

CHATHAM ISLANDS PĀUA PAU4 FISHERIES PLAN

JANUARY 2019

Contents

Part One: Introduction	2
Context	2
Scope	2
Management Approach	2
Annual Operating Plan	3
Part Two: Objectives, Strategies and Actions	4
Objectives	4
Strategies and Actions	4
Strategies for timely adjustments to commercial harvest levels, based on reliable information	4
Strategies for supporting and enhancing the sustainability of the pāua fishery	5
Strategies for improving industry performance	7
Strategies for community engagement.....	8
Part Three: Implementation, monitoring and review	9
Implementing the measures in the Plan	9
Performance measures and monitoring	10
Review	10
Integrating the Fisheries Plan with FNZ management measures	11

Part One: Introduction

Context

Pāua on the Chatham Islands is highly valued by customary, commercial and recreational fishers. The commercial fishery is managed under the Quota Management System as PAU4, comprising blackfoot pāua (*Haliotis iris*) and yellowfoot pāua (*H. australis*). Although quantitative information on the stock status of PAU4 is limited, the fishery is considered to be relatively productive and abundant. In recent years, however, the pāua industry has observed that the total biomass of PAU4 appears to be declining and some areas of the fishery are experiencing depletion. In response to these concerns, since 2010 quota owners have reduced commercial harvest by voluntarily shelving annual catch entitlement (ACE). The PAU4 industry now intends to adopt more sophisticated management measures using a fisheries plan approved by the Minister of Fisheries under section 11A of the Fisheries Act 1996.

Scope

The fisheries plan is being developed by industry representative body PauaMAC4 on behalf of all PAU4 quota owners and harvesters, and with the involvement and support of Iwi, Imi, the Chatham Islands community and Fisheries New Zealand (FNZ). The plan focuses on managing commercial harvesting activity and is intended to complement other fisheries management initiatives around the Chatham Islands, including customary management measures.

Unlike other fisheries plans prepared under the Fisheries Act, the PAU4 Plan sets out actions that will be undertaken primarily by the fishing industry (PAU4 quota owners, ACE holders, harvesters and Licensed Fish Receivers (LFRs)). The measures in the plan are intended to complement and integrate with FNZ's fisheries management functions.¹

Management Approach

The PAU4 Plan is based on fine-scale, timely, and adaptive management responses. This management approach is well suited to the PAU4 fishstock for the following reasons:

- The sustainability and abundance of sedentary species such as pāua depends primarily on local conditions and local fishing effort rather than on stock-wide factors. A spatially-explicit management approach that builds upwards from small-scale stock units is therefore more appropriate than the typical 'top-down' management approach implemented at the scale of the PAU4 Quota Management Area (QMA). The basic unit of management adopted in the PAU4 Plan is the 57 PAU4 statistical areas;
- Real-time management responses are simply not possible in fisheries that are managed using periodic stock assessments and TACC adjustments. However, information about the PAU4 stock is visible to harvesters and can be captured by industry data recording systems. This real-time

¹ FNZ's fisheries management approach is set out in the Draft National Fisheries Plan for Inshore Shellfish (July 2011). Integration with FNZ management measures is addressed in Part Three of the PAU4 Plan.

information can be readily incorporated into management responses for PAU4 on an annual basis as well as during the fishing season;

- An adaptive management approach enables management measures to evolve in response to:
 - Improvements in the quantity and quality of information about the PAU4 stock – for example, harvest control rules will become more sophisticated as information is gathered on abundance trends at a fine spatial scale;
 - Improvements in the sophistication of industry management tools – for example, many of the measures in the plan will initially be implemented on a voluntary basis but, in time, statutory support for industry management initiatives is anticipated to provide higher levels of certainty for all fisheries stakeholders.

