



Aquaculture News

Issue 25 August 2020

Ray Mepham Outstanding Service Award

For half-a-century Elsmore fish breeder Ray Mepham has been keeping the region's waterways stocked with Murray Cod. That service has been recognised with Northern Tablelands MP and Minister for Agriculture and Western NSW Adam Marshall presenting him with an award for outstanding service.

Ray Mepham has made an exceptional contribution to the conservation of Murray Cod and is considered a pioneer of the NSW aquaculture industry. Ray's museum also provides a comprehensive background to the region's inland fishing history.



Ray Mepham at 'Little Valley' Elsmore

Sydney Rock Oyster breeding program

The Future Oysters CRC program has yielded improvements for the Sydney Rock Oyster breeding program. Collaborative research with the University of the Sunshine Coast and the University of Newcastle gave greater control over hatchery processes that increased fertilisation rates from 27% to 45% for the 2019 breeding run. The current focus for DPI and CSIRO is the annual estimated breeding value run which provides updated performance information for all families in the Sydney Rock Oyster breeding program. It also identifies the commercial candidates for industry hatchery runs. Refurbishment works are in progress at the Port Stephens Fisheries Institute hatchery. Once completed, breeding of the 2020 year class will begin including a plan to use disease free Richmond River broodstock that has shown high levels of resistance to QX disease in that estuary.

Contact Mike Dove DPI 4916 3907

Commercialising the SRO breeding program

Australian Seafood Industries (ASI) was selected as the successful applicant in a recent EOI process to provide commercialisation services to the Sydney Rock Oyster breeding program. A business plan will be developed by ASI in consultation with DPI and this will form the basis of a contract between the two organisations. It is expected that this process will take some months to complete and in the interim the Select Oyster Company (SOCo) will continue to manage and supply broodstock. SOCo has been very helpful in providing information to ASI to assist the development of the business plan.

Receiving industry input will be front of mind when developing the business plan. ASI has been talking to NSW industry members to hear their thoughts on the program and plan to continue this throughout the process. ASI updated the NSW Shellfish Committee on 12 August 2020 on progress. If you wish to discuss any aspects of the program or have feedback or suggestions, please contact Matt Cunningham or the DPI mollusc hatchery team.

ASI see this as a great opportunity to bring knowledge in managing breeding programs to benefit the NSW industry. ASI are very confident that the quality of the stock is improving every year and some of the feedback received from growers who are using the product is very impressive. The hard work done over previous years is certainly starting to bear fruit and ASI looks forward to making stock available to industry.

Contact Matt Cunningham ASI 0417 965 405

No CPI increase for 2020/21

DPI advises that annual lease and permit fees as well as application fees will not increase with CPI this financial year and will remain at the 2019/20 amounts. See www.dpi.nsw.gov.au

2019/20 annual aquaculture production return

Forms have been posted to all permit holders with a return due date of 30 September 2020. Next year, annual production returns will be completed on-line using the new AquaDirect e-business platform.

Contact Edith Gippel edith.gippel@dpi.nsw.gov.au

Reporting damage or stock loss

Report any damage or stock loss during natural disasters on the DPI online reporting system www.dpi.nsw.gov.au/nda to help the Department better understand your resource needs.

Sydney Rock Oyster microbiomes

Microorganisms in an environment are collectively known as the “microbiome”, and just as the human microbiome is essential to our health, so too is the oyster’s microbiome. There are several projects underway to investigate these microbiomes, working with the University of Technology Sydney. Studies have followed changes in microbiomes of Sydney Rock Oysters and Pacific Oysters at different locations and times, and throughout disease events (QX and POMS). We know the microbiome on oysters is different to that found in the surrounding seawater, that it changes with seasons, it’s different at certain locations and depends on where we look within an oyster (gut, gills or blood). Different oyster families have different microbiomes and this could influence how they are affected by disease.

Any material we put into the water in close proximity to oysters will also develop its own microbiome, and in conjunction with the University of Newcastle, DPI are looking at the microbiomes that develop on the material used to culture oysters. How these microbiomes develop and change with time and how they might influence oysters.

