

# NATIONAL PRIORITIES



**FRDC**

# PRIORITY 1



## **Ensuring that Australian fishing and aquaculture products are sustainable and acknowledged to be so**

**Aim:** By 2020, the community has effective access to, and understanding of, RD&E that supports fishing and aquaculture sustainability and improves perceptions of Australian seafood.

**Strategy:** Build understanding of the drivers of social licence to operate and respond to community concerns and needs for information with science-based evidence.

Continue to prioritise investment in RD&E that contributes to the sustainability of fishing and aquaculture, including consideration of target species; bycatch species; threatened, endangered and protected species; and the broader marine environment.

Priority Identified by:

- Minister's meeting
- AFMF – Statement of Intent
- NSIA – Priority
- Recfish Australia - Priority

# PRIORITY 1



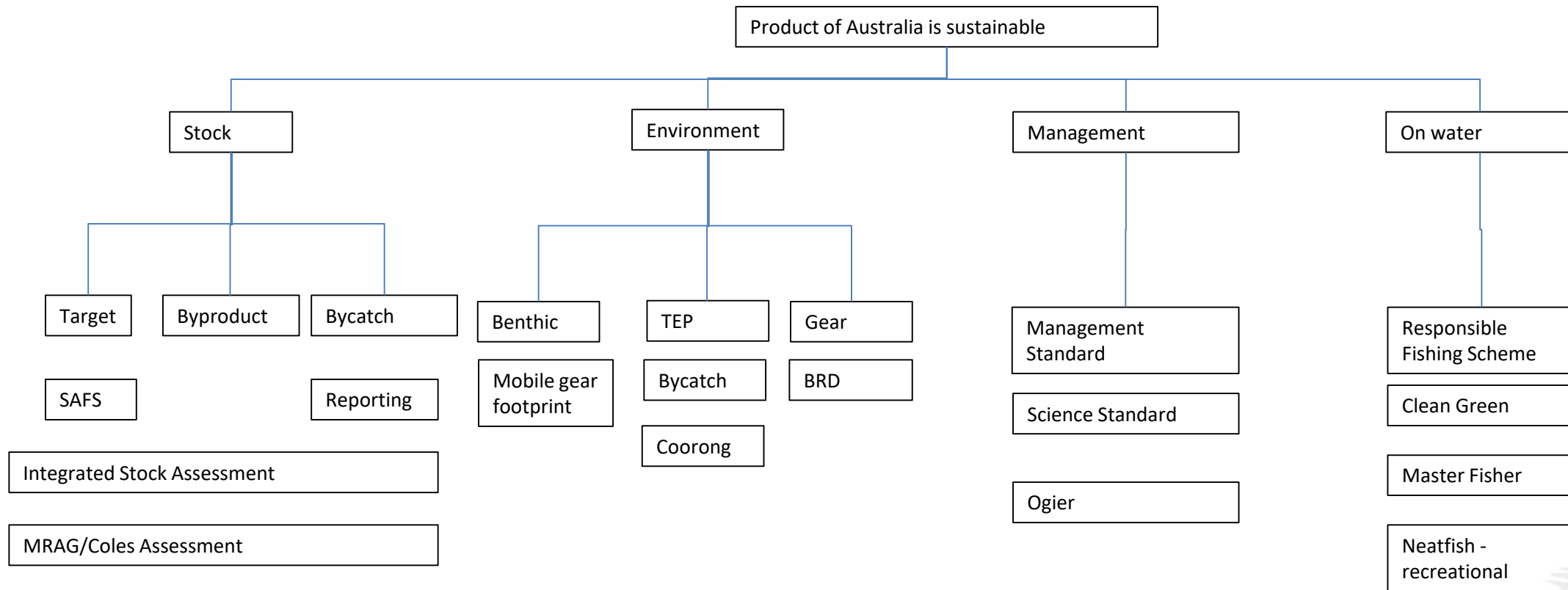
## Deliverables Underway:

- An Australian fisheries management and/or technical standard that addresses all fisheries and can be adopted by any management agency in Australia developed with AFMA and AFMF
- Bycatch performance metrics pilot with case studies in NSW and Tasmania
- Expanded capacity to connect with seafood consumers and markets in Australia and abroad, and use of these channels to understand community perceptions to tell the Australian fishing and aquaculture story across the sectors – Seafood with ET focussing on “Under” species
- An increased number of commercial species assessed in the national *Status of Key Australian Fish Stocks Reports* from 78 to 83



\*FAO Guidelines for the Ecolabelling of Fish and Fishery Products from Marine/Inland Capture Fisheries and FAO Technical Guidelines for Aquaculture Certification.