The PAU4 Plan operates within FNZ’s management settings – i.e., within the constraints of the TACC and current regulatory settings such as the Minimum Legal Size (MLS). The two main management tools utilised in the Plan are:

- Restriction of fishing effort within the TACC using the mechanism of ACE shelving (for an explanation of ACE shelving see Part Three of the Plan); and
- Control of fishing activity at a sub-QMA level, including catch spreading, variable minimum harvest sizes and enhancement of local pāua populations.

Annual Operating Plan

The PAU4 Plan provides an enduring framework for managing the fishery, but the operational management measures will be set and reviewed annually in the PauaMAC4 Annual Operating Plan (AOP). The AOP will be prepared using the following process and will be publicly available.

Year 1	Action	Responsibility
From 1 October	Implement Year 1 management measures	PAU4 industry
March	Assess Year 1 fishing activity, stock status and trends	Harvesters’ Forum
	Set provisional measures for AOP Year 2 (using best available information, including from Harvesters’ Forum)	PauaMAC4 Executive
April, May	Engage and consult with PAU4 quota owners, harvesters, Iwi, Imi, Chatham Islands community, and FNZ	PauaMAC4 Executive
June	PAU4 sign-off on management measures for Year 2 AOP	PauaMAC4 AGM
	Provide AOP to FNZ	PauaMAC4 Executive
July	Forward ACE shelving put in place for Year 2	PAU4 quota owners
	Provide report to FNZ on level of shelving achieved	PauaMAC4 Executive

Part Two: Objectives, Strategies and Actions

Objectives

Objective 1: Timely adjustments to commercial harvest levels, based on reliable information.

Objective 2: Support and enhance the sustainability of the pāua fishery.

Objective 3: Improve industry performance.

Objective 4: Community engagement.

Strategies and Actions

Strategies for timely adjustments to commercial harvest levels, based on reliable information

Strategy 1.1 Comprehensive harvest information: Improve the comprehensiveness and accuracy of harvest information by implementing the following actions:

- 1.1.1 Require 100% data logger use.
- 1.1.2 Require at least one shell sample every dive event.²
- 1.1.3 Make use of data from FNZ's electronic monitoring and reporting system.

Explanation: Timely, fine-scale, verifiable harvest information forms the cornerstone of the management approach in the PAU4 Plan. This information, currently collected voluntarily using data loggers, will be further supported by the introduction of electronic catch and location reporting requirements.

Strategy 1.2 Harvest control rule: Develop and implement a harvest control rule (decision rule) for adjusting commercial harvest levels in PAU4 based on comprehensive harvest information.

- 1.2.1 Specify the harvest control rule in the Annual Operating Plan.

Explanation: A harvest control rule is a pre-agreed guideline that determines how much fishing can take place, based on indicators of stock status. The PAU4 harvest control rule will evolve as better fine-scale information on the status of the fishery is obtained. Initially, the harvest control rule takes the simple form of sub-area targets based on informed judgement and an assessment of historical catch levels. In time, a more sophisticated approach based on catch per unit effort (CPUE) may be utilised. The harvest control rule may apply at the level of the QMA or sub-areas within the QMA (which can be summed to obtain an overall limit for commercial harvest).

Strategy 1.3 ACE shelving: Control the level of commercial harvest in PAU4 by the following actions:

- 1.3.1 Shelve 40% of ACE in 2018/19 in accordance with Court direction.

² The definition of a "dive event" will be included in the Annual Operating Plan.

- 1.3.2 Maintain at least 40% ACE shelving for at least one further year to assist the rebuild of the fishery.
- 1.3.3 Review the level of ACE shelving on an annual basis, adjust when necessary using a harvest control rule, and specify the required level of shelving in the Annual Operating Plan.
- 1.3.4 Explore options to increase the security of forward ACE transfers and ensure that the burden of ACE shelving is apportioned equitably on the basis of quota ownership.

Explanation: Shelving is a secure and responsive way of managing commercial harvest levels within the PAU4 fishery on an annual basis. The timing of the development of the AOP allows the Minister to take into account the fisheries plan, the AOP, and the effect of shelving on the PAU4 stock when considering sustainability measures for the new fishing year.

