sector utilisation benefits		Key cost or benefit
			<i>Customary</i>	<i>Commercial</i>	
Option 1 - maintain the current regulations, restricting the use of underwater breathing apparatus for the commercial harvest of shellfish species.	-	-	-	✘	Commercial utilisation in developing and underutilised fisheries would remain restricted. Divers safety concerns would not be addressed
<b>Developing and underutilised fisheries</b>					
Option 2A - allow the use of underwater breathing apparatus in the SUR, SCC and HOR shellfish fisheries	-	✓	✘	✓	Deeper shellfish stocks can be accessed with selective harvesting methods reducing the need to use destructive fishing methods Increased stock access, harvest efficiency and selectivity will allow for increased development and quota utilisation in these fisheries. Customary stakeholders concerned about continued SUR access
Option 2B - allow the use of underwater breathing apparatus in the SCC and HOR shellfish fisheries, deferring the decision on SUR	-	✓	✓	✓	Same as option 2A, however allows a chance for customary access concerns to be addressed
<b>Diver safety</b>					
Option 3 - allow the use of underwater breathing apparatus in the PAU4 and SUR4 fisheries only to address safety concerns related to diver-shark interactions.	-	✓	-	✓	PAU 4 and SUR 4 will benefit from increased diver safety, harvest efficiency and selectivity. This will help ensure the continued performances of these highly valued fisheries

[1] KEY: ✓ = option supports objective; ✘ = option does not support objective; - = unlikely change/impact.

## Status quo and problem definition

1. Regulation 76 of the Fisheries (Commercial Fishing) Regulations 2001 prohibits commercial fishers from possessing or using underwater breathing apparatus (UBA) when harvesting fish or aquatic life. The only exception to this is the deepwater clam (geoduck) fishery covered under regulation 76A of the Fisheries (Commercial Fishing) Regulations 2001.
2. The restriction on the use of UBA pre-dates the Quota Management System (QMS) within which fisheries are managed. The restriction was originally established to reduce the risk of localised or serial depletion of shellfish stocks by commercial fishing. UBA restrictions can help ensure populations cannot be fished out, for example, kina remain unfished in areas below where free-divers can safely harvest.
3. While the current restriction may be appropriate for managing the sustainability of some shellfish fisheries, it may be restricting the development of underutilised fisheries. It may also restrict the ability to use UBA as a tool for mitigating other fishing related issues, such as diver safety.
4. Specific issues that have prompted the proposed regulatory changes to allow the use of UBA in the kina (SUR), sea cucumber (SCC), horse mussel (HOR) and Chatham Island paua (PAU 4) fisheries include:
  - consistently low harvest levels in relation to the total allowable commercial catch (TACC);
  - difficulties in developing these fisheries to their full potential, due to current restrictions on fishing methods;
  - reduced harvesting efficiency based on species distribution and free-diving limitations (i.e. the species are at low densities or are located below safe free-diving depths);
  - The impact on these species from alternative fishing methods (e.g. dredging), which can cause damage to the product and/or increase by-catch and wastage; and
  - diver safety and efficiency in areas where great white shark encounters occur and appear to be increasing.

### ***Underutilised and developing fisheries***

5. The underlying problem is that the current prohibition on UBA is impeding the economic potential of these fisheries. The commercial harvest of all shellfish (except geoduck) must be by hand, free-diving, potting or by trawling methods such as dredging. These methods of collection limit the amount and efficiency of harvest when targeting species found in the sub-tidal environment. Free diving limits harvest depth to around 10 m, as well as limiting bottom time. Dredging/trawling can potentially allow access to deeper populations of shellfish. However, these methods cause significant damage to SUR, HOR and SCC making them unfavourable methods of harvest.
6. In the 2011-12 fishing year, only 2% of the TACC for HOR was harvested, 90% of which was bycatch (non-target) in other trawl and dredge fisheries. Of the annual TACC of SUR, only 74% was harvested, while only 57% of the TACC for SCC was harvested. The TACCs for these fishery stocks were set at nominal or low levels reflecting the limited information available when they entered the QMS. Allowing use of UBA would provide quota holders increased opportunity to develop these fisheries to their full potential and increase

the value of these fisheries. Stocks such as SCC have a high unit value (in excess of \$30 per kg) and could become valuable new fisheries for New Zealand.