Contact Wayne O’Connor DPI 49163906, Michael Dove DPI 4916 3907

Protecting hatcheries from PFAS

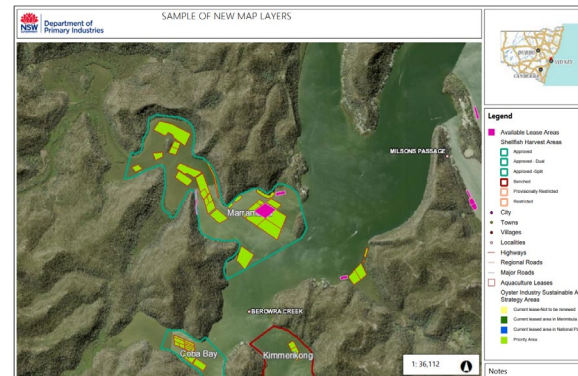
PFASs, per- and poly-fluoroalkyl substances are emerging pollutants to impact aquaculture hatcheries. They can cause reduced fecundity, abnormal development and increased mortality of fish larvae. In freshwater, activated carbon, ion exchange, foam fractionation combined with ozone and specific filtration with adsorbent materials are effective treatment protocols for PFASs. In seawater, fractionation and adsorbent materials in specialised filters can be used. With support from FRDC, trials demonstrated that commonly available foam fractionation systems, using either air or ozone could remove more than 90% of PFASs in artificially spiked or contaminated seawater. It highlighted that the efficiency of foam fractionation was affected by gas flow rates and vacuum pressures, water flow rates, hydraulic retention time and fractionate flow rates. Foam fractionators are comparatively cheap, readily available and scalable. They are simple to use and install and they are adjustable to increase PFAS removal efficiency.

Contact Stewart Fielder DPI 4916 3902

Vacant POAA, harvest areas now online

The online DPI Spatial Portal has been updated to add three new GIS data layers: vacant Priority Oyster Aquaculture Areas; Shellfish Program classification areas; and oyster lease boundary marking.

Contact Antonia Creese Antonia.creese@dpi.nsw.gov.au



Hunter LLS Climate Ready aquaculture grants

Oyster growers who have completed (or commenced) Oyster Farm Profiles with Hunter Local Land Services (LLS) are eligible for this grant for works to adopt practices that improve adaptation to climate change. Projects with both an environmental and productivity benefit are encouraged. Wallis Lake, Manning River and Port Stephens including Karuah River oyster farmers may apply.

Contact Rye Gollan LLS 0468 325 125

E-business update

Development of Stage1 of the aquaculture component of FishOnline e-business online system will be wrapping up at the end of 2020.

AquaAssist is the component that will be used by NSW DPI to administer aquaculture leases, farms and permits. AquaAssist is to be rolled out 1 November 2020.

AquaDirect is the component that will be used by farmers. At the end of Stage 1, farmers will be able to: set up an online account for themselves so they can view their lease, permit, farm holdings; organise for other individuals (called agents) to view their lease, permit, farm holdings; and submit their annual production returns. Stage 2 development is underway and will focus on developing transaction capacity. AquaDirect is to be rolled out 1 February 2021.

Contact Raelene Trenaman DPI

Raelene.trenaman@dpi.nsw.gov.au

Contacting Aquaculture Administration

Aquaculture Administration can be contact by land line, email (aquaculture.administration@dpi.nsw.gov.au), or mobile **0407 693 244** for inquiries and transaction advice.

Digitisation of Aquaculture Records

A two-year project to digitise all aquaculture paper records has been completed. More than 2,500 current lease, farm and permit files were scanned and saved as electronic records into the department's record management system. **Contact Raelene Trenaman DPI 4916 3843** Raelene.trenaman@dpi.nsw.gov.au

Land based strategy review

The review of the NSW Land Based Sustainable Aquaculture Strategy is underway. This will align DPI land based aquaculture policy with industry best practice and management standards and update amendments to relevant legislation and policies. The review process will be overseen by the NSW State Aquaculture Committee which comprises senior representatives of all key government agencies. DPI is finalising agency input before industry consultation then broader community consultation.

