



2022 Queensland Freshwater Fish Stocking Workshop Proceedings - Draft

Freshwater Fishing and Stocking Association of Queensland Inc. in partnership with the Queensland Department of Agriculture and Fisheries and workshop sponsor the Mackay Regional Council

Host Fish Stocking Group: Mackay Area Fish Stocking Association Inc.

Windmill Hotel - Mackay, Friday 14th, Saturday 15th & Sunday 16th October 2022

Day 1 – Saturday 15 October

Presenter(s)	Summary
Yuwi Aboriginal Corporation	Acknowledgement and welcome to country was performed by Yuwi Aboriginal Council elder Uncle Garry Mooney.
Mayor Greg Williamson - Mayor of Mackay Regional Council.	Mayor Williamson welcomed the delegates to Mackay. He talked about the importance of recreational fishing and fish stocking in the context of the Council's strategy to improve liveability and livelihoods in Mackay.
Graeme Bolton, Deputy Director-General, DAF	Graeme welcomed the delegates to the workshop and outlined the progress since the last workshop in 2018. Highlighted this workshop was an opportunity to come together, share ideas and look forward. Graeme discussed the social and economic importance of freshwater fishing, and the funding that has recently come from the Queensland Government for flood recovery and a fishing competition to promote the SIPS program (more to be announced later). The theme for the conference is looking forward, and the outcomes will be used to guide priorities for Fisheries Queensland for the next two years.
Glenn Anderson, DAF	Encouraged people to think deeply about a 20 year plan including the 10 years leading up to the Olympics and also the legacy for the 10 years after the Olympics. Aims of the workshop were for delegates to form and renew relationships and to be well informed on the latest developments in freshwater habitat and monitoring.
Thomas Hart, DAF	Thomas presented an update on sustainable fisheries freshwater management in Queensland, and an overview of upcoming priorities for the Fisheries freshwater team. This work has included draft, consultation and finalising the new stocking policy, updating SIPS administrative guideline, meetings of SIPS working group and establishment of freshwater working group. Upcoming work includes planning for jungle perch stocking trial, establish a pest fish working group, greater promotion of stocking as a sustainable fishing option, habitat and access improvements, finalise monitoring guideline and release of the SIPS trail guide.
Paul Kuhn, DAF	<p>Paul presented a summary of compliance data in freshwater for the previous year.</p> <p>Fishing activity impacted by drought, floods and COVID in recent years. Based on the previous three years, it appears that compliance rates are falling although that could be due to targeting the right people. Would be good to check the sale of SIPS permits during the QBFP Action Plan (Sept 2020 – Oct 2021). Action: Thomas to check the data and send to Paul – did the sale of permits increase due to increased patrolling?</p> <p>Issues:</p> <ul style="list-style-type: none"> • Compliance for Murray cod closures is difficult because they are different in New South Wales and Queensland. • Releasing non-indigenous fish is an issue but difficult to enforce • Signage is a problem, constantly need to replace but avoid 'white noise' at boat ramps • Phone reception or having permit with you can be a problem. Need to have a copy of the permit. • The need for more fish ladders and spread of invasive fish are