### ***Diver safety***

7. Divers within the PAU 4 and SUR 4 fisheries are concerned about the increased likelihood of great white shark attacks whilst free diving. Concentrations of sub-adult and mature great white sharks occur around the Chatham Islands, and attacks on divers have occurred in historic and recent times. Divers are reporting that sharks are congregating closer inshore and are being more frequently encountered.

8. While paua divers' interactions with great white sharks are not frequent, they are high risk. Free-divers regularly swim up and down through the water column making them vulnerable to attacks should sharks enter into the area. The use of UBA reduces the amount of time divers spend in the water column and on the surface, allowing them to adopt defensive positions and seek refuge on the seabed should sharks be encountered.

9. The use of UBA, as a means of improving diver safety in PAU 4, has recently been trialled under a special permit. The results of those trials have been promising. Divers consider their safety and well-being was improved. Divers have also reported improved utilisation benefits such as:

- increased catch-per-unit effort and overall efficiency;
- less undersized fish taken to the surface;
- reduction in damaged paua from harvesting; and
- more selective harvesting to avoid localised overfishing.

### **Objectives**

10. MPI is committed to maximising the economic benefits from the sustainable use of fisheries resources while reducing any unnecessary regulatory burden. The objectives of the proposed regulatory change are to:

- ensure the continued sustainability of fisheries stocks;
- allow and promote the use of selective and environmentally sustainable fishing methods;
- allow for commercial harvesting methods that may assist in realising the economic potential for the SUR, SCC and HOR fisheries, and ensure diver safety in PAU 4 and SUR 4 and maintain the continued performance of the PAU 4 fishery while minimising impact on the utilisation in other sectors; and
- ensure effective compliance and monitoring tools are put in place at reasonable cost to both MPI and commercial fishers.



## Regulatory impact analysis

11. The below table assesses all management options reviewed in the development of this proposal. Options 1, 2A and 3 were released for public consultation. Submissions received subsequent to consultation were taken into account, leading to the development of option 2B, with all options then presented to the Minister for Primary Industries in the Final Advice Paper.

**Table 1: Available management options**

Options	Stock sustainability	Aquatic environment	Sector utilisation impacts	Compliance costs
<p><b>Option 1</b> - maintain the current regulation, 76 of the Fisheries (Commercial Fishing) Regulations 2001, restricting the use of underwater breathing apparatus for the commercial harvest of shellfish species.</p>	<p>Continued restriction on the use of UBA guarantees portion of shellfish stocks are left untouched. Those species in deeper waters would remain (unless targeted by other methods, e.g. dredge) to provide valuable recruitment stock.</p>	<p>Free diving operations that have limited impact on the aquatic environment will continue. However, attempts to access deeper stocks with methods such as dredging may cause increased damage to benthic habitat.</p>	<p><i>Amateur</i> utilisation will remain unchanged from what is considered to be very minimal.  <i>Customary</i> utilisation benefits will not change.  <i>Commercial</i> utilisation benefits will not change. Commercial fishers in the proposed fisheries would be unable to improve the efficiency, utilise development opportunities and/or improve safety of their operations through the use of UBA. They will be required to identify new ways of improving harvest levels or ensuring their safety. Harvest levels will remain below current quota allocations.</p>	<p>No change in existing MPI compliance risks and monitoring/enforcement effort</p>
<p><b>Option 2A</b> - amend regulation 76 of the Fisheries (Commercial Fishing) Regulations 2001 to allow the use of underwater breathing apparatus in some or all of the following developing shellfish fisheries:  a) kina (SUR);  b) sea cucumber (SCC);  c) horse mussel (HOR).  <b>Option 2B</b> - amend regulation 76 of the Fisheries (Commercial Fishing) Regulations 2001 to allow the use of underwater breathing apparatus in some or all of the following developing shellfish fisheries:</p>	<p>Overall stock sustainability will most likely not be impacted due to current conservative total allowable catch (TAC) allowances of the proposed fish stocks. However, TACC limits may not prevent localised or serial depletion in geographically restricted shellfish populations.  <i>Option 2B</i> aims to reduce concerns around serial depletion in the more highly utilised SUR fishery.</p>	<p>The utilisation of UBA will not negatively impact the aquatic environment due to the high selectivity and minimal disturbance this method of fishing presents.</p>	<p><i>Amateur</i> utilisation within these fisheries is minimal and will likely be little impacted.  <i>Customary</i> utilisation of HOR and SUR may be impacted by the increased access of commercial operations to these species, with concern centred around SUR. Customary utilisation of SCC is considered minimal.  <i>Option 2B</i> aims to mitigate the concerns surrounding customary access to SUR by allowing time and enabling discussion between the commercial and customary sectors.  <i>Commercial</i> utilisation will benefit from increased access to fisheries stocks, increased harvest efficiency and increased selectively for higher quality product.</p>	<p><i>Industry:</i> Proposed regulatory conditions will require all vessels utilising UBA to carry an automatic location communicator (ALC). Cost: approximately \$5000 with ongoing fees of between \$50 and \$100 a month.  <i>MPI</i> will incur marginal increases in compliance and enforcement costs as well as cost associated with the integration of vessels using ALC into current vessel monitoring systems.</p>