# The Sneeze



Health Check

WA MSC Certification

SAFS has been a useful tool but we need to move on from static pages and business as usual

Australian Salmon *Arripis trutta*, *A. truttaceus*



**Table 1: Stock status determination for Eastern Australian Salmon**

Jurisdiction	New South Wales, Tasmania, Victoria
Stock	Eastern Australian (CF, CLF, CF, DNF, DGF, HSB, SP)
Stock status	Sustainable
Indicator	Catch, catch rate

CF = Corner Inlet Fishery (Victoria), CLF = Egghead Lakes Fishery (Victoria), CF = Ocean Fishery (Victoria), DNF = Ocean Hauling Fishery (New South Wales), DGF = Ocean Pulp Fishery (Victoria), HSB = Port Phillip Bay Fishery (Victoria), SP = Southern Fishery (Tasmania)

**Table 2: Stock status determination for Western Australian Salmon**

Jurisdiction	South Australia, Victoria, Western Australia
Stock	Western Australian (CF, CLF, LACF, MF, MSF, NMB, CF, HMF, DGF, SWCF, SDFLP)
Stock status	Sustainable
Indicator	Catch, catch rate

CF = Corner Inlet Fishery (Victoria), CLF = Egghead Lakes Fishery (Victoria), LACF = Lakes and Coorong Fishery (South Australia), MF = MacRae Harbour Fishery (South Australia), MSF = MacRae Harbour Fishery (South Australia), NMB = Northern Zone Block Netting Fishery (South Australia), DGF = Ocean Fishery (Victoria), DNF = Ocean Hauling Fishery (New South Wales), DGF = Ocean Pulp Fishery (Victoria), HMF = Port Phillip Bay Fishery (Victoria), SDFLP = South Coast Salmon Managed Fishery (Western Australia), SWCF = South West Coast Salmon Managed Fishery (Western Australia), SDFLP = Southern Zone Block Netting Fishery (South Australia)

**Stock Structure**

The six fish stocks of Australian Salmon (Eastern Australian Salmon (Anglo model) and Western Australian Salmon (A. truttaceus)) each comprise a single biological stock. The Eastern Australian Salmon biological stock is delineated from southeast Queensland down the east coast of Australia to western Victoria and Tasmania. The Western Australian Salmon biological stock is delineated from the south coast of Western Australia to South Australia. Western will be considered Tasmania. Both stocks have spawning areas that are widely and widely by the prevailing currents southwards by the East Australian Current (Eastern Australian Salmon), and southwards and then eastwards by the Tasman Current (Western Australian Salmon). The fish originating and mature before leaving back towards their spawning areas, which occur at the northern (up-current) parts of their distributions.

**Stock Status**

**Eastern Australian Salmon biological stock**

The Eastern Australian Salmon (Anglo model) biological stock has components in New South Wales, Tasmania and Victoria. Each jurisdiction assesses the part of the biological stock that occurs in its waters. The status presented here for the entire biological stock has been established using evidence from all jurisdictions. For the New South Wales part of the biological stock, commercial landings are influenced largely by market demand. Overall landings have varied substantially since the mid-1980s in response to these demands. Catch per unit effort (CPUE) has been increasing since the mid-1990s, but the landings have not increased commensurately. The low and age composition of the commercial landings have increased since the late 1970s. The above evidence indicates that the biomass of the part of the stock in NSW is not recovering sufficiently. Australian Salmon in northern New South Wales may be harvested more heavily than is sustainable because of the lower recruitment of the commercial fishery, with an accumulation rate of 2.24 years in NSW. Evidence of current fishing mortality was weaker in western Victoria. The above evidence indicates that the current level of fishing pressure is unlikely to cause the part of the stock to become recruitment overfished.

For the Victorian part of the biological stock, commercial landings have varied between 300 and 700 tonnes, with a peak during the mid-2000s. The annual catch in 2013 was slightly less than in 2012, compared with the previous years (over 700 t). The most recent assessment of the part of the stock indicates that until 2011, there was the change in the size and age composition of fish in landings. Little information is available after 2011. However, the fishery continues to target nearly adult fish and the level of effort has remained steady. This evidence indicates that the Victorian part of the Eastern Australian Salmon biological stock is unlikely to be recruitment overfished and that the current level of fishing pressure by the Victorian fishery is unlikely to cause the part of the biological stock to become recruitment overfished.

For the Tasmanian part of the biological stock, the most recent assessment investigated catches up to 2010. However, new recruitment in the assessment. Although catches were an 80% increase, catch per unit effort (CPUE) has fallen since 2007. The low catch rate and small size of fish in the fishery are likely to be recruitment overfished. The above evidence indicates that the Victorian part of the biological stock is unlikely to be recruitment overfished. It is likely that the Victorian part of the biological stock is unlikely to be recruitment overfished. The above evidence indicates that the Victorian part of the biological stock is unlikely to be recruitment overfished.

On the basis of the evidence provided above, the biological stock is classified as a **sustainable stock**.