Strategy 1.4 Diver information: Incorporate diver-provided information into decision-making.

Explanation: Information provided by divers, including anecdotal information and formal local-area abundance surveys undertaken by divers, is relevant to all the management measures in the AOP.

Strategies for supporting and enhancing the sustainability of the pāua fishery

Strategy 2.1 Effort spreading: Reduce the risk of serial depletion by implementing the following actions:

- 2.1.1 Set harvest targets for sub-areas within the PAU4 QMA (which may include setting targets of zero for areas subject to local depletion) based on:
 - the previous five years of catch reporting data; and
 - information from the Harvesters' Forum.
- 2.1.2 Monitor actual sub-area catch on a timely basis using the PAU4 Dashboard website.
- 2.1.3 Implement in-season closures of sub-areas if catch levels reach a specified threshold within or above the sub-area target.
- 2.1.4 Review sub-area targets, closures, and thresholds on an annual basis and specify in the Annual Operating Plan.

Explanation: Sub-area targets help spread fishing effort and manage the risk of local depletion. Targets will initially be set at the scale of statistical areas, but adjustments may be made to the scale of management in future years by combining statistical areas into larger strata. Sub-area targets may be fished on a competitive basis, or may be implemented by assigning a proportion of ACE to each sub-area and allowing trade between ACE holders. Threshold levels may be adjusted annually to establish more flexible or precise spreading of catch (e.g., a threshold of 150% allows more flexibility than closing an area when 100% of the target is caught).

Strategy 2.2 Spawning opportunity: Protect and enhance pāua spawning opportunity by implementing the following actions:

2.2.1 Research and monitoring:

- Tag pāua in at least two sites per year for the PAU4 Growth and Maturity project; and
- Monitor spawning times using information from harvesters and LFRs.

2.2.2 Minimum Harvest Size (MHS) adjustments:

- Specify one or more area-based MHS in the Annual Operating Plan;
- Review and adjust the MHS at an appropriate spatial scale in response to the results of the relevant research.

2.2.3 Seasonal spawning closure:

- Specify the spawning period closure in the Annual Operating Plan.

Explanation: Adjusting the MHS above the MLS of 125mm allows additional spawning events before pāua become available for harvest. The results of research on fine-scale spatial variation in length at maturity, spawning behaviour, and the optimal number of spawning years will be used to set and adjust the spawning-related rules in the AOP. MHS provisions may apply at the scale of each main island (Chatham or Pitt) or at a smaller spatial scale. The appropriate scale of management will be influenced by the suitability of monitoring and enforcement regimes. If a single MHS is set for a large area, innovative arrangements may be adopted to facilitate catch spreading within the area (e.g., by reducing, for a short period of time, the MHS in sub-areas where the pāua are between the MLS and MHS). The spawning closure is anticipated to run from July to September inclusive, but dates may vary on a sub-area basis and may be adjusted in-season depending on information on actual spawning activity.

Strategy 2.3 Fishery enhancement: Implement translocation and reseedling programmes, including the following actions:

- 2.3.1 Translocate at least two sites each year to establish spawning banks/founder populations in areas subject to localised depletion that previously supported strong pāua populations.
- 2.3.2 Translocate stunted stock to areas that allow for further growth to MHS.
- 2.3.3 Implement reseedling where this is practical and justified by analysis of costs and benefits.

Explanation: Translocation and reseedling programmes can be used to target particular areas of the fishery where these techniques will help improve local abundance. The performance of these methods of fisheries enhancement will initially be trialed, monitored and assessed prior to broader implementation. The sustainability of pāua stocks in all areas is paramount, including areas where pāua are sourced for translocation.

Strategy 2.4 Habitat of particular significance for fisheries management (HPSFM): Protect HPSFM for pāua by implementing the following actions:

- 2.4.1 Identify areas that are HPSFM, including areas that are particularly important for pāua spawning and juvenile growth, and note identified HPSFM in the Annual Operating Plan.

