

## Asian fish health experts visit Australia

Olsen, L. and Ingram, B. (Fisheries Victoria)

Fisheries Victoria, a Division of the Victorian Department of Primary Industries in Australia, recently hosted two fish health scientists from Asia for a two week visit. The visit was an initiative of the Victorian government as part of its Aquaculture Futures Initiative (AFI) and Visiting Fellows Program to build fish health and biosecurity capability within the state and to enhance international engagement and collaboration. It was a great honour to host the two fish health experts from the Network of Aquaculture Centres in the Asia-Pacific (NACA), Dr. C.V. Mohan, now the Manager of Research and Development for NACA (previously the Regional Animal Health Expert), and Dr. Suppalak Lewis on secondment to NACA from the Thai Department of Fisheries.

The two week visit was conducted in February 2009 and the visitors were able to see Murray cod (*Maccullochella peelii*) farming in both recirculating aquaculture systems (RAS) and open-water production systems utilising existing irrigation reservoirs for cage culture in the state's north-west, hatchery and raceway growout operations of trout in the cooler mountainous region of Victoria; the state mussel hatchery at Queenscliff, and an

abalone farm in the south of the state. They also visited the Australian Animal Health Laboratory (AAHL) at Geelong, run by the Commonwealth Scientific and Industrial Research Organisation (CSIRO).

### Murray cod

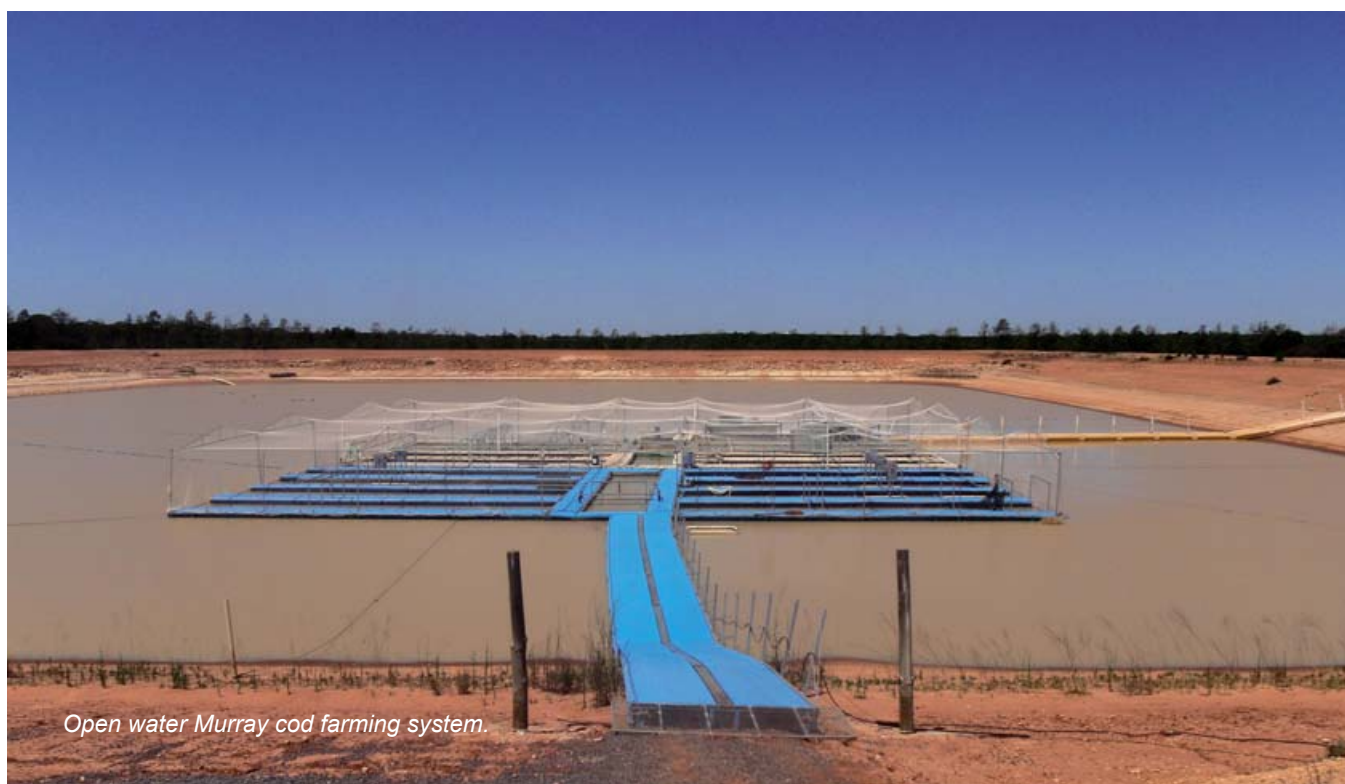
The Murray cod farming industry in Victoria produced 18 tonnes in 2006/07 valued at over \$300,000<sup>2</sup>. The emphasis of the visit was on the open-water production of Murray cod in large horticultural irrigation reservoirs. This system uses the irrigation water as the base for farming the Australian native fish in floating net pens. The farmers growing the fish are primarily horticulturists looking to diversify their operations. As this industry is in its early days of development, there is still a need to work out the carrying capacity and water management regime for the fish farming operations. This is a major focus of the current research being done by Fisheries Victoria on behalf of the emerging open-water Murray cod farming industry. Other issues such as system design, feed and chemical management and health and biosecurity protocols are also being addressed in the current research.