	<p>common issues raised.</p> <p>Suggestions:</p> <ul style="list-style-type: none"> • SIPS permit could be a good birthday present which makes it easier to remember the renewal date. • The list of SIPS dams needs to be listed in the rec fishing brochure, not just 'see website'. • Adaptation of QR codes on signs at impoundments that lead you to the SIP permit purchase site (noticed that a lot of people are unaware of the rules around impoundments) • When purchasing a permit online the options are 1 weekly permit, 2 concession, 3 yearly permit. People seem to think they are buying a three-yearly permit. Maybe consider changing this formatting on the website. • Future consideration - a "how to" video for the rec fishing 2.0 app due to lack of uptake <p>Question: Can FQ revise current regulations to increase silver perch bag limit from 2 to 5 in impoundments? Also increase size limit of golden perch from 30 to 35cm?</p> <p>Answer: This will be raised through the Freshwater Working Group as an action from this meeting</p>
Morning Tea	
Matt Moore, Catchment Solutions	<p>Matt presented on the importance of fish passage and habitat restoration. Small migrating fish are generally not good swimmers, need low velocity water flow, for example barramundi are 35mm when migrating upstream into a freshwater or estuarine habitat.</p> <p>Barriers to fish passage include weirs and roads, with a variety of structures. Matt showed how fish traps can be used to monitor fish movement, then barriers can be modified to allow movement and restore connectivity. He also showed how many barriers are currently in place, and how they are compared so that connectivity improvements work can be prioritised.</p> <p>Suggestion: Changes to policy to allow fishways to provide water depth through culverts. Current policy does not allow them to be built to the level of the apron, which results in high flow and inadequate depth. Interpretation of the policy needs to change.</p>
Cr Allison Jones, Mackay Regional Council	<p>Councillor Jones outlined the Mackay Recreational Fishing Strategy, and activity underway to improve fishing in Mackay.</p> <ol style="list-style-type: none"> 1) Marketing and promotion – hooked on Mackay FB, ambassador program, sports sponsorship and fishing shows, fishing championships, lucky catch and snap competition, barra highway between Rockhampton and Mackay 2) Ecology and fisheries management – Artificial reefs and fish hotels 3) Continued support for local stocking association 4) Infrastructure – eg solar lights, boat ramps, walkways etc. 5) Business and product development 6) Enabling partnerships – events like this are very important to make this happen
Susannah Leahy	<p>Susannah joined us online from the USA and discussed her research project looking into the origins of east-coast barramundi and their</p>

	<p>movements. The project used otolith chemistry and genetic methods testing to identify if the fish was hatchery born or was from wild-born Barramundi stocks. 3% of wild caught fish were from hatcheries in 2019. 21% had farm ancestry. Her research also showed that fish in freshwater grew much faster than those in the salt water.</p> <p>The knowledge could be used to better understand when natural recruitment is poor, and where stocking could potentially be increased in these years.</p> <p>Question: With climate change, a lot of barramundi have been caught in South-East Queensland – could these techniques be used to determine whether they are breeding in SEQ?</p> <p>Answer: We could use genetic techniques to try and answer this question. Alternatively look for juveniles in creeks with trapping.</p> <p>Question: Any conclusions drawn on the efficacy of stocking?</p> <p>Answer: Depends on the objectives of the stocking. Habitat remediation and connectivity would be a better investment if your objective is to assist marine fish stocks.</p>
Andrew Norris, DAF	<p>Andrew presented on fish attracting structures at Cressbrook Dam, and the importance of habitat enhancement for stocked impoundments. He showed that habitat enhancement can improve accessibility to decent fishing as well as improve survival, growth rates and carrying capacity in impoundments. He went through a range of fish attraction structure options for a range of needs.</p> <p>Best practice guidelines for installing fish attraction structures has been developed and now available on DAF website (FRDC report).</p> <p>Question: How long does it take?</p> <p>Answer: depends on what's there but can be as soon as 24h</p> <p>Q: Are there advantages to being able to move them around?</p> <p>A: They are generally quite heavy, so best to monitor in early stages of implementation to inform positioning for later instalments. Ideally, these heavy structures should be put in place when water levels are very low.</p>
Noel Frost	<p>North Pine Dam Fish Habitat - (FADs)</p> <p>Noel presented on the Lake Samsonvale habitat enhancement program Commenced 2018 shortly after approved by dam operator. Noel stressed the importance of having support from the dam operator. To start with they identified hard bottom structure, using a sonar log to map suitable locations. 250 FADS were produced using PVC and poly pipe on less than 10k budget. A challenge was to provide a visual marker that doesn't get washed away during floods or strangled by weed. It is critical to have permission from the water operator before installing FADs.</p>
Greg Ringwood	<p>Leslie Dam Native Fish Habitat Improvement Plan - (FADs)</p> <p>Greg talked about his project with Bob Reed from Warwick Fish Stocking Association increasing the carrying capacity for Murray Cod in Leslie Dam. This project took advantage of very low water levels to access areas of the dam with heavy machinery to install concrete pipes and rock habitats. Habitat placement allowed for water fluctuations in the dam.</p> <p>Q: Concerned about hard structure? A: Avoided run-off points but otherwise all substrate appeared similar. Silt is not a major concern.</p>
Kaidon Anderson - OzFish	<p>Habitat restoration on the gold coast.</p> <p>Kaidon discussed what OzFish was doing for habitat reconstruction especially after the latest flooding that has happened on the East Coast of Australia. OzFish aim to protect and restore fish habitat and deliver better habitat for better recreational fishing. Riverbank revegetation projects are relatively easy to do and easy to identify sites that need it. Riverbank with</p>

