

# Restorative Aquaculture



Adele Barca, Elisha Lovell, Aaron Wolf, Brayden McKenzie & Jack Wolverson

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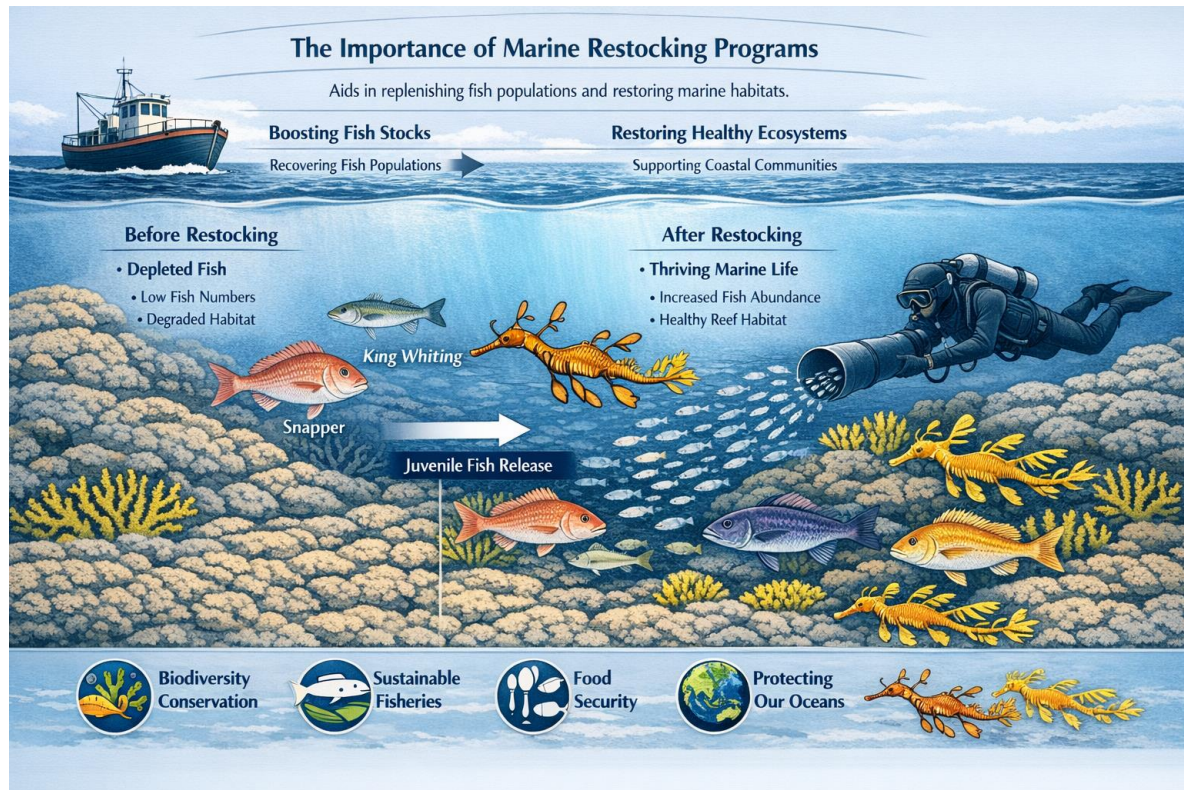
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# Restorative aquaculture