*Dr Mohan and Dr Lewis demonstrating fish health examinations to Murray cod farmers in Victoria.*



*Open water farmed Murray cod (Maccullochella peelii).*



*Open water Murray cod farming system.*

## Salmonids

The salmonid farming industry in Victoria is the largest and most developed aquaculture industry in the state with production of 1,361 tonnes in 2006/07 valued at \$7 million<sup>2</sup>. Dr Mohan and Dr Lewis noted the challenges of climate change for the industry. Drought over the past 5 years coupled with increasing temperatures mean the Victorian salmonid industry will have increasing incidences of temperature related stress and disease issues.

## Mussels

The mussel farming industry of Victoria, valued at \$2.3 million in 2006/07 with production of 824 tonnes<sup>2</sup>, is situated in Port Phillip Bay and Western Port. To support the growing industry, the Victorian government, together with the mussel farming industry, has constructed a shellfish hatchery to aid the industry development. The industry has been challenged in the recent years due to the variability and unreliability of the wild spat fall of mussels in Port Phillip Bay. The new shellfish hatchery is considered to be a very important part of the mussel industry's development and longevity.

## Abalone

The Victorian abalone industry is beginning to get back on its feet after a devastating virus decimated a large portion of the industry. The virus, abalone ganglioneuritis, is a herpes-like virus that is suspected of entering the farms from wild stock. The 2006/07 farmed abalone production was 121 tonnes with a farm gate value of \$4.3 million<sup>2</sup>. The visitors were able to tour the largest abalone farm in the state (unaffected by the virus) and take note of the outstanding biosecurity program in place. Not having been on an abalone farm before, both the visitors were most impressed.

## Seminars and workshops

Two seminars were held during the visit in which Dr. Mohan and Dr. Lewis gave presentations on fish health perspectives from Asia. The first one was a "Fish health and biosecurity seminar" in the Melbourne area. This was presented to an audience of national, state and interstate government representatives, local farmers and Victorian aquaculture industry consultants. Dr Mohan



*Newly settled mussel spat on a culture rope produced in the new shellfish hatchery at Queenscliff, Victoria.*

gave a presentation on NACA and aquatic animal disease management in the Asia-Pacific. Dr Lewis gave a presentation on diseases encountered in SE Asian aquaculture as well as an outline of how the fish health system works in Thailand.

Another workshop titled "Fish health and biosecurity workshop for Murray cod fish farmers" was held in the state's northwest. It was attended by most of the open-water Murray cod aquaculture industry. After the presentations on Murray cod farming, biosecurity, chemical use in aquaculture and disease and health management of aquaculture species in Asia, a hands-on workshop on fish health monitoring was held. Demonstrations on monitoring, dissections and sample preparations were done by Dr Mohan and Dr Lewis.

Several recommendations to Fisheries Victoria and the Victorian Aquaculture Industry were made by Dr Mohan and Dr Lewis. They were:

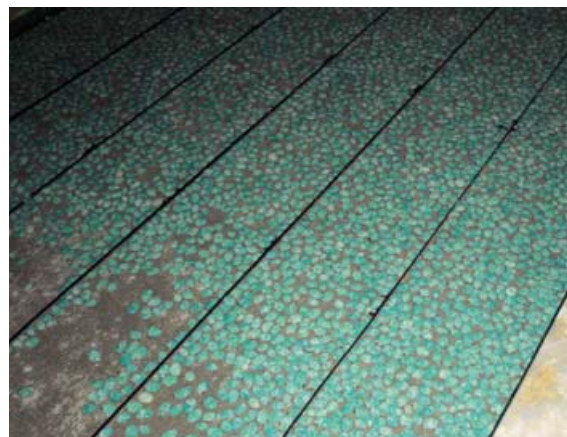
- Continued R&D for the open water Murray cod aquaculture system along with increased technological transfer to industry.
- A longitudinal population based epidemiological study to identify risk factors for poor production and disease issues.
- Development, implementation and validation of Better Management Practices (BMPs) for Murray cod farming.

- Further collaboration between NACA, Fisheries Victoria, Biosecurity Victoria, CSIRO and others in the area of fish health management.
- Improved networking between farmers and specialists.

Fisheries Victoria is in the process of implementing all of the recommendations made.

## References

1. O'Sullivan, D. and J. Savage, Status of Australian Aquaculture in 2006/2007. In *Austasia Aquaculture Trade Directory 2009*.
2. Department of Primary Industries, Fishery Status Report 2008. Fisheries Management Report Series No. 63. Melbourne. p. 178.



*Juvenile abalone at a Victorian abalone farm.*