	native vegetation is important for weed control, biodiversity and food source for fish. Ozfish also work on fish emergency response, fish passage, snagging, shellfish reefs and provide monitoring of river health and education.
Break-out into groups facilitated by DAF	Discussion session 1 – Habitat – see detailed notes below
	Lunch
Jaye Lobegeiger – DES Aquatic ecology	DES –, Fish, drought and habitat quality. Jaye presented two pieces of research. The first was about fish resilience and recovery following the drought. Extreme drought conditions were experienced between 2018-20 which raised concerns about impacts on fish populations. Interest was around rates and drivers of fish population recovery. Some of the key findings included drought decimated regional abundance but not richness, drought refuge habitat was critical and recovery was largely from local recruitment. The second project compared physiology of carp and native fish. Carp tolerated low oxygen and also high temperature much better than native fish.
Bill Sawynok	Bill gave an overview of the work conducted by Infofish. He explained how tag and recapture programs work, and went through some of the data that can be used to inform management and stocking decisions. Tagging is a good way to know what's in your impoundments and its structures, and how that may be changing over time. Tag recapture rate can also be used as a proxy for catch rate. It can provide some information on success of stocking and the data is available for all stocking groups on request.
Garry Fitzgerald	SWFSA monitoring app Garry explained a monitoring app that he developed and has been using. Citizen science means that anyone can provide information for monitoring. A QR code is provided on a sign at the boat ramp for fishers to download the app. The association has been getting lots of useful data including catch rates, average size of fish, participation rates and peak fishing times. Issues: The app needs reception to download, and phone reception can also be limited while fishing, which can cause issues for catch reporting. The future work should look at making the user experience as simple as possible. Including an option to submit fish caught for a day at the end of the day.
Noel Frost	Monitoring at North Pine Since mobile phone reception is limited, members have the option to use the monitoring app or a paper form to record their capture data and after the fishing trip is over these forms are placed in a locked box. Findings: <ul style="list-style-type: none"> FADs in Lake Samsonvale are working as there are captures coming from these locations After one month closure of North Pine dam due to COVID, there was a large increase in bass numbers. Issue: There is no facility in Qld to help with public otolith analysis. They had to send their samples to Vic.
Facilitator	Recommendations from session
	Afternoon Tea
Mackay Area Fish Stocking Association	MAFSA Fish Hatchery Operation Tour

	Dinner
All Freshwaters Fishing Permit	Garry Fitzgerald Garry gave a presentation to the participants on his financial estimates and analysis for an All Freshwater Fishing Permit as a potential alternative model to fund fish stocking and associated activities.

Day 2 – Sunday 6 October

Presenter(s)	Description of Activity
FFSAQ Executive	<p>Charlie Ladd provided an update on the Freshwater Fishing & Stocking Association activity. He also discussed the importance of being visible in the community and working with partnership organisations. He gave some thoughts on how to improve the effectiveness of lobbying action.</p> <p>Lloyd Willmann reminded participants that it is important to submit information for the newsletter. This is the primary source of communication about what is happening at other clubs and how to stay involved with one another.</p> <p>Nicole Whysall talked about the FFSAQ facebook page. When posting a story on your Facebook page, Nicole requested to tag the FFSAQ facebook page so it can be shared, with the hopes of reaching a younger target audience. She also encouraged people to let fisheries know so that they can help with sharing and awareness.</p>
Thomas Hart	<p>Introduction to draft monitoring policy</p> <p>Thomas went through the document to encourage feedback so the document can be improved before it is finalised. This document outlines monitoring methods and options for different situations, data capture and what the information can be used for. This information is primarily to find out if fish stocking has been effective and check for impacts on other species. Noted that the guideline will not impose anything difficult on the stocking groups and that simplicity was key. Aiming for some monitoring from every stocking group, but noting that some groups have very limited resources and capability.</p> <p>There was some discussion around the potential to use third party data or information from fish sounders. Also, a request for a standardised app that could be delivered by DAF with appropriate training.</p>
Break-out into groups facilitated by DAF	Discussion session 2: Monitoring Policy development. See detailed notes below
Nathan March Biosecurity Qld	Nathan gave an overview of pest fish management from Biosecurity Queensland. This included the broader role of biosecurity field operations, the legislation and the policy context that helps to prioritise activities. Human translocation is the most common incursion pathway for pest fish with prevention and early detection the best line of defence. He gave some local examples including peacock bass and jaguar cichlids. A workshop participant asked for an update on the National Carp Control Plan. It was explained that the project was delayed to address some research questions, but the report is now finalised and is with the federal government, expect it to be made available soon for discussion among jurisdictions before any decision is made.

