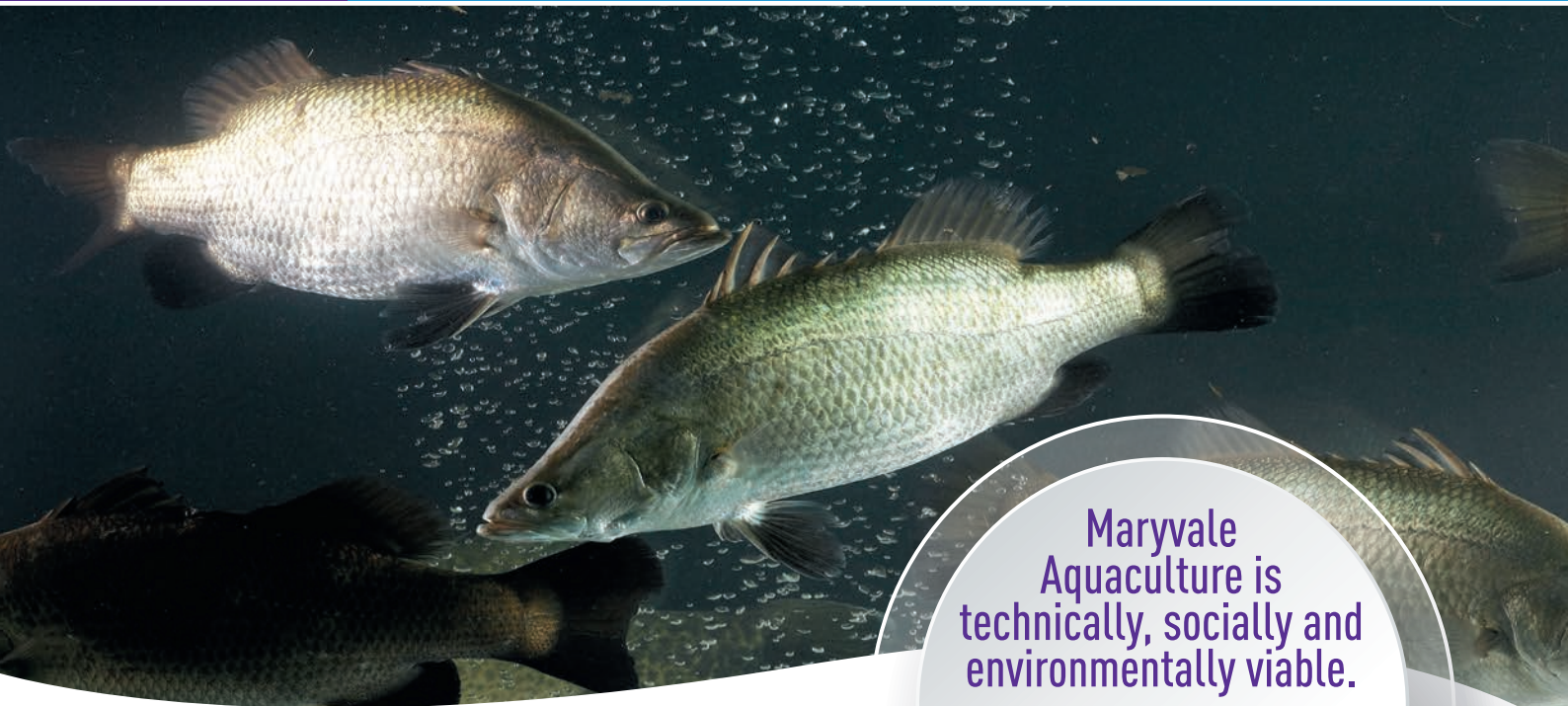




# Aqua feasibility study



Maryvale  
Aquaculture is  
technically, socially and  
environmentally viable.  
Further work is required  
to improve the  
commercial returns  
of the project.

In partnership with Mainstream Aquaculture and the Victorian Government, **Opal Australian Paper** has completed an Aquaculture feasibility study into Barramundi production in the Latrobe Valley.

The study investigated the viability of establishing an enclosed Recirculating Aquaculture System (RAS) facility located in the Latrobe Valley with a capacity of up to 10,000 tonnes/year. Importantly the proposal would utilise infrastructure with spare capacity from the Maryvale pulp and paper mill.

This **\$1.24 million feasibility study** assessed the technical, commercial, social and environmental aspects of a leading edge RAS facility.