**Western Australian Salmon biological stock**

The Western Australian Salmon (A. truttaceus) biological stock has components in South Australia, Victoria and Western Australia. Each jurisdiction assesses the part of the biological stock that occurs in its waters. The status presented here for the entire biological stock has been established using evidence from all jurisdictions. In Western Australia, total commercial landings were decreased since the mid-1990s, with the biological stock stock 2014, 2014, 2014, being about two thirds of a similar downward trend, as a result of weak market demand and low offshore prices. Landings in Western Australia are mostly small sea fish. These catch and effort decline may, which changes in the south coast fishery, where the reported commercial landings occur. Some commercial fishing effort is directed towards Eastern Australian Salmon in Western Australia, which may be compared with historical levels, and the decline in effort accounts for much of the decline in the catch since 2004. However, a decline in commercial catch rate, and recruitment (based on commercial and recreational fisheries) suggest a possible decline in stock abundance over the past decade. The fishery has been dominated by the fish stock. Professional ocean surveying vessel south west in Australia, and changes in the size and maturity of the Eastern Current over the past decade was among the environmental factors that have negatively impacted on the spawning success of Australian Salmon, and reduced the fishery stock level. Fisheries management is recommended since 1996 in Western Australia, and since 1980 in South Australia has continued highly variable recruitment by the fishery, with evidence of recruitment increased with fluctuations in the Eastern Current. On the basis of the above evidence and present, the Western Australian Salmon biological stock is unlikely to be recruitment overfished. Very low levels of fishing effort are currently directed towards Western Australian Salmon in all jurisdictions. The above evidence indicates that the Victorian part of the biological stock is unlikely to be recruitment overfished. Very low levels of fishing effort are currently directed towards Western Australian Salmon in all jurisdictions. The above evidence indicates that the Victorian part of the biological stock is unlikely to be recruitment overfished.

For the South Australian part of the biological stock, total commercial landings have declined markedly since the mid-1990s. However, commercial effort has declined similarly. The current commercial fishing effort directed towards Western Australian Salmon in South Australia is very low compared with historical levels, and, although overall catch rates have not declined, the evidence indicates that the South Australian part of the Western Australian Salmon biological stock is unlikely to be recruitment overfished and that the current level of fishing pressure by the South Australian fishery is unlikely to cause the part of the biological stock to become recruitment overfished.

For the Victorian part of the biological stock, total commercial landings have increased since the mid-1990s and compared with landings of Eastern Australian Salmon in Victoria. The low commercial landings of Western Australian Salmon relative to the catches taken by other jurisdictions indicate that the current level of fishing pressure by the Victorian fishery is low. The above evidence indicates that the Victorian part of the Western Australian Salmon biological stock is unlikely to be recruitment overfished and that the current level of fishing pressure by the Victorian fishery is unlikely to cause the part of the biological stock to become recruitment overfished.

On the basis of the evidence provided above, the biological stock is classified as a **sustainable stock**.

**Table 3: Eastern (Anglo model) and Western (A. truttaceus) Australian Salmon biology**

Component and jurisdiction	Eastern Australian Salmon: 12 years, 610 mm FL; Western Australian Salmon: 12 years, 600 mm FL
Maturity (50%)	Eastern Australian Salmon: 2-4 years, 300-400 mm FL; Western Australian Salmon: 3-4 years, 500-550 mm FL

FL = fork length

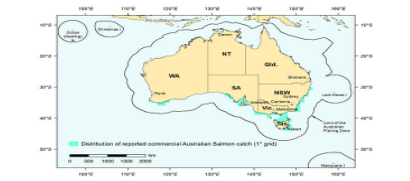
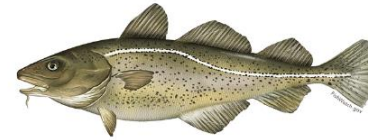


Figure 1: Distribution of reported commercial catches of Australian Salmon (both species) in Australian waters, 2013 (calendar year)

Others are easier to navigate and are more visually appealing

The screenshot shows the top navigation bar of the NOAA FishWatch website. It includes the NOAA FishWatch logo, the text "FISHWATCH U.S. SEAFOOD FACTS", and navigation links for "FISH FINDER", "SUSTAINABLE SEAFOOD", and "EATING SEAFOOD". A search icon is on the right. Below the navigation bar is a search bar with the text "FIND A FISH:" and buttons for "WILD", "FARMED", and "ALL". The main title "Atlantic Cod" is displayed in a large font, with the scientific name "Gadus morhua" underneath.



**ALSO KNOWN AS**

Cod • Codling • Scrod cod • Markets • Steakers

*Although populations are well below target levels, U.S. wild-caught Atlantic cod is still a smart seafood choice because it is sustainably managed under a rebuilding plan that allows limited harvest by U.S. fishermen.*



**POPULATION**

Significantly below target population levels. Rebuilding plans are in place.



**FISHING RATE**

Reduced to end overfishing.



**HABITAT IMPACTS**

Area closures and gear restrictions protect habitat that are affected by some kinds of trawl gear.



**BYCATCH**

Regulations and the use of modified fishing gear reduce bycatch.

**AVAILABILITY**

Year-round.

**SOURCE**

Wild-caught from Maine to Virginia.

**TASTE**

Atlantic cod has a mild clean flavor. It is sweeter than Pacific cod.

**TEXTURE**

Cod has large flakes. It's less firm than haddock.