- 2.4.2 Work with Iwi, Imi and the Community Forum to ensure that HPSFM are protected from adverse effects of fishing and non-fishing activities, including activities managed under other legislation such as the Resource Management Act 1991 (RMA).

Explanation: Fisheries Act section 9(c) requires that habitat of particular significance for fisheries management should be protected. Other marine and terrestrial activities can have adverse effects on pāua habitat – for example, the discharge of sediment from land disturbance or the erection of coastal structures. A fisheries plan approved under section 11A of the Act has status under other legislation, including the RMA, enabling an integrated, multi-agency approach to protecting areas that are critical for sustaining healthy pāua populations.

Strategies for improving industry performance

Strategy 3.1 Professional and responsible harvest crews: Improve the performance of harvest crews by the following actions:

- 3.1.1 Require all harvesters to comply with PauaMAC 4's general operating procedures and best practice rules, including procedures related to:
- Harvesting and handling of pāua
 - Landing of pāua
 - Biosecurity
 - Protecting the fishery from theft
 - Recreational take by commercial operators
 - Use of data loggers
 - Commercial use of Underwater Breathing Apparatus (UBA)
 - Access over private property
 - Shark incident reports
- 3.1.2 Implement and maintain a regular harvester training programme covering matters such as best pāua handling practice, data logger use, and compliance with industry and government rules.

Explanation: Good harvesting practice builds on existing industry practices, and is an essential component of effective management of the PAU4 fishery.

Strategy 3.2 Quota owner responsibility: Foster quota owner responsibility for harvest crew performance by implementing the following actions:

- 3.2.2 Obtain agreement from PAU4 quota owners to:
- Place conditions on ACE requiring harvesters to comply with all industry rules in the Annual Operating Plan;
 - Enforce ACE conditions by withholding ACE from harvesters who fail to comply with the industry rules.

- 3.2.3 Encourage the use of multi-year ACE commitments by quota owners so that harvesters have the security of a longer-term interest in the fishery.

Explanation: The effective enforcement of quota owner-imposed ACE conditions is a critical aspect of ensuring compliance with industry-initiated management measures. Multi-year ACE arrangements (e.g., 3 to 5 years) improve incentives for harvester performance.

Strategy 3.3 Industry capability: Maintain and build the necessary capacity and expertise to support the Chatham Islands pāua fishery by implementing the following actions:

- 3.3.1 Ensure PauaMAC4 continues to be appropriately resourced.
- 3.3.2 Maintain and expand a group of local divers who have ‘scientific diver’ certification.

Explanation: The continued development and implementation of the Plan requires a credible, properly resourced industry representative body with access to appropriate financial support, skills, experience, and locally-based scientific input, both now and into the future.

Strategy 3.4 Implementing industry rules with certainty: Work with the Pāua Industry Council and the Chatham Islands Fisheries Forum to advocate for the establishment of a statutory delegated decision making capacity on the Chatham Islands to enable quota owners to make binding industry rules within government-set standards – potentially as a pilot programme for ‘Authorised Management’ (described in Part Three of the Plan), acknowledging that this would require legislative change.

Explanation: While the management measures in the Plan can be implemented on a voluntary basis by the PAU4 industry, there may be some industry participants who seek to benefit from the measures without contributing to them. Statutory tools to support full compliance with industry management measures approved by a super-majority of quota owners will help improve certainty for quota owners, harvesters, the Chatham Islands community and the Government.

Strategies for community engagement

Strategy 4.1 Community Forum: Encourage an active community management approach to the Chatham Islands’ fisheries by establishing and participating in a Chatham Islands Fisheries Forum, together with Iwi, Imi, recreational fishers and other community and agency representatives.

Explanation: The Community Forum is a mechanism for engagement of all those with an interest in the Chatham Islands fisheries. For PAU4, the Forum is an opportunity to help inform the community of the PAU4 Plan, seek support for industry management measures, and integrate the PAU4 Plan with other fisheries management initiatives on the Chatham Islands.