The study concluded:

- RAS design and location is optimised at a scale of 3,700tpa located adjacent to Maryvale Mill.
- during construction an estimated 239 jobs (including flow on) would be created in the Latrobe Valley and 364 jobs in Victoria.
- once operational it is estimated the project would provide 169 jobs (including flow on) in the Latrobe Valley and generate \$36M in economic value add. For Victoria this would increase to 263 jobs and \$55M value add.

- intensive aquaculture farming has excellent sustainability credentials including superior feed conversion, water conversion and space conversion efficiencies compared to traditional protein sources.
- the proposal requires significantly more capital funding than previously estimated.



Barramundi Fingerlings



Juvenile Barramundi



Mainstream Aquaculture is a global leader in premium Barramundi production exporting to 24 countries around the world.

## The study investigated three stages:-



### STAGE 01

Stage 1 assessed Maryvale Mill infrastructure and spare resource capacity which could be leveraged to support a RAS. The Input Resources Study was completed in May 2019 and recommended a staged approach with a first stage 3,700 tpa production facility to best match the existing Maryvale Mill waste water treatment capacity. It also found that there is strong potential for significant further capacity increases.

### STAGE 02

Stage 2 identified significant employment opportunities, recommended a preferred logistics approach and network, assessed the most attractive target market segments and recommended a preferred product option. Preliminary plant layout and designs were completed and the facility site was selected. The Stage 2 Technology, Market and Logistics Study also identified further opportunities including the potential establishment of a Nursery and regional Processing facility.

### STAGE 03

Stage 3 evaluated the commercial viability and identified a significant increase in the capital funding requirement resulting in lower than anticipated returns for the proposal. Key additional costs from this stage included higher utilities connections costs, increased scope to include Nursery and Processing Facilities, and a longer startup period to produce fillet size Barramundi.

The Opal Australian Paper and Mainstream Aquaculture Team thank you for your interest in this important study. We will now seek to find ways to reduce the project costs and improve the proposal's commercial returns. We remain optimistic for the development of a significant new aquaculture sector in the Latrobe Valley.

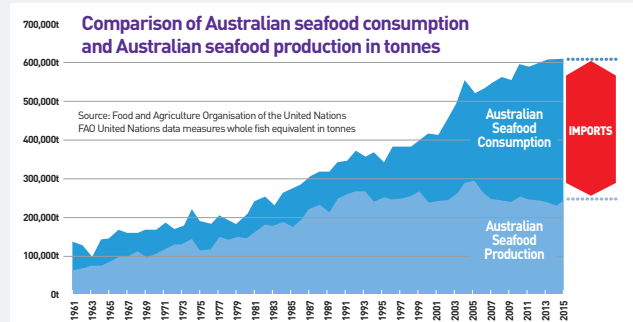
## CASE STUDY 1

70%

70% of Australia's consumed seafood is imported

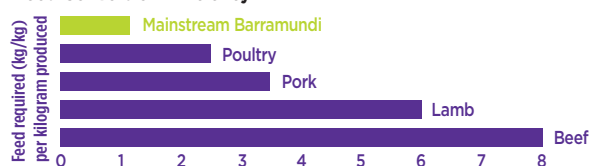
68%

68% of seafood imports are from Asia

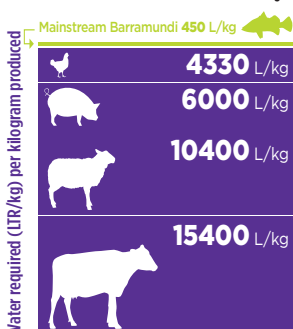


## CASE STUDY 2

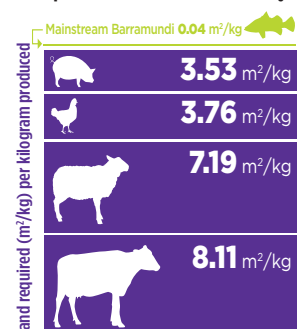
### Feed Conversion Efficiency <sup>2,3,4</sup>



### Water Conversion Efficiency <sup>1</sup>



### Space Conversion Efficiency <sup>5</sup>



#### References:

1. Water Footprint Network, 2013. <http://www.waterfootprint.org>
2. Poultry Sector Feed Conversion Ratios, 2014. <http://web.archive.nationalarchives.gov.uk/20130123162956/>
3. Beef Cattle Feed Efficiency, 2014. <http://www.beefusa.org/CMDocs/BeefUSA/Resources/cc2012-Beef-Feed-Efficiency--Dan-Shike.pdf>
4. Mainstream Aquaculture, 2014.
5. The Walden Effect, 2014. [http://www.waldeneffect.org/blog/Calories\\_per\\_acre\\_for\\_various\\_foods/](http://www.waldeneffect.org/blog/Calories_per_acre_for_various_foods/)