**NUTRITION FACTS** ⓘ

**RECIPES** ▶

**FEATURES** ▶

[<< back to results](#)[Add to basket](#)

## Atlantic cod, Northern stock in Newfoundland and Labrador region, Longlines



Gadus morhua

**Content last updated**  
3rd Jul 2015

**Stock:**  
Northern cod in NAFO  
Divisions 2J3KL (Newfoundland  
and Labrador region)

**Management:**  
NAFO

NEWFOUNDLAND  
51°10'45.6"N 53°05'09.4"W  
[View larger map](#) [Sign in](#)

Gulf of St. Lawrence

Google

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### Overview

### Stock Status

less risk ●●●●○ more risk

### Management

less risk ●●○○○ more risk

### Bycatch

less risk ●●●○○ more risk

### Habitat

less risk ●○○○○ more risk


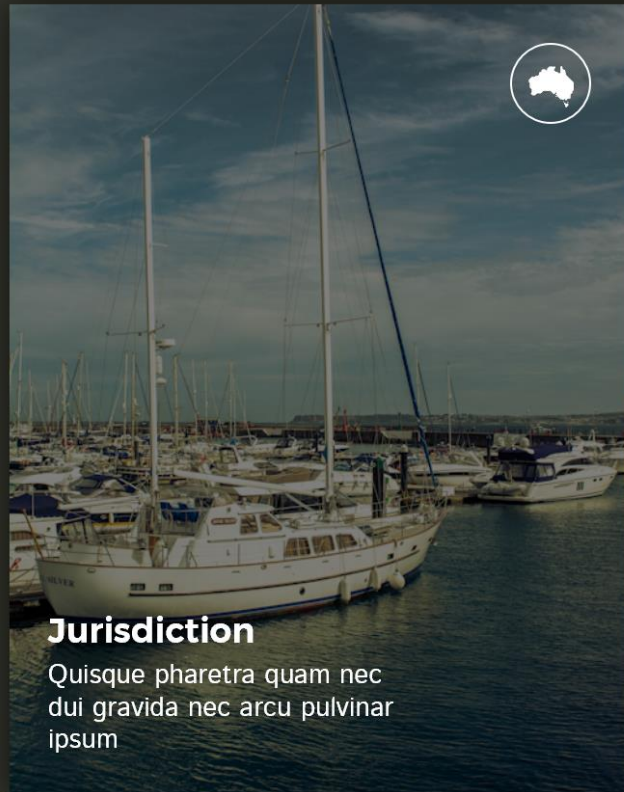
### Outlook

### Nutritional Information





## Reports

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Aenean sollicitudin accumsan erat quis consectetur.





### Jurisdiction

Quisque pharetra quam nec dui gravida nec arcu pulvinar ipsum




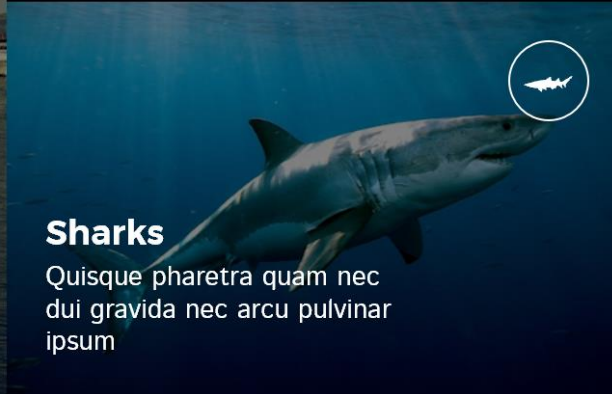
### Molluscs

Quisque pharetra quam nec dui gravida nec arcu pulvinar ipsum



### Crustaceans

Quisque pharetra quam nec dui gravida nec arcu pulvinar ipsum



### Sharks

Quisque pharetra quam nec dui gravida nec arcu pulvinar ipsum



### Finfish

Quisque pharetra quam nec dui gravida nec arcu pulvinar ipsum

[View the full report](#) →

Filter by

30 results for "Lorem ip"

1 - 10 of 30 ← →

**Grouping** ×

- Molluscs
- Crustaceans (29)
- Sharks (10)

**Sustainability levels** ×

- Sustainable (31)
- Depleting (32)
- Dead (33)

**Jurisdictions** ×

- New South Wales (55)
- South Australia (56)
- Northern Territory (58)
- Western Australia (57)

Sort by Latest first ▼

Grid List



**Cockle**  
*Anadara spp.*  
Stock name  
**Lorem**

Stock status	Sustainable <span style="color: green;">●</span>
Catch	1000 KG



**Commercial Scallop**  
*Pecten fumatus*  
Jurisdiction  
**Reeve, 1852**  
Stock name  
**Ipsum**

Stock status	Depleting <span style="color: orange;">●</span>
Catch	Species



**Commercial Scallop**  
*Pecten fumatus*  
Jurisdiction  
**Reeve, 1852**  
Stock name  
**WA something**

Stock status	Recovering <span style="color: orange;">●</span>
Catch	Species



**Green Mussel**  
*Perna canalicula*  
Jurisdiction

Stock status	Dead <span style="color: red;">●</span>
Catch	Species



## Risk Assessment for Sourcing Seafood

What's RASS?