Contact Michael Baer DPI 4916 3977

Ornamental fish megalocytiviruses

A recent study has shown that megalocytiviruses that have been detected in ornamental fish, such as gouramis, livebearers and cichlids, have the potential to infect not only freshwater Australian native species, but also euryhaline/marine native species such as Australian Bass. This research highlights the need for high level biosecurity associated with culture of ornamental fish. The culture of ornamental fish and Australian native food fish in the same facility should be avoided.

Contact Jeff Go DPI 0418 482 951



Shellfish Committee

The Committee last met 12 August 2020. Key matters included: update on the commercialisation of the Sydney Rock Oyster selected breeding lines following an EOI process; discussing the Aquaculture Lease Protection Strategy and Tar Replacement Project; developing the AquaDirect e-business system; assessing a document to support industry develop estuary opening management plans; considering

emergency relay areas for estuaries prone to closure; discussing the streamlining of legislation relating to aquaculture in marine parks and other marine park initiatives (water pollution, stock in riparian vegetation, sewage spills), update on priorities in the NSW Oyster Industry Strategy; harvest area reports; adverse sampling policy; Food Agility CRC sensor work; a biotoxin testing agreement; and an update from the NSW Oyster Extension Officer. Industry members include Caroline Henry, Steve Verdich, Sally Ritchie, Ian Crisp and Shane Buckley. Angela Riepsamun attended as an Industry Observer. See <http://www.foodauthority.nsw.gov.au/industry/shellfish/nsw-shellfish-committee>

Contact Phil Baker Food Authority 6539 4804

Georges River oyster tales

Maxine Drake, daughter of legendary Georges River oyster farmer Bob Drake, has produced a wonderful booklet regarding her times on the river. The style and content of the booklet is just the sort of "good news" educational material about the oyster industry that should be reaching the younger generation. Congratulations Maxine on sharing such a wonderful tale.



Aquaculture Research Advisory Committee (ARAC)

ARAC last met 19 March 2020. Key matters discussed included: funding support for nodavirus testing; ARAC Annual Report; proposed research - environmental monitoring, chemical depuration and chemical impact on juvenile oysters; calcium deposition studies; seafood provenance testing; breeding program update; nutrition research; aquatic diseases update; Oysters Australia R&D update; Shellfish Program contaminant monitoring; Food Agility CRC sensor work in 13 estuaries; water quality monitoring post bushfire/floods and Murray Cod pond bottom research. Industry members include Lisa Ryan, Russel Sydenham (Land) and Tony Troup, Anne Loftus, Kel Henry and Warwick Anderson (Oyster). See

<https://www.dpi.nsw.gov.au/fishing/aquaculture/committees/arac>

Contact Rachel Kerma DPI 4916 3901

NSW Hatchery Quality Assurance Scheme

Three hatcheries were audited in north west NSW and four hatcheries in southern NSW as part of accreditation for the HQAS. The HQAS has been updated to reflect new genetic zones for Murray Cod and Golden Perch.

Contact Graeme Bowley DPI 4916 3845

Murray Cod research

There are a number of approved and proposed projects supporting freshwater aquaculture in NSW, they include: a Murray Cod best practice production manual for pen reared Murray Cod; a biosecurity plan template for freshwater native finfish; a proposal to develop diets to reduce the incidence of off-flavor and a proposal to consider pond bottom management.

Contact Graeme Bowley DPI 4916 3845

Approved sampler accreditation online training

People who undertake sampling for local shellfish programs are required to be accredited under the NSW Shellfish Program. The NSW Food Authority has worked with the University of Tasmania to develop an online sampler training course as a means of delivering the training more efficiently. The fee for the online course is \$50 for initial accreditation and \$25 for re-accreditation (GST inclusive). Reaccreditation for approved samplers will be required every two years. Existing accreditations will remain current until 1 September 2020. See <https://university-of-tasmania.thinkific.com/courses/shellfish-sampler>.

