Government of **Western Australia**
Department of **Fisheries**

Fish for the future

Mr Ian Blayney, MLA
Chairman
Economics and Industry Standing Committee
Parliament House
PERTH WA 6000

Dear Mr Blayney

Inquiry into technological and service innovation in Western Australia

Thank you for your invitation to the Department of Fisheries (Department) to make a submission to the above Inquiry.

The Department takes pride in its innovative work and considers it an essential part of continuously improving services and remaining relevant in changing environmental, economic and social conditions. One of the three core values of the Department is "Innovation".

The attached provides a brief description of some of the technological and service innovations the Department has recently developed and implemented – usually in partnership with industry and other stakeholders.

I hope this information assists with your Inquiry.

Yours sincerely

HEATHER BRAYFORD
DIRECTOR GENERAL

Att.

14 August 2015

INQUIRY INTO TECHNOLOGICAL AND SERVICE INNOVATION IN WESTERN AUSTRALIA

DEPARTMENT OF FISHERIES

Q: How can technological and service innovation be encouraged to expand and diversify the Western Australian economy?

1. <u>What drives innovation?</u>
- Need for efficiencies – drives the demand for seeking new ways to achieve the required outcomes
- Developing and communicating clear standards and required outcomes, and allowing the market/industry to develop the technology or processes to meet the standards.
- Recognition that industry, the community and government are working together in partnership for the best interests of the community.

2. <u>Collaboration between government, universities and business</u>

The Department of Fisheries (Department) has a number of examples of working collaboratively to deliver technological and service innovation:

- **Fish Eye** is an on-line system aimed at streamlining Western Australia's fisheries management systems and processes. The project has been developed to assist fishers interacting with the Department and to remove the need for multiple paper based forms to be prepared by fishers and processed by the Department. This results in systems efficiencies and accurate and timely receipt of information.
- **Shark Hazard Automated Messaging System** - The Shark alert messaging system provides communication with relevant shark hazard response agencies in a timely and consistent manner. Development of the system required collaboration with WA Police, Surf Life Saving WA and relevant Local Government authorities.
- **New molecular** approaches for species identification –
  o Some industry funded work to assess the use of molecular sequencing technologies to develop a practical and cost effective tool to monitor marine pests – based on the Next Generation Sequencing and Meta-barcoding.
  o Developing molecular tools to support daily egg production estimates (critical in the management of fish stocks that might be at risk), and also to identify the most appropriate individuals of endangered species such as Hairy Marron to use in a captive breeding program.
  o A project with Edith Cowan University to establish whether the presence of pest fish can be detected in a water body through the use of eDNA tools.
- Working with commercial rock lobster fishers and using **remote underwater cameras** to establish a relationship between lobster catches and habitat.
- Working with New Zealand National Institute of Water and Atmospheric Research on the use of **sound for repelling marine pests** off vessel hulls.
- The development of new **underwater vessel hull cleaning technology** – the Department developed the standards and requirements to be met with the private sector developing the technology to deliver those standards.
- **Vessel Check** – the Department has worked closely with industry to develop and implement a single, consistent vessel risk assessment tool that can easily assess the marine pest risk of vessels and provide operators with ways to mitigate the risk before they come into Western Australian waters.

3. How research can lead to the development of new products, services and jobs
   - Extensive research and development has informed the design of an innovative and cost effective production system for a **greenlip abalone aquaculture system** which enables abalone grow-out structures to be placed in an open ocean environment so that the animals can feed naturally. The project has resulted in a new aquaculture scheme and additional jobs into the region.
   - **Micro-feeder device** – a device developed by Fisheries Research and Development Corporation in partnership with the Department to effectively feed tiny juvenile fish to improve aquaculture development opportunities worldwide.

4. The challenges associated with financing and commercialising new technologies, products and services
   - **Aquaculture Development Zones**

   Aquaculture offers an important means of securing Western Australia's future in respect of food security as well as economic diversification. To date, the requirement for long and expensive environmental approvals, together with the remote location of many of WA's prospective aquaculture sites, has dissuaded aquaculture companies from establishing and operating. The Kimberley and Mid West Aquaculture Development Zones are areas of water chosen for their suitability to support marine finfish aquaculture. The Zones provide "investment ready" platforms for developing large scale commercial aquaculture operations. They will have strategic environmental approvals and management policies already in place so that operations can start without the need for lengthy and expensive approval processes.
   - **Management and Environmental Monitoring Plans**

   To further support aquaculture industry development, the Department is focussing on novel processes for managing environmental issues through 'Management and Environmental Monitoring Plans – which simplify and streamline approvals processes for other aquaculture industries.

5. Models of development by which technological and service innovation could be encouraged in WA.
   - Reducing red tape
   - Setting standards for the outcome – allowing industry and the market to develop the (flexible) means to reach the standards
   - Collaboration and partnering – across government, industry, community – focus on achieving the outcome rather than on the process.