### Filters

[Print results](#)[Reset filters](#)[Link to this search](#)[List View](#)[Map View](#)

### Atlantic cod, Northern stock in Newfoundland and Labrador region, Longlines

Gadus morhua

Stock Status

●●●●○ High risk

Management

●●○○○ Low risk

Bycatch

●●●○○ Medium risk

Habitat

●○○○○ Very low risk

[View profile](#)[Add to basket](#)

Select Fishery

Fishery Description

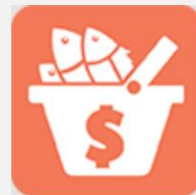
SESSF - Commonwealth Trawl Sector

The bottom trawl sector covers the area south from Barrenjoey Point (north of Sydney) around the New South Wales, Victorian and Tasmanian coastlines to Cape Jervis in South Australia, and extends to the edge of the Australian fishing zone, although most trawling occurs in depths less than 500 m. A number of fishery closures are used to manage target and bycatch species by protecting spawning habitat or to exclude a type of fishing gear from an area where bycatch issues are known to occur. A harvest strategy is used to help determine what the quota should be for the target species of the fishery. Fishing, environmental and economic information is included in the harvest strategy, which helps to monitor and maintain the sustainability of the targeted species. To learn more about the Healthcheck of the SESSF - Commonwealth Trawl Sector, click on the indicators below.

Dashboard



Biological



Economic



Governance - Management



Social

## To Do

- Health Check – need to review and select elements for inclusion with SAFS
- Status of Australian Aquaculture Species – working with UK seafish on template
- Develop cost effective methodologies to define the undefined – assessment techniques
- Methods for determining equivalence to ease the process and avoid duplication
- Data standards/guidelines and portal development
- Improved on water performance – Responsible Fishing Schemes
- Test current and developing processes/standards against GSSI
- Community education

# PRIORITY 2



## **Improving productivity and profitability of fishing and aquaculture**

**Aim:** By 2020, deliver RD&E for fishing and aquaculture to increase productivity and profitability consistent with economic, social and environmental sustainability

**Strategy:** Invest in RD&E to understand the drivers of, and impediments to productivity and profitability growth in all fishing and aquaculture sectors; research means of increasing sustainable production and profitability; link these to business education; encompass the needs of Indigenous communities.

# PRIORITY 2



## Deliverables:

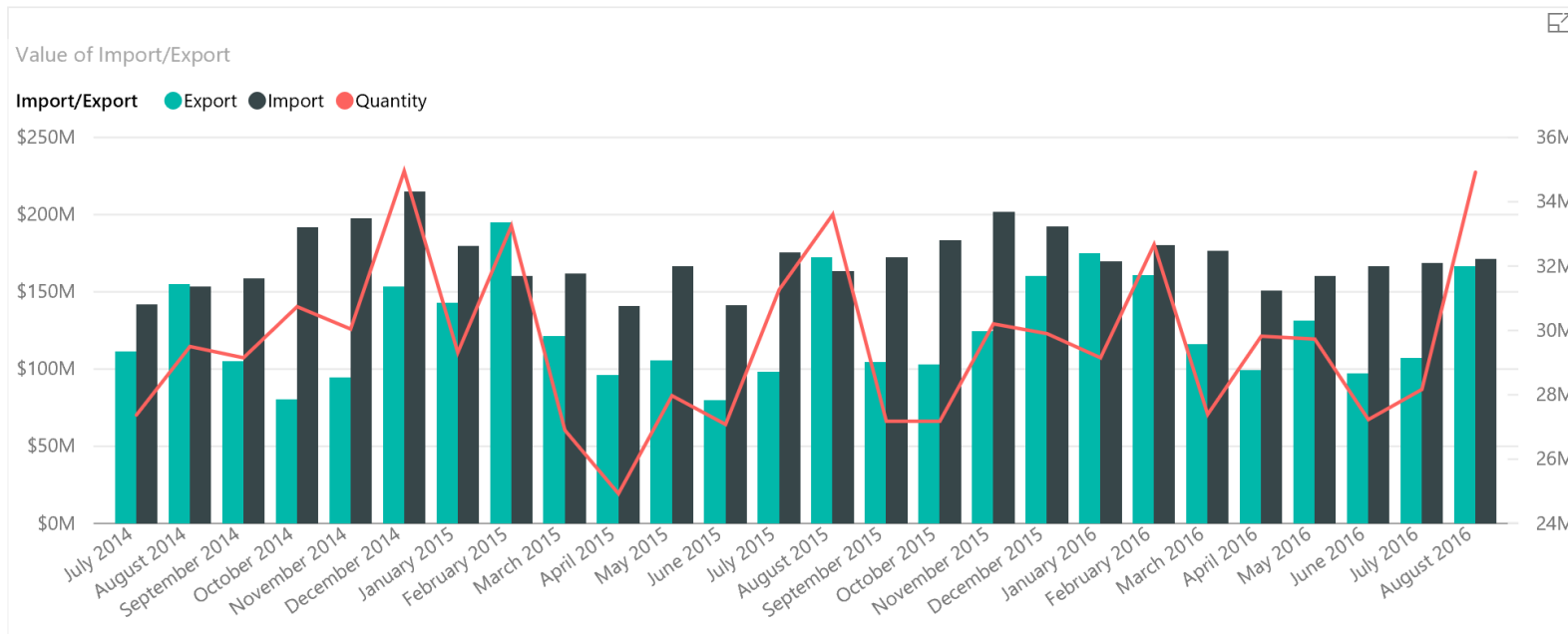
1. Efficiency improvements along the entire supply chain to improve market access, through strategic market intelligence and knowledge that will ultimately influence profitability.
2. More sustainable and profitable use of underutilised and undervalued species and utilising waste streams
3. New product development – processing and packaging to maximise quality to meeting customer needs.
4. New technology solutions to improve productivity and profitability, where these can be feasibly implemented.
5. Habitat rehabilitation to improve productivity and profitability for the fishing and aquaculture sector.
6. Social values quantified for Indigenous, Recreational and Commercial fisheries (coupled with economics because economics is a social science)
7. The gross value of production of Australia's fishing and aquaculture resources is increased.