Part Three: Implementation, monitoring and review

Implementing the measures in the Plan

The annual measures that will be implemented by the PAU4 industry will be set out in the PauaMAC4 AOP, as described in Part One of the Plan.

The Plan's strategies and actions enable the implementation methods to evolve or change over time. At any one time a mix of the following implementation mechanisms may be in use:

- **ACE shelving** – Prior to the start of the fishing year, PAU4 quota owners transfer the specified percentage of ACE to a non-fishing entity – i.e., to PauaMAC4's account on the publicly-accessible ACE register maintained by FishServe. ACE that is shelved cannot be fished during that year. The process is repeated every year that the shelving is in place. The security of this method of ACE shelving has been demonstrated by PauaMAC4 over the past seven years. ACE shelving requires a high level of support from quota owners in order to achieve the specified level of catch reduction;
- **Industry rules** – Non-regulatory measures that are agreed to and implemented by industry members on a voluntary basis (e.g., rules relating to area closures or the use of data loggers);
- **Regulations** – Some measures in the Plan can be implemented via regulations made under the Fisheries Act – e.g., electronic catch and position reporting; and
- **Authorised management** – A management tool that PauaMAC4 and the seafood industry are advocating be made available in the future, which would require amendments to be made to the Fisheries Act.³ Under authorised management, a group of quota owners would be authorised by the Minister of Fisheries to purchase specified fisheries services and perform specified management functions for the commercial share of a fishery within government-set standards. The quota owners would use a statutory decision making tool to make rules by super-majority, subject to statutory checks and balances to prevent inappropriate behaviour. The rules would bind all quota owners and commercial harvesters in a fishery so as to provide FNZ and fisheries stakeholders with confidence that industry management measures will be implemented in a transparent and enforceable manner.

The PAU4 industry is already implementing the types of initiatives that would be possible under authorised management (e.g., ACE shelving and industry rules about fine-scale management). However, authorised management would enable more efficient implementation of the strategies in the Plan by simplifying processes for agreeing on industry rules, making rules enforceable and removing the 'free rider' effect whereby quota owners or harvesters are able to benefit from industry management measures without participating in them.

³ Authorised management is described in detail in the Initial Seafood Industry Contribution to Fisheries Management Review 2015/16 *Creating Value 'Beyond Sustainability'* (December 2015).

Performance measures and monitoring

The PAU4 Plan has five performance measures which are set out below.

Performance will be monitored by the PauaMAC4 Executive and by FNZ on an ongoing basis.

Performance measure	Monitoring mechanism
1 The AOP is prepared according to the requirements of Plan	FNZ receives the AOP by the due date and the AOP covers the measures specified in Plan
2 The level of ACE shelving specified in the AOP is consistent with Fisheries Act requirements for ensuring stock sustainability ⁴	PauaMAC4 and FNZ share information on PAU4 stock sustainability and discuss AOP specifications before June each year
3 The specified level of ACE shelving is achieved by 31 July each year	PauaMAC4 monitors the level of ACE shelving using the quota register and reports the level of shelving achieved to FNZ
4 Industry compliance with industry rules in the AOP is sufficient to ensure the integrity of the management measures	PauaMAC4 monitors compliance with industry rules using information from harvesters and LFRs, data loggers and the PAU4 Dashboard website FNZ monitors electronic catch and position reporting
5 Community support for the Plan	PauaMAC4 and FNZ monitor community views through direct liaison with Iwi, Imi and the Chatham Islands Fisheries Forum

Review

PauaMAC 4 will review the PAU4 Fisheries Plan after the Plan has been in place for five years. The review will be undertaken in consultation with FNZ, Iwi and Imi, and the Chatham Islands Fisheries Forum.

⁴ These requirements are set out in Fisheries Act sections 11 and 13.

Integrating the Fisheries Plan with FNZ management measures

The PAU4 Fisheries Plan aligns with and complements FNZ’s management services for PAU4, as shown in the diagram below.