Wet Tropics – Angus Macleod	<p>Angus explained the role of the Wet Tropics Management Authority in managing the <i>Wet Tropics World Heritage Protection and Management Act 1993</i>. The Act also provides the legal basis for the Wet Tropics Management Plan 1998</p> <p>He explained translocation requirements for crustaceans and fish. Under the Management Plan there are transitional provisions to allow activities to continue. A translocation guideline has been developed and will be available shortly on the website. He gave an example of an assessment for movement of mangrove jack into Lake Tinaroo.</p>
Break-out into groups facilitated by DAF	Discussion session 3 - Future engagement opportunities and promotion of fish stocking in Queensland – see detailed notes below
	Morning Tea
Group session facilitated by DAF	<p>Open issues and questions forum</p> <ol style="list-style-type: none"> 1) Communication was a clear theme 2) Engaging young people – estimates of percentage under 40 ranged from zero to 60%. Question- is the younger generation the right target? 3) Agreement that every 2 years the whole group should meet, with smaller regional groups every 6 months 4) Olympics – should that be a focus to promote freshwater fishing? Suggestion for a countdown every 2 years on progress towards the 10 year goal. 5) Social media – suggested comms plan to coordinate activity in the same direction.
John Dexter, DAF	<p>Next steps for Fisheries Queensland</p> <p>Action Plan will be developed post workshop. Composed of three sections:</p> <ul style="list-style-type: none"> - Monitoring - Habitat - Engagement <p>Workshop proceedings will be transcribed and circulated around to workshop delegates. These proceedings can be passed on to other stocking group members absent from the workshop, or for public knowledge.</p>
DAF Facilitator	Reflection on Workshop
	Close of Workshop - Lunch packs and Delegates depart

Discussion session 1 - Habitat

- Undertaking habitat enhancement requires collaboration and partnerships
- Any habitat enhancement program should be coordinated centrally
- Preparation and planning are the most important part of the process
- Safety is paramount at all stages of the program. Risk assessments are necessary
- There is a need for more networking / sharing of experience etc. about these projects (shared learning)
- Groups thinking about starting habitat enhancement programs need to ask lots of questions
- It is important to seek out local partners and suppliers
- Groups should emphasise the environmental and regional economic benefits of these programs and encourage potential suppliers / partners to be good corporate citizens

- It may be more effective to prepare joint applications covering works at several locations
- DAF should collaborate more with Seqwater and Sunwater and consider preparing an overview of the program
- Suggested that a “how to” guide for the stocking groups be developed for ease of navigation through the process, i.e. Who to contact at certain aspects of the project.
- As dams are being constructed, request to install the FAS/other habitat structures then, whilst the dam is dry as this will be a lot easier to install them.

Roadblocks and other issues

- There are currently some significant roadblocks to success in these programs
- The regulatory framework is complicated and can be costly
- Some projects have not progressed due to costs of necessary approvals
- There is usually limited or no capacity to monitor success of the projects
- The age of participants in the projects raises concerns about WHS
- Smaller stocking group associations aren't sure how to move forward with ideas such as installing FAS's as they are self-funded.