## To Do

- Investment to improve productivity
  - To do this, need to understand current productivity – i.e. asset utilisation etc.
- Improved fishery output/utilisation – What could catches look like (new species or maximising current catch including “unders”) and utilising waste streams.
- New product development – processing and packaging to maximise quality to meet customer needs.
- Improved fishing and aquaculture efficiency – gear, supply chain, management (reducing input costs)
- Consumer education
- Understanding habitat repair and what it means to productivity
- Social and economic values quantified for Indigenous, Recreational and Commercial sectors



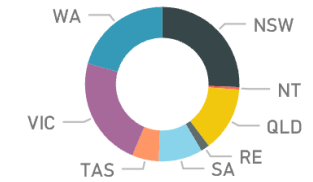
# Trade Data



Total Value

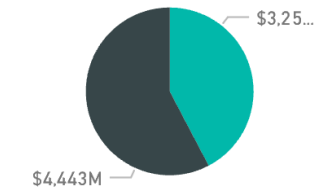
**\$8bn**

Value by State



Value by Import/Export

I... ● Export ● Import



Country

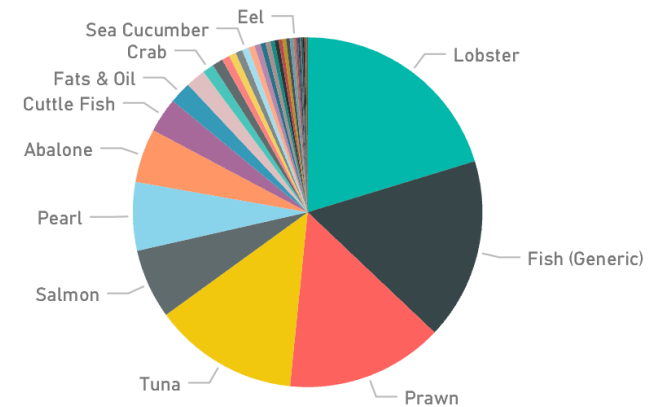
- Antarctica
- Argentina
- Australia (Re-Imports)
- Austria
- Bahamas
- Bahrain
- Bangladesh
- Belarus
- Belgium
- Belize
- Benin
- Brazil
- Brunei Darussalam
- Cambodia
- Cameroon
- Canada
- Chile

Species

- Abalone
- Anchovie
- Aquatic Invertebrate
- Carp
- Catfish
- Caviar
- Clam
- Coalfish
- Cobia
- Cod
- Coral
- Crab
- Crustacean
- Cuttle Fish
- Eel
- Fats & Oil
- Fish (Generic)

Search by commodity

Value by Commodity



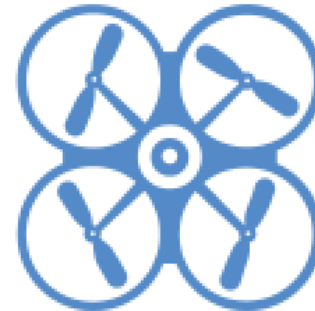
# RIRDC - Transformative technologies for agriculture



Artificial intelligence is an emerging technology in agriculture.



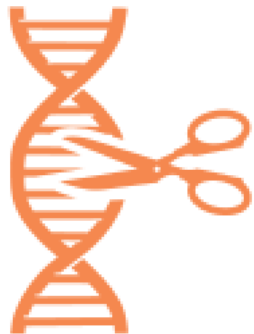
IoT has been adopted in many industries including manufacturing, retail and agriculture.



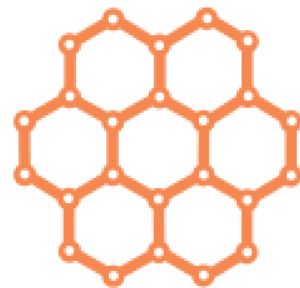
Apart from robotic dairies, most on-farm agbots are still prototypes.



Sensors are common in some agricultural industries but novel applications are in development.



