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# Review of the Primary Growth Partnership programme: Precision Seafood Harvesting

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# The Precision Seafood Harvesting programme

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The Precision Seafood Harvesting (PSH) Primary Growth Partnership (PGP) programme is a partnership between Aotearoa Fisheries (now Moana New Zealand), Sanford, the Sealord Group and the Ministry for Primary Industries (MPI) to generate more value from the fisheries industry. Specifically, the programme aims to develop new wild fish harvesting technology that will allow more precise catches and allow fish to be landed fresher and in better condition.

The PSH gear technology (the Modular Harvest System or 'MHS') fundamentally changes the fishing part of trawl gear. The gear is intended to result in much less fatigued and stressed fish being brought to the vessel such that the quality of captured fish is much improved. In doing so, fish that have not already escaped from the nets (which have appropriately sized escapement panels) may also have better chances of survival if returned to the sea (depending on the depth from which they were taken and on-board handling technologies and practices), with associated potential for sustainability benefits.

## Purpose of this review

This review is intended to provide the partners in the Programme with an independent assessment of how the Programme is tracking towards the desired outcomes, and in particular to provide advice on where effort would be best focused in its final months in order to maximise the potential benefits.

## Achievements to date

### **The PSH technology clearly delivers much higher quality fish**

The technology is an innovative 'game changer' and a major step forward for the industry. The technologies developed thus far are already clearly delivering higher quality fish to the back of the boat. The quality sampling methods are fully developed and substantial work has been completed on snapper and hoki with no doubt from any parties that higher quality fish are delivered using the MHS gear.

### **Industry collaboration and culture change has been fostered**

The programme has brought together three industry competitors and MPI to develop and implement the gear. This has involved collaboration, energy and innovation to make steady progress. The industry partners are actively engaged in spirit and with capital, including significant in-kind contributions by way of vessel time to test and refine the gear.

The programme is building a mind-set change amongst skippers and crews – we were told that crews who have used the MHS gear ‘don’t want to go back’ to traditional trawl gear once they’ve seen the quality of fish it delivers.

## **There is keen industry appetite for uptake**

There is considerable evidence that there will be uptake of the technology, with vessel replacement programmes now taking into consideration the opportunity of installing the new gear. We encountered strong industry appetite to roll-out the gear commercially as soon as possible.

## **Price premiums achievable**

The PSH technology development for capture and on-board handling could undoubtedly lead to considerable increases in market prices. For hoki and other deepwater species, the potential to increase value is by moving higher quality fish up the ‘value cascade’. Even within the same cascade point, better quality could achieve improved market access or prices, and longer shelf life.

## **Regulation critical to the release of benefits**

The most significant hurdle to realising the benefits of the PSH technology is gaining regulatory approval to allow commercial use and diffusion of the gear. We are concerned that the complexity of gaining regulatory approval may have been under-estimated.

MPI currently expects enabling regulations to be in place for the October 2017 fishing season.

## **Priority activities for the remaining time**

Our report provides advice on the essential activities for the remainder of the programme, in order to lock in the potential benefits from work to date and provide a foundation for on-going development and commercialisation of the MHS gear.

- It is essential to validate and regulate for the two existing MSH types. This means prioritising UCK (selectivity) testing over UDK (increasing survivability) testing.
- The timeframes across the testing programme need to be clarified, and the project specifications need to distinguish between deepwater and inshore, and for inshore, between survivability and selectivity testing. It is also essential to be clear whether MHS and/or on-board handling technologies are being validated and against what criteria, including the specification for traditional gear for comparison.
- PSH should ensure validation work is supportive of and consistent with possible regulatory change. The programme needs to confirm its aspirations with regard to the return on unwanted catch to the sea – if it is for any fish (not just those below MLS), then a priority for the programme’s engagement with MPI will be to clarify what is envisaged with respect to the enabling regulations.
- It is timely to review the quantum and timing of expected benefits in light of the current status of the programme.

## Recommendations

### Programme management and reporting

1. That more standard programme management disciplines be implemented, including practices around progress reporting, budget management and risk management. Specific recommendations for the immediate future are:
  - (a) That the changes from the original work programme to the revised work programme be clearly reconciled by activity/milestone in a short document to the Programme Steering Group.
  - (b) That the reporting of progress be around delivery of specified, measurable outputs (in addition to outcomes), with key dependencies identified. These might include outputs such as provision of a net design for a different species.
  - (c) That the programme's KPIs be revised, to a set of core metrics that focus on active use of the gear, catch volumes and value uplift achieved.
  - (d) That the programme undertakes a review of risks and their management, to ensure all relevant risks are identified and being actively monitored or managed.
2. Given the key person risk and the need for skills in both the technical aspects (managing the science) and engaging with central government through the regulatory change process, we recommend that the programme engages additional support to the programme manager. Expertise and experience in both fisheries management and engaging with central government are required. Given the size of the budget allocation for programme management, and the underspend to date, there looks to be scope to fund this from within the existing funding envelope.

### Priority activities for the remainder of the programme

3. That the programme moves swiftly to validation of the two existing MHS types to allow commercial take up of those gears. This means prioritising UCK (selectivity) testing over UDK (survivability) testing.
4. That the timeframes across the testing programme are clarified, committed to by PSH and MPI, and specified in the work programme. This clear specification needs to distinguish between deepwater and inshore and, for inshore, between selectivity and survivability testing.
  - (a) The clarifications to the work programme need to include specific delivery dates and outputs for validation testing of MHS gear for hoki (out of season) and snapper (Hauraki Gulf).
  - (b) It is essential to be clear in advance if MHS and/or on-board handling technologies are being validated and against what criteria. This includes how traditional gear is being specified for comparison, given that there is no 'standard' gear.

- (c) For the inshore work, the programme needs to clarify as a separate objective what is intended about demonstrating survivability and how beta-prototype handling technologies and operational practice will be 'locked-in', and against what criteria.
  - (d) For inshore, UCK (selectivity) testing needs to be prioritised.
- 5. That the programme confirms its aspirations with regard to the return of unwanted catch to the sea. If it is for any fish (not just below MLS) then a priority for the programme's engagement with MPI will be to clarify what is envisaged with respect to the enabling regulations.
- 6. That the programme clarifies its intentions for MHS development in relation to squid, and for targeting other species or fisheries for the exemplars and/or other species (beyond of out-of-season hoki and snapper in the Hauraki Gulf). This is necessary so that a robust and justifiable update of expected economic benefits can be developed.
- 7. That a thorough review of the quantum and timing of potential benefits be undertaken, including the underlying assumptions and the likely quantum of benefits, given the current status of the programme and its likely achievements by the end of the programme. This work would include:
  - (a) clarifying the schedule for fit-out of vessels for commercial use of the MHS gear;
  - (b) clarifying the programme's intentions with respect to the development of novel products; and
  - (c) reviewing the projections of PSH catch volumes (including proportion that may be Tiaki branded) and the potential for wider industry uptake.