Take away messages

- Groups are generally supportive of habitat improvement at their dams, but many feel they do not know where to start
- There is a need for an overarching policy position or strategy to support further roll out of these programs
- Securing approvals for these projects is currently complicated and cost prohibitive
- Those that have attempted these types of projects emphasised the need to develop local partnerships, sell the benefits to potential partners and be innovative
- There is currently little capacity for formal monitoring of success

Actions

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| <ul style="list-style-type: none"> • DAF to re-send the habitat guidelines to all groups • DAF to pursue a strategic approach and meetings (collective engagement) with the key storage operators about these types of projects • DAF to investigate developing a “How-To Guide”, focused on the process (approvals etc.) of installing habitat to compliment the guideline. |
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Discussion session 2 - Monitoring

Suggested monitoring methods

- Mandatory collection of fishing tournament data
- Using the App developed by Somerset Wivenhoe
- DAF to develop an App for all groups to use
- Uptake and use of available technology (sounders etc)
- Electrofishing at selected dams
- Develop and fund student research projects
- Use available commercial services from Infofish

Other monitoring feedback

- Surveys need to include capacity for groups to report data on pest fish
- Survey data / results should be provided in a user-friendly format on dashboards etc
- DAF should consider other ways to use the proposed (\$50K) budget
- DAF should develop one App for all groups to use and promote a standardised method
- DAF should coordinate and support tagging programs in stocked dams
- Signs should be made available for all dams using the App approach
- DAF should develop a monitoring training package for the groups
- It is difficult to generate participation in monitoring programs
- It is important to increase awareness and promote education around why monitoring is important
- Commercial services are often cost prohibitive

Take away messages

- Groups understand there is a need to record data to assist with managing the stocking program
- While some groups already have ongoing monitoring programs, most feel they have limited funding and / or capacity to deliver monitoring programs.
- There was general support for the use of an App and several groups have taken up use of the App developed by Gary Fitzgerald.
- The best approach may be for DAF to develop an App that all groups can use, with associated dashboards and reporting
- There was also some support for developing monitoring methods that take advantage of existing technology such as sounders, which are commonly used by club members
- Tournament data is viewed as an under-utilised resource that should be pursued by DAF
- Although a monitoring App seems to be the favoured approach, options for remote locations that have no signal, need to be considered

Actions

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| <ul style="list-style-type: none">• DAF to continue to develop the Monitoring Guidelines, including seeking specific comments from all groups• DAF to release the EOI for provision of monitoring support when finalised• DAF to liaise with individual groups as management plans fall due for renewal, once the guideline is developed |
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Discussion session 3 - Improving recognition and promotion of the stocking program

- DAF should prepare a resource pack of contact details, links etc for all stakeholders in the stocking program
- All groups should liaise and meet regularly with local council and local members to promote the program
- There are currently “too many stories” and the messages to promote the program need consolidation and better coordination
- Groups should always take lots of photos and use social media channels to promote their activities
- FFSAQ and DAF have good social media platforms. Groups can provide stories and photos anytime.
- Current ideas are generally old. Groups need to ask different parts of the community for new ideas
- All groups should continue efforts for local councils, NRM bodies and members to support and promote their stocking programs
- Groups should prepare a local prospectus describing their activities and approach potential local sponsors. Some will support the program, many may not. Keep trying.
- Groups should try to engage local schools and / or scout groups to attend fingerling releases or fishing days etc.
- Local scout movements often have invited speakers to den nights. Stocking groups should consider presenting on their program as Scouts are generally interested in outdoor pursuits
- Groups could talk to local schools about visiting assemblies or classes to promote the local stocking program.
- Stocking groups could consider setting up stall at local school fetes
- Groups need to communicate their ideas with FFSAQ
- Local schools could be encouraged to compete in fishing competitions (inter-school sport)
- A school curriculum activity could be developed for fish stocking
- Groups should approach Volunteering Queensland for support
- Wyaralong Dam will be the Olympic rowing venue. The stocking group has not been approached to join any discussions about what opportunities this will provide
- The dam is heavily infested with pest fish
- The fishing opportunities at stocked dams should be “showcased” in the lead up to the Olympics.
- This can only succeed if there is more effort to provide more on-site accommodation

Improving communication between stocking groups

- Two years is a good period between state-wide stocking workshops
- There is support for more regular virtual meetings. These could be regional to address more regional issues
- Promote more information sharing between stocking groups in the spirit of cooperation
- DAF should consider re-instating road trips to visit stocking groups or attend meetings
- Groups should provide mentors or packages for new members
- Groups should all use social media and offer online membership
- FFSAQ / DAF should consider creating “Fish Stocking Awards”
- Rather than trying to target youth, groups should look to recruit more experienced members that may have more diverse planning and management skills.
- DAF/FFSAQ should start to liaise with Traditional Owner groups to incorporate their knowledge and guidance on how the benefits and impacts of the stocking program on local cultural values.