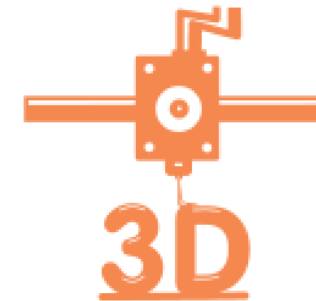
Gene editing is being introduced into R&D for Australian agriculture.



Agricultural nanomaterials are mostly at a development stage in Australia.



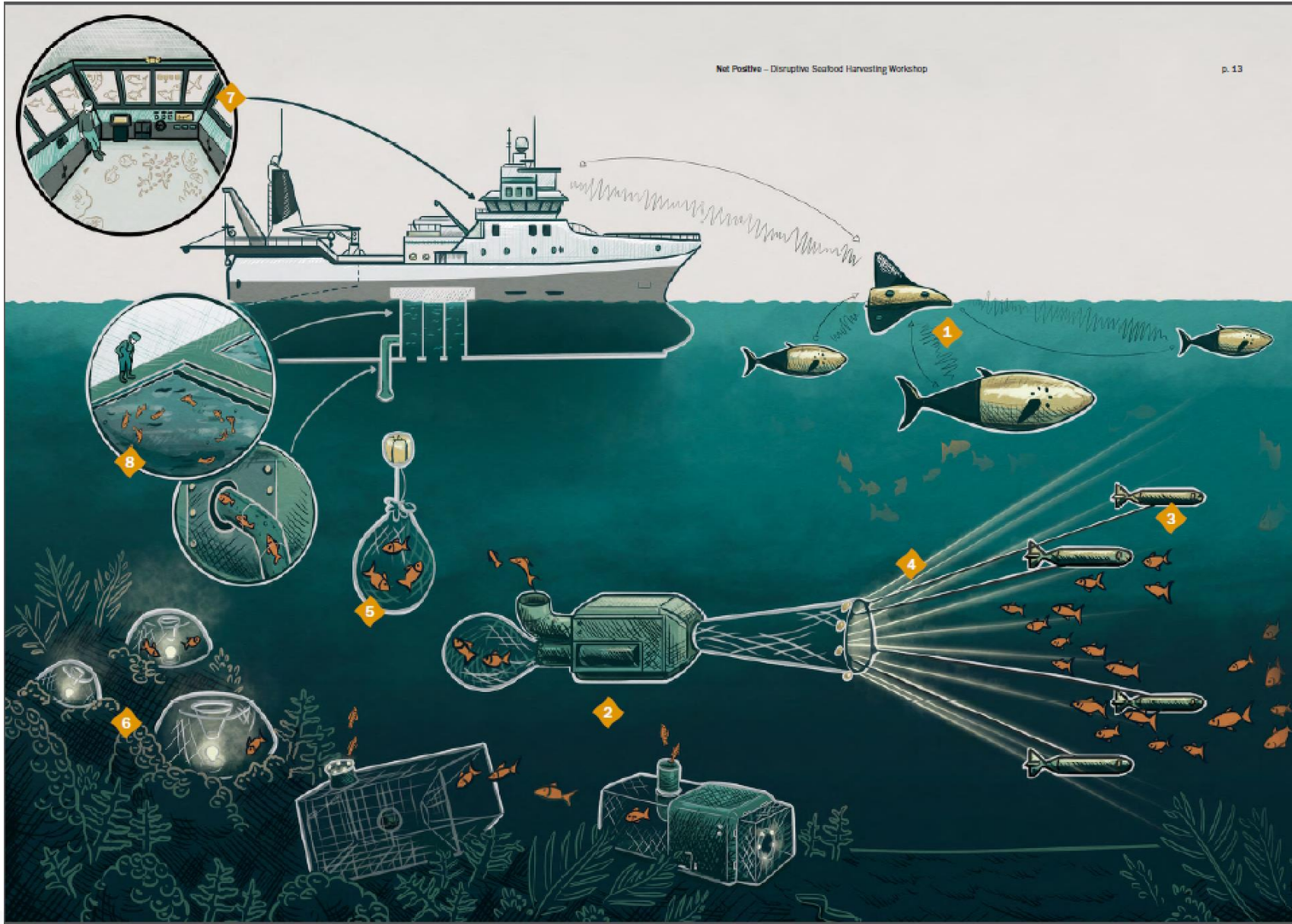
Synthetic biology is at the R&D stage in Australian agriculture.



3D printing is an emerging technology in Australian agriculture.

# Gear front – Disruptive technologies

- Taking fishing gear to a new level



1. Internet of the sea – finding fish fast
2. Improved selectivity
3. Autonomous catching devices
4. Virtual nets
5. Live fish capture and sorting
6. Fish attraction and trap - from active to passive
7. Interactive control room
8. Improved processing at sea – live fish

# PRIORITY 3



## **Developing new and emerging aquaculture growth opportunities**

**Aim:** By 2020, deliver RD&E sufficient for the significant commercialisation of at least two emerging aquaculture growth opportunities with demonstrated potential for profitable business operations.