<p>a) sea cucumber (SCC); b) horse mussel (HOR); and deferring the decision on mainland kina (SUR) stocks.</p>			<p>Full utilisation of current SCC quota could represent between \$100,000 and \$450,000 of additional annual product value. For SUR the current un-harvested portion of quota represents between \$1.33 million and \$1.95 million in annual product value.</p> <p><i>Option 2B</i> will delay the benefits that can be gained with UBA in the SUR fishery until MPI is satisfied customary access issues can be addressed.</p>	
<p><b>Option 3</b> - amend regulation 76 of the Fisheries (Commercial Fishing) Regulations 2001 to allow the use of UBA in the <b>PAU4 and SUR4 fisheries only</b> to address safety concerns related to diver-shark interactions.</p>	<p>Overall stock sustainability will most likely not be impacted due to current conservative total allowable catch (TAC), TACC and allowances for the proposed fish stocks. However, TACC limits may not prevent localised or serial depletion in geographically restricted shellfish populations.</p>	<p>The utilisation of UBA will not negatively impact to the aquatic environment due to the selectivity and minimal seabed disturbance this method of fishing presents.</p>	<p><b>Amateur</b> utilisation will remain unchanged from what is considered to be very minimal. <b>Customary</b> utilisation benefits may be impacted. However, this is mitigated by areas around the Chatham Islands that are closed to commercial harvest providing ample access for customary and recreational activity.</p> <p><b>Commercial</b> utilisation will benefit from increased diver safety, increased harvest efficiency and increased selectivity for higher quality product. This will help ensure the continued performances of these highly valued fisheries, for PAU 4 this represent around \$12.5 million per year.</p>	<p><b>Industry:</b> Proposed regulatory conditions will require all vessels utilising UBA to carry an automatic location communicator (ALC). Cost: Approximately \$5000 with ongoing fees of between \$50 and \$100 a month (some paua vessels in PAU 4 have already have these systems in place). <b>MPI</b> will incur marginal increases in compliance and enforcement costs as well as cost associated with the integration of vessels using ALC into current vessel monitoring systems.</p>

### Summary

12. Option 1 to maintain the status quo, will make it difficult for underutilised and developing fisheries to become economically viable fisheries. However, the status quo would ensure populations of these species below the reach of commercial free diving operations remain untouched.
13. Option 2A will allow the SUR, SCC and HOR fisheries in improve development through increased efficiency and harvest rates, improving the economic viability, promoting the growth of these fisheries.
14. Option 2B will achieve the same objectives as 2A. However, this option allows for discussions to occur between the commercial sectors and tangata whenua to ensure customary access rights will not effected before a decision on the use UBA in the mainland SUR stock is made.
15. Option 3 will help achieve the objective of increased diver safety and well being in the PAU 4 and SUR 4 fisheries, ensuring the continued performance of these economically and socially import Chatham Island fisheries.



### *Non-regulatory options*

16. Non-regulatory options are not available to resolve the constraints that are currently imposed on industry by the regulations prohibiting use of UBA.

### **Consultation**

17. Public consultation took place as part of the development of final advice to the Minister. Tangata whenua and stakeholders from the amateur, commercial and environmental sectors were invited to make written submissions. Ninety-three submissions were received on the proposal.

18. Submissions indicated widespread support across sectors for allowing UBA in SCC and HOR fisheries throughout New Zealand and for PAU and SUR on the Chatham Islands. However, there were mixed views on allowing UBA to be used to harvest SUR in the mainland fisheries.

19. SUR is an important customary fishery, and submissions reflect tangata whenua concerns around the potential negative impact on their ability to harvest SUR in to the future. The addition of option 2B, deferring the decision on the use of UBA in mainland SUR stocks is recognition by MPI of the high customary value of kina and the concerns of tangata whenua.

