

## Opal Australian Paper and Mainstream Aquaculture Study Q&A's

### 1. What is the proposal?

- Opal Australian Paper and Mainstream Aquaculture have been investigating the feasibility of a barramundi grow-out facility to be located adjacent to Maryvale Mill.
- The proposed facility would grow-out approx. 3,700 tonnes per annum of premium barramundi to produce fillets.
- Mainstream would be the operators and co-owners of the facility.
- The project is in the development phase and we are currently seeking the necessary approvals

### 2. Why is Opal Australian Paper investigating aquaculture?

- Opal Australian Paper recognises that innovation is key to our future success.
- This includes finding new ways to leverage spare capacity from our infrastructure and resources to diversify our operations.
- Aquaculture with its requirement for fresh water, heating, effluent treatment, oxygen and a logistics network is a natural fit with our infrastructure at the Maryvale Mill

### 3. Who is Mainstream Aquaculture?

- Mainstream Aquaculture is a fully integrated privately owned company located in Werribee which operates the world's largest barramundi hatchery exporting juvenile barramundi to 25 countries across the globe. Mainstream also designs and operates Recirculating Aquaculture Systems (RAS) and grow-out barramundi across five farms.  
<http://www.mainstreamaquaculture.com/about-us/H3n>



### 4. Why Barramundi?

- The current Australian barramundi market is 25,500 tonnes per annum of which 15,000 tonnes per annum is imported. We are aiming to replace these imports with local barramundi produced in alignment with Australia's high food safety standards.
- Barramundi sits in the premium white fish category which in Australia is a 170,000 tonne per annum market. 90% of the fish supplied in this category are wild caught species which are already at maximum supply. Additional supplies can only be achieved through aquaculture.
- This proposal would be beneficial to Australia's food security and is also aligned with the Australian and Victorian governments' policies to grow our domestic aquaculture industry.

## **5. What is an RAS?**

- Recirculating Aquaculture Systems (RAS) operate with the same fundamental principles as a home aquarium. The fish grow in tanks where a portion of the water is constantly circulated through sophisticated filtration processes to remove waste products and re-oxygenate the water. A small percentage of the water is constantly replaced with fresh water to maintain the required water quality for the fish.

## **6. Will the barramundi be raised in Maryvale's water settlement ponds?**

- No, farming of barramundi in Victoria is only permitted in indoor bio-secure recirculating aquaculture systems (RAS), which would be built in close proximity to the Maryvale Mill.
- The RAS would use fresh water sourced directly from the Moondara Reservoir. Heating for the process would be provided from Maryvale.

## **7. What happens to the effluent from the RAS?**

- The liquid effluent from the RAS process would be treated in the Maryvale waste water treatment facility which currently requires the addition of Urea and Phosphoric acid to provide the nutrients required for its operation. The liquid effluent from the barramundi is rich in Nitrogen and Phosphorous which would aid in our biological treatment processes and reduce the amount of chemical inputs.
- The solid effluent would also be rich in Nitrogen and Phosphorous and could potentially be used for multiple purposes ranging from fertilisers to supplying energy via an anaerobic digester. Opal Australian Paper and Mainstream are continuing to explore a range of possibilities to identify the best value added option for solid effluent from the facility.

## **8. Is there a risk that a biosecurity breach could find its way into the Latrobe River and affect the natural ecosystem?**

- No, the RAS would be an indoor bio-secure facility and would be licensed under the Victorian Fisheries inclusive of an approved biosecurity plan.

## **9. Could the fish escape into the river and water ways?**

- No, the RAS would be a self-contained system that operates with the appropriate and accredited biosecurity protocols.
- Barramundi is a warm water species and would not survive if removed from the warm water internal to the RAS facility.

## **10. Where would the processing/filleting be done?**

- It would be our intention to incorporate a barramundi processing plant as part of the Maryvale aquaculture facility.

## **11. What would happen to the fish processing waste?**

- Fish processing waste would be refrigerated and sold into the pet food market.

## **12. Would I be able to hear or smell the aquaculture facility?**

- No, the facility would be housed indoors which would not only ensure biosecurity but also allow for the control of noise and odour.
- Mainstream have been operating in Werribee since 2001 currently producing 1,000tpa of table fish from a state of the art RAS pictured above. The site directly adjoins MacKillop Catholic Secondary College and is 250m from nearest residential housing. There have been no noise or odour complaints from Mainstream's Werribee site.

### **13. When is the project likely to happen?**

- Provided the necessary internal and external approvals can be secured, construction could start in 2021 and then potentially staged over a period of one to two years.

### **14. How long would the barramundi take to grow?**

- Barramundi juvenile fingerlings which are one week old and weigh 0.2 grams would be transferred from Mainstream's Werribee hatchery and grow-out for 105 weeks to a size of 3.75kg at which time they would be processed. Mainstream is a fully accredited supplier of juvenile barramundi. As a point of interest they also supplied the stock that was previously released into Hazelwood pondage.

### **15. How much would the project cost?**

- The estimated capital construction cost would be \$90 million and there would also be an up-front cost of \$35 million to stock the facility with barramundi.

### **16. How many jobs could be created?**

- Potential construction jobs are estimated at 83 full time equivalent direct employees over the construction period.
- The proposed Maryvale aquaculture facility would directly employ an estimated 88 full time equivalent jobs ongoing. The value add to the Latrobe Valley economy would potentially be \$36.4 million per annum; estimated to generate a further 81 full time equivalent jobs in the local community.
- The types of direct ongoing jobs would include fish health specialists, aquaculture technicians, plumbers, electricians, fitters, fish processing staff, supervisors and support staff.

### **17. What would be the likely impact on local traffic?**

- There would be additional employee vehicles travelling to and from work on the Western side of Maryvale Mill. Employees would enter the facility via Tanjil East Road into the Maryvale private road.
- Trucks would access the site via the Maryvale weighbridge roundabout on Alexanders road, this would consist of on average 3 trucks per weekday including:
  - 4 x 24 tonne refrigerated product trucks per week
  - 3 x B-doubles of liquid oxygen per week
  - 7 x 24 tonne solid effluent trucks per week
  - 1 x 24 tonne truck of packaging materials and consumables per week
  - Fish feed sourced from Tasmania would enter in 20 foot rail containers by train.
- The route from Monash Freeway to along Alexanders Road currently hosts about 4,000 vehicles per day and about 500 trucks per day.

## 18. Where exactly would the facility be located?

- The proposed facility is shown below in concept and final detailed design and approval may require some variation. The aquaculture facility is expected to be within the red line marked on Opal Australian Paper's property. This site is currently used to grow plantation timber.



## 19. How do I find out more information?

- Visit <https://opalanz.com/future/aquaculture/> or email questions to [Maryvale.Aquaculture@australianpaper.com.au](mailto:Maryvale.Aquaculture@australianpaper.com.au)