Anthony Zammit Food Authority 0407 078 269

Oyster Reform Project

The Oyster Industry Strategy 2015 highlighted nine key priorities to secure the NSW oyster industry's future. The request to review permits, lease tenure and the lease security bond came from industry to address the priority of legislation and policy reform in the strategy. Longer lease tenure was also raised by NSW Farmers Association. The NSW DPI Industry Insights and Analysis Group produced a review document for Shellfish Committee. The Shellfish Committee endorsed: an amendment to legislation to increase lease tenure from 15 to 30 years to allow for greater access to bank finance and business security; that all lease based permit holders should complete a Commercial Farm Development Plan that will assist DPI better manage the productive use of leases; that CPI should apply to lease security bond contributions and that the contribution should be tiered to recognize new plastic innovative infrastructure with reduced remediation costs; and that the lease security bond account balance should be reviewed each five years or after a major event, and turned off when it reaches what is estimated is a sustainable balance.

Oyster reef restoration work

In early 2020, DPI constructed the state's first large oyster reef bases in Port Stephens. Funding came from the NSW Marine Estate Management Strategy. The project used 3,000 tonnes of rock and 150 cubic metres of recycled oyster shell. All oyster shell used in the project was collected from Port Stephens oyster farmers. One reef is located in the western basin of the Port near the mouth of the Karuah River, the other in the eastern basin of the Port near the mouth of the Myall River.

Researchers are monitoring oysters, invertebrates and fish on the reef twice a season as part of the project. Monitoring includes the occurrence of potential pest species to oyster aquaculture. Since deployment, oyster recruitment has been recorded at an average of 100 juvenile Sydney Rock Oysters (5-45mm) on each rock and some fish species numbers monitored are already at levels found on other established reef sites.

Contact Kylie Russel DPI 4982 1232



Right to Farm Bill

Parliament has approved the Right to Farm Bill 2019, which establishes the Right to Farm Act 2019 and amends the Inclosed Lands Protection Act 1901. The Right to Farm Act 2019 provides a defence for commercial agricultural activities against the tort of nuisance. If a nuisance is found courts must consider other arrangements before ordering the complete cessation of commercial agriculture. For the purposes of the Act, the definition of agriculture includes aquaculture. In the Inclosed Lands Protection Act 1901, penalties have been bolstered for offences on agricultural land such as aggravated unlawful entry or leaving gates open. Aquaculture is included in the definition of agricultural land.

Contact Ian Lyall DPI 4916 3856

OISAS review underway

The NSW Oyster Industry Sustainable Aquaculture Strategy (OISAS) was drafted in 2006. OISAS is aimed at recognising and protecting oyster growing areas, improving security of tenure, and detailing best industry practice. New technology, new policies and legislation and the need to review Priority Oyster Aquaculture Area (vacant/phase-out/extinguishment) has prompted the review. The review process will be overseen by the NSW State Aquaculture Committee. NSW DPI hopes to complete the review process by mid-2021 following industry and then community consultation.

Contact Steve McOrrie DPI 4916 3921

NSW Aquaculture Industry Directory

The NSW Aquaculture Industry Directory provides details of NSW aquaculture producers. It was updated recently. See

<https://www.dpi.nsw.gov.au/fishing/aquaculture/publications/industry-directory>



Seafood Innovation Fund

The Seafood Innovation Fund is an investment in the future of the NSW seafood industry. The fund aims to build industry capability and allow seafood businesses to plan ahead with more certainty. Over \$6m in loans has already been approved to the NSW seafood industry. The low interest loans can be used by businesses to: improve assets and infrastructure; ensure long term productivity and sustainable use of the marine and land-based environment; identify and address risks; and help build resilience to changes in seasonal conditions.

See <https://www.raa.nsw.gov.au/loans/seafood-innovation-fund>



Permit variation process

Looking to change the species you are authorised to culture under your aquaculture permit or wanting to import stock from interstate? Then you must submit a permit variation application to DPI. If importing stock from interstate the permit variation application must be accompanied by a biosecurity risk analysis.

Contact the Aquatic Biosecurity Unit 4982 1232

Nodavirus screening program

During 2019 NSW DPI Aquatic Biosecurity led a review of the nodavirus screening program for euryhaline species that are stocked into NSW public freshwaters. NSW DPI consulted with a working group that included industry representatives, veterinary and academic experts. The outcomes of the project included: there is insufficient evidence to conclude that nodavirus is either present or absent in NSW freshwater systems, and therefore until we have data to show otherwise, the screening program should continue for fish that are intended for stocking into public freshwaters; and that fish that are determined to be sub-clinically infected with nodavirus could be considered for private water stocking by way of a permit.