2032 Olympics

- The countdown to 2032 has started. There are four more workshops until the Olympics.

- There is an intention from Govt to create an Olympics legacy for 10 years before and 10 years after the Olympics
- There is merit in using the Olympics to highlight the stocking program and frame efforts to promote the stocking program using 2032 as a timeline for achieving success.
- However, this would need an agreed strategy and several allocated tasks, preferably broken into 2-year periods.
- Tasks could then be reviewed at upcoming workshops (two-year targets and progress reports).
- There is a need to develop more on-site infrastructure to fully take advantage of the Olympics.

Actions

- DAF to arrange regional 6 monthly virtual meetings
- DAF to create a database of contact details for stocking groups to promote more information sharing between stocking groups
- DAF and FFSAQ to explore opportunities for implementing an annual ‘Fish Stocking Awards’

Specific issues for the SIP or Freshwater Working Groups

- There was a proposal to increase the possession limit of Silver Perch in impoundments and reassess the suitability of size limits for Golden Perch and Silver Perch
- DAF need to investigate and address limited supply of Mary River Cod fingerlings
- DAF to consider implementing mandatory PIT tagging of broodstock, so that broodstock released into the wild are not recaptured and used again. **NB – Former broodstock cannot be released to the wild after they have been taken.**
- DAF need to assess the impacts of broodstock collection from stocked areas and adjust policy as necessary
- DAF should provide policy or guidelines for how long broodstock can be held in hatcheries

Research needs

- Genetic risks of broodstock source and current policy
- Stocking new species
- Assess stock structure of Mary River Cod populations
- Community structure of fish populations pre and post new pest fish incursions
- Economic research on impacts of pest fish incursions in recreational fishing hotspots
- Climate risks for the Queensland fish stocking program

Suggestion box contributions

1. Consider golden perch and silver perch size possession limits to be increased to 35cm in length from 30cm.
2. Increase silver perch possession limit back to 5 in the Murray Darling basin water storages such as Beardmore Dam, St George dam, Coolmunda Dam, Inglewood, Storm king dam, Leslie Dam, Stanthorpe, Warwick and Glenlyon Dam.
3. Compliance hasn't seemed to have improved since 10 years ago as there are still only two QBFP officers that look after a large area of the Murray-Darling basin.
4. Taking of broodstock should be considered from wild river stocks and not just stocked impoundments, otherwise there will be a severe lack of genetic diversity.
5. How long should broodstock be used before being either released back into local rivers with a PIT tag, or being put down after a given time has been reached?

6. When will we see the return of at least three extension officers with whom we can talk to about biology concerns. There is also not enough managers and advisors to voice concerns.
7. There should be more hands-on research conducted on freshwater impoundments. There is little to no feedback on what the fish are doing after 30 years of stocking. Cannot monitor the results of stocking.
8. Concerns regarding access to impoundments and other fishing locations if stock routes are closed or leased in the future.
9. There needs to be a freshwater research facility. This can include aquaculture and pest fish research. High security water is available out of Bjelke Petersen Dam that can be used to supply water to the research facility.
10. Build stocking groups by encouraging them to be active and help the ones that do not want to be on the SIPS.
11. Implement a dollar-for-dollar program where government matches the money raised by stocking groups for purchase of fingerlings. Eg. Stocking group raises \$500 so government will give \$500 to stocking giving them a total of \$1000 to spend on fingerlings.
12. Need for Translocation policy
13. Why are golden perch still allowed to be stocked in eastern impoundments? Now that Mary River cod and Australian bass are available, golden and silver perch stocking should be phased out.
14. Next workshop should be held in Western Downs – they would live to host it.
15. There should be a state permit system
16. Percentage of SIPS allocation should be based on size of the drainage system eg. Murray-Darling receives 40%, SEQ gets 10%.
17. Should do whole river system stocking, not just dams.
18. Money should be taken out of SIPS to address pest fish and endangered fish stocking first, before money is allocated to each dam.