20. Submissions highlighted a lack of information and research around the stock status of developing fisheries, suggesting the UBA only be applied after stock assessments are completed for each stock. MPI notes the lack of information around these stocks, but considers that nominal TACCs for these stocks ensure there is little risk to the overall sustainability of these stocks.

### **Conclusions and recommendations**

21. Public consultation has shown support from both customary and commercial sectors to allow the use of UBA in underutilised and developing fisheries. However, the Minister has concluded the large customary concern regarding the harvest of mainland SUR by UBA is an issue that should be addressed.

22. Therefore, the preferred option is to allow the use of UBA in the PAU 4 and SUR 4 fisheries and in all SCC and HOR fisheries, but to defer the decision on the use of UBA in mainland SUR stocks. This will allow time to develop management strategies that ensure customary, recreational and commercial interests are protected prior to any introduction of UBA.

23. MPI believes that these options address the objectives listed above while also addressing customary concerns.

24. These fisheries have the potential to become valuable contributors to New Zealand's fishing industry. The proposal will increase the economic benefit from existing quota allocations as well as promote development and investment in these fisheries. It will also help ensure the safety of divers fishing within the Chatham Island paua and kina fisheries by decreasing the risk posed by encounters with great white sharks.

### **Implementation**

25. MPI proposes the use of s 297(1)(a) of the Act to amend regulation 76 of the Fisheries (Commercial Fishing) Regulations 2001 to allow the use of UBA in all SCC and HOR fisheries and in the PAU 4 and SUR 4 fisheries. Section 297(1)(a) allows the Governor-General, by Order in Council (made on the recommendation of the Minister), to make

regulations controlling fishing and the possession, processing, and disposal of fish, aquatic life, or seaweed.

26. It is proposed that the change would become effective from 1 October 2013. Stakeholders have been notified of the Minister's endorsement of the preferred options (2b and 3). Further information will be provided to affected stakeholders closer to the implementation date, should the proposal be approved.

27. Given the highlighted risks of allowing the utilisation of UBA in shellfish fisheries, regulatory conditions written into the regulatory amendments regarding the use of UBA are proposed to help monitor and evaluate the use of UBA and consequently increase the utilisation of these fisheries. These are:

- All vessels using UBA must carry and operate an automated location communicator;
- No person or vessel may use or be in possession of UBA when taking, or in the possession of, any other fish, aquatic life, or seaweed explicitly covered under these proposed regulations; and
- Commercial harvesters using UBA must record the method of catch under a new code for the UBA method.

28. These conditions will fulfil two functions: ensuring compliance with fisheries regulations, i.e. fishers are not using UBA for harvest of other species or utilising UBA to fish in closed areas; and gathering improved information to inform future management decisions.

### **Monitoring, evaluation and review**

29. Through the annual fisheries planning process<sup>1</sup>, MPI monitors and reviews the effectiveness of regulations in supporting management objectives. The performance of the fishery and of the regulation proposed in this paper would be monitored and reviewed in discussion with tangata whenua, the industry and other stakeholders as part of this process.

30. Future levels of quota utilisation in the SCC and HOR fisheries will serve as an indicator of the effect of allowing the use of UBA in these fisheries. In PAU 4 and SUR 4 fisheries, performance will be assessed as a reduction in shark interactions and increased sense of safety and wellbeing within the fishers, something that has increased under the current trials.

31. Increased utilisation and exploration in these fisheries, combined with vessel movement information via ALC, will provide information to inform ongoing stock status monitoring and inform fisheries management decisions. This provides an opportunity for fishers to improve their fisheries and inform subsequent TAC reviews, potentially increasing the value of these fisheries.

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<sup>1</sup> MPI's fisheries planning process is the main mechanisms to guide and prioritise fisheries management interventions for deepwater, highly migratory species, inshore finfish, inshore shellfish and freshwater fisheries based on an objectives-based framework. The process is based on National Plans for each of the fishery groupings. The Plans define management objectives and performance measures. Each year an assessment of fishery performance against the management objectives, based on the performance measures, is carried out. Annual Operational Plans for each of the fishery groupings, specifying services and interventions, are developed to address identified gaps in performance or to enable identified opportunities. This is done in close discussion with tangata whenua, the fishing industry and other stakeholders. For more information please refer to the [MPI Fisheries website](#).