Contact Debra Doolan DPI 4916 3846

Developing solutions to promote healthy *Posidonia* meadows in oyster leases

ARAC has approved funding to investigate interactions between oyster farming and the seagrass *Posidonia australis*. *Posidonia* is found in 17 NSW estuaries from Wallis Lake to Twofold Bay. Oyster lease infrastructure may affect *Posidonia* and other seagrasses by shading them or increasing the amount of nutrients. Any effects will depend on the cultivation method, usage patterns and duration of shading. In the study, the growth of *Posidonia*, sedimentation rates, and the types of fish living under three different types of oyster cultivation will be compared: trays, long-line baskets and floating baskets.

Contact Giulia Ferretto UNSW g.ferretto@unsw.edu.au

Review of Best Practice Guidelines for basket and raft cultivation

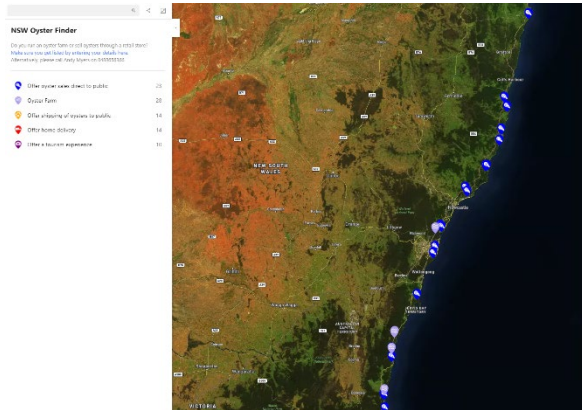
Floating and post supported basket cultivation is quickly becoming the dominant form of cultivation used by the NSW oyster industry and the use of raft cultivation continues to expand in a number of estuaries. To ensure that the DPI Best Practice Guidelines for basket and raft cultivation practices are up to date and consistent with the provisions of OISAS a review of these guidelines will take place in conjunction with the OISAS review. Shellfish Committee members are supporting the review in cooperation with industry.

Contact Steve McOrrie DPI 4916 3921

NSW Oyster Finder

To assist with oyster sales an oyster directory has been established on the NSW oyster industry website. The intent of the directory is to connect consumers and potential customers with product via direct sales, mail-order or home delivery. Users can also filter the map by those venues that offer tourism experiences. See <https://www.nswoysters.com.au/>

Contact Andy Myers OEO 0488 656 366



Estuary entrance management plans

Shellfish Committee is supporting the preparation of a document to help oyster farmers in estuaries that are at risk to entrance closure to prepare entrance opening management plans with local government. The document should be finalised at the next Shellfish Committee meeting 4 November 2020. It is important for oyster farmers to participate in the development of Coastal Management Programs.

Contact Ian Lyall DPI 4916 3856

Emergency relay areas

Shellfish Committee is supporting estuaries at risk of entrance closure to develop emergency lease relay areas. A desk top study and consultation with key growers has identified potential relay sites for Manning and Shoalhaven rivers and Conjola, Tuross and Wonboyn lake oyster farmers. It is intended to consult further with local stakeholders to allow for the emergency relay areas to enacted under a S.37 permit similar to actions taken to support the Wonboyn Lake oyster industry in 2020.

Contact Ian Lyall DPI 4916 3856

NSW DPI oyster export market workshop

Date: Thursday 3 September 2020

Time: 4pm

Format: Zoom webinar

NSW DPI is extending an offer to NSW and Australian oyster farmers to attend a webinar to look at market export access to China and Singapore, consumer preferences to oysters, and opportunities for growers. The session will feature oyster import specialists from China and Singapore.

Register at:

https://forms.office.com/Pages/ResponsePage.aspx?id=YjvIjkqHEe4mmewgz3TuZA2I_chXclKn_klgBRa3LRUQJZWWVKUUJRU0ZZT0oyQlcyUjhHT1ICNC4u

Contact DPI helen.chen@dpi.nsw.gov.au

Aquaculture News is a newsletter from the industry team at NSW DPI.

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