Strategy for fish conservation and management

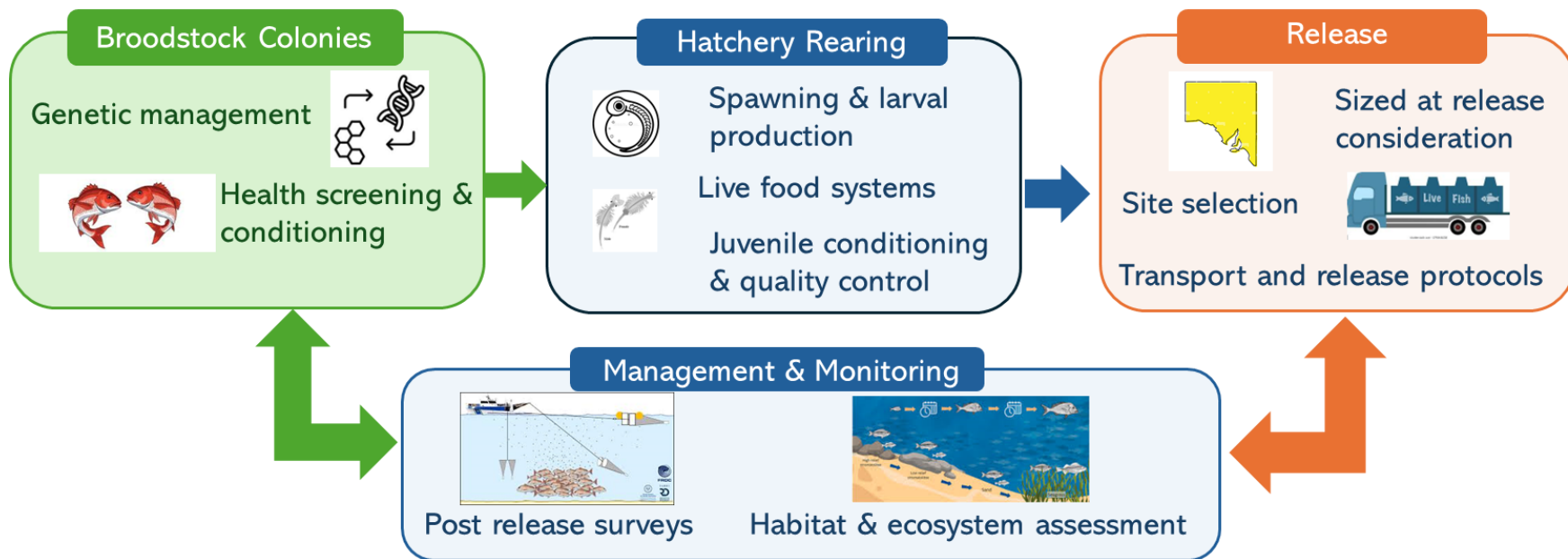
## Controlled Breeding

- Controlled breeding and rearing of aquatic species to support natural resources and environments
- Enhancement restocking of at-risk populations



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# Enhancement approach



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# Snapper restocking Program

## Broodstock from Spencer Gulf and Gulf of St Vincent

- Breeding season runs October to February
- Broodstock are induced to spawn using LHRHa
- Spawning occurs 7–10-day post induction and will occur for up to 20 days
- Increasing the research of optimising nutrition increases egg production and viable egg counts
- Aim to produce 100,000- 200,000 fingerlings per spawn



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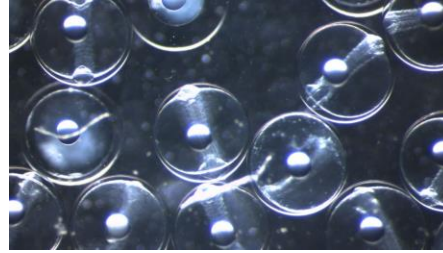
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# Eggs to fingerlings

## 100-day process

- Fertilised eggs incubated at 21°C for 48 hours
- Fry are placed into rearing tanks and feed live feed of Enriched Rotifers and Artemia for 40 days
- Post 35 days Fry are introduced to weaning feed (crumble)
- Post 60 days young fingerlings are moved to the pool farm and grown until they reach 100 days old



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# Otolith staining and release

- Fingerlings are identified in the wild through otolith staining
- Alizarin stain added to tanks to stain the otoliths
- Releases occur in both gulfs



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# Live Food Production

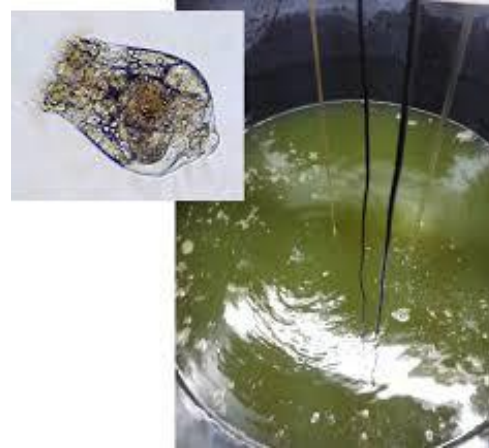
## Algae

Foundation of food chain, feed to Rotifers and Artemia.  
Provide essential fatty acids, vitamins and bioactive compounds to larvae



## Rotifers

Primary first feed, ideal mouth gape size  
Cultured and enriched with algae (DHA and vitamins)



## Artemia

Transitional feed from rotifers  
Highly palatable visible prey, enhances feeding success and growth



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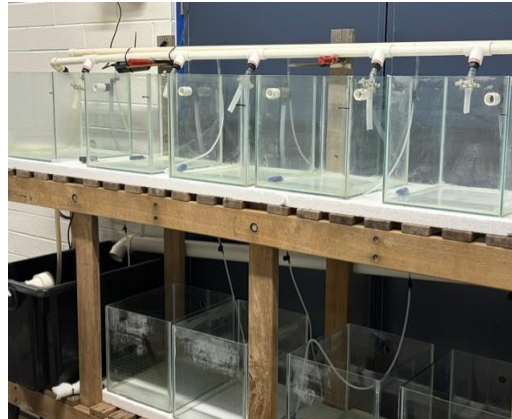


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# Mysid Shrimp Production

- New live food production
- Crustaceans part of order Mysida
- Mysid are high in protein, amino acid, and omega-3 fatty acid, feed on enriched Artemia
- Currently only 2 producers of live fed production in Australia
- Development of optimal breeding of Mysids



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# Weedy and Leafy Seadragons

- Weedy and Leafy Seadragons threatened species
- Entire diet: Mysid shrimp
- One dragon eats up to 1000 mysid shrimp per day
- Mysid production essential for a successful Dragon breeding program



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# Projects on the Horizon

## **Weedy Seadragon - rear and release program**

- Development for 2027 (HAB summer plan threatened species restocking - DEW)

## **Live feed Production**

- Development of nutritional studies for optimal growth in species
- Expansion of our live food production (Rotifers & Mysid shrimp)
- Support commercial operators and threatened species restocking programs

## **Snapper - breeding program**

- Continual development (HAB summer plan restocking)

## **King George Whiting - breeding program**

- Development of a new program (HAB summer plan restocking)
- Involves commercial land-based finfish hatcheries



# Project contact

[Adele.Barca@sa.gov.au](mailto:Adele.Barca@sa.gov.au)

08 8429 2318

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