**Strategy:** Identify research constraints to industry growth – such as lack of potential markets, cost of production, survival, deformities and uniformity of growth – and invest in RD&E to determine successful and competitive commercial activity.

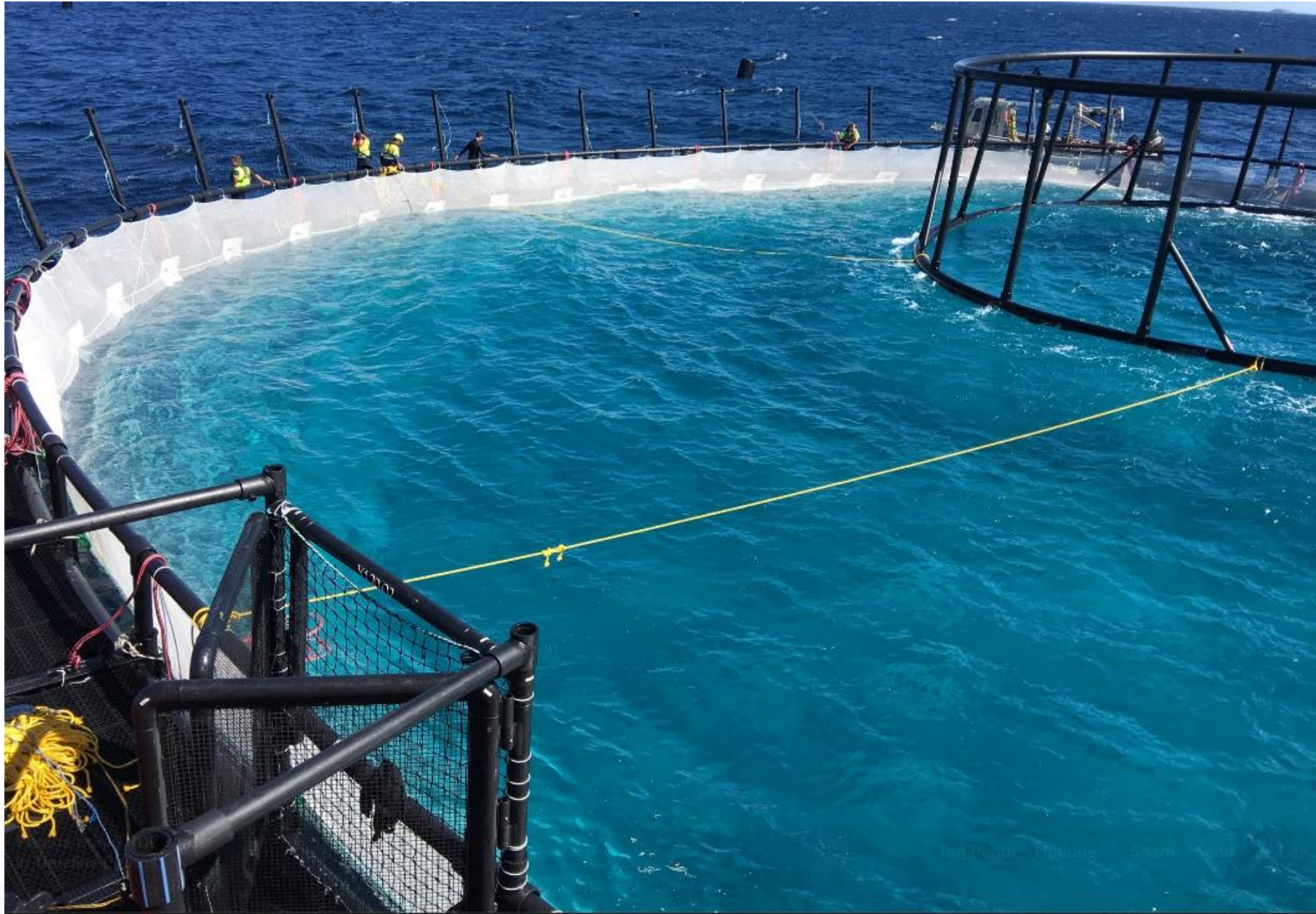
# PRIORITY 3



## Deliverables:

1. A nationally coordinated strategy for the growth of new aquaculture subsectors
2. RD&E to address barrier to aquaculture development including improved:
  - a. Hatchery production technologies
  - b. Breeds
  - c. Feeds and feeding systems
  - d. Husbandry
  - e. Health systems
  - f. Market access and/or value add

# Yellowtail Kingfish Program (includes \$6 Million project R&D 4 Profit)



- 3 States
- Inc Production
- Inc efficiency
- Reduce Cost



## New and Emerging Aquaculture Opportunities Subprogram



- Expand aquaculture into Northern Australia with objectives on nutrition, health and production systems
- Consider logistic and infrastructure needs for northern Australia
- Scoping new R&D for Profit program on Cobia, Tropical Grouper, Barramundi and Tropical Rock Oysters
- Undertake an audit to:
  - Collate existing RD&E on aquaculture in Australia
  - Understand limitations of opportunities of species already studied
  - undertake case studies to assess potential opportunities
  - Focus the future work of the Subprogram