

Science & Waterways Project REPORT

PHCC General Meeting – 20 June 2019

Steve Fisher, Program Manager, Science & Waterways

RLP – Wetlands and people: A community restoring the ecological character of the Peel-

Yalgorup Ramsar 482 Wetlands (The Ramsar Project)

Nov 2018 – June 2023 \$4,996,221

Quarter 4 Reporting

(Coordinated by Kim Wilson)

- We are on track to complete all Year 1 Deliverables by 30 June, as is required.

Science and Collaborative Management

Managed by Rick James, Coordinator Wetlands Science and Management

- Commenced write-up of water quality monitoring regime proposal for Lake Clifton and other Yalgorup lakes.
- Undertook water quality assessments and sampling at seven locations within the Yalgorup lakes system (Clifton x2; Martin Tank; Yalgorup; Hayward; Preston x2). Samples sent to a laboratory for detailed analysis of total dissolved salts (TDS) to further investigate relationship between Electrical Conductivity and TDS.
- Undertook research with respect to purchasing water quality monitoring equipment suitable for use at hypersaline lakes.
- Met with DBCA (Geoff Barrett and Adrian Pinder) to plan benthic fauna sampling regime for Lake McLarty.
- Met with Friends of Lake McLarty (twice) to assist with co-ordination of NLP2 in-kind support for the State NRM McLarty project (as per previous dot point).
- Assisted DBCA with groundwater monitoring run at Lake McLarty to assess lowest point immediately prior to commencement of recent rains.
- Provided support to deliver on-ground works: Lake Mealup Bushland Action Plan; feral animal control works; contractor Agreements for two major weed control projects.
- Ecological Character Description Addendum and Ramsar Information Sheet update (co-ordinated by KW)
 - first draft Annotated Table of Contents received from Jennifer Hale on May 17th; responses in progress including first survey to TAG and others with respect to “Wetland Types”, second survey on “Threats” in preparation.

Wetlands & People (Community Engagement)

Managed by Sharon Meredith, Coordinator, Ramsar Community Engagement.

- Coordinated and delivered 14 community engagement and education events which involved a total of 1112 participants + 43 groups. (Jan-May). Since 15 April:
 - Delivered the 2nd part of the Micro-Plastic Program to Coodanup College (May 8th). Year 12 Students from the College worked alongside researcher, Kate Born in April to survey the local shoreline at Coodanup foreshore. The samples were analysed by UWA and results were presented to the class in May. These students were the first to pilot this program that aims to understand the extent of micro plastic contamination in the Peel-Yalgorup Ramsar Wetland.
 - Coordinated the Clean Up Peel Waterways Wrap Up Event celebrating the efforts of 300 volunteers and the 6.9 tonnes of litter removed from the Ramsar Site (May 15th). Team Leaders attended the afternoon and discussed new approaches for next year to increase involvement and coverage of the Ramsar Site.

- Commenced the new edition of the Shorebird Identification Booklet. The booklet gives a detailed description of local shorebirds and the Peel-Yalgourp Ramsar Site. The booklet will be provided to new trainees at the annual 2-day Shorebird Identification Workshop
- Partnering with Mandurah Performing Arts Centre (MANPAC) to secure funds to develop a musical score for a concert and feature film presentation of “Wetlands from Above”. Negotiated intellectual property rights with the Wetlands from Above Film. Coordinated the re-edit of the feature film into a 60-minute version. The submission to the Department of Culture and Arts was completed on 14 June.
- Secured the Overwintering Exhibition, a portfolio of 200 prints that respond to the sites that migratory shorebirds visit and depend on in order to survive. Artists from across Australia have contributed to the collection. Currently working with local artists to introduce them to migratory bird sites and local birds so they may create entries for the exhibition which will be held at MANPAC and launch the Wetlands Weekender Festival in October 11th-13th.

On-Ground

Managed and delivered by Mike Griffiths, Wetlands Restoration Officer

- Site preparation of the ‘Nancarrow Block’ bordering Lake McLarty completed in preparation for revegetation.
- Draft version of Lake Mealup Preservation Society Bushland Action Plan completed and is being reviewed by members of Lake Mealup Preservation Action Group
- Materials provided to Dept of Biodiversity, Conservation and Attractions for maintenance and construction of feral-exclusion fencing at Creery Wetlands and Samphire Cove. Fence is designed to exclude cats, foxes and dogs.
- Process and design developed for Landholder Works Agreements; six agreements negotiated and signed with landholders
- Weed control program targeting Brazilian Pepper trees being completed at Lake Clifton (Areas “H” and “I”) – trees have been removed and stumps poisoned. Trees previously formed a large-scale physical barrier preventing any conservation works. Site is now being prepared for revegetation. Follow-up treatment is planned for next four years.
- Weed control program targeting Narrowleaf Cottonbush being completed at Myalup-Preston Beach including a large section of Yalgorup National Park and two private properties. Total area covered in excess of 180 ha.
- While we were aware that some landholders would be difficult to contact or to negotiate with, unexpected successes in negotiating LWAs at Lake Clifton and Myalup allowed better than anticipated project uptake in weed control.
- All Year 1 works now completed and entered on to MERIT.

Alcoa Foundation: Connecting Corridors and Community: Restoring the Serpentine River

Oct 2017 – Oct 2020 US\$ 750,000

Managed by Jo Garvey supported by Jesse Rowley

Community Environmental Grants Update:

- All projects are well underway with landholders delivering a range on-ground activities. Across all projects, the following has been completed so far:
 - 37 ha of weed control (targeting mainly Arum Lily & Cotton Bush)
 - 1 km of fencing to protect and conserve existing areas of riparian vegetation and surrounding bushland
 - In-stream riffle repair (Lowlands Conservation Assoc. & Richardson)
 - Drink point and stock crossing repair (Lowlands Conservation Assoc. & Richardson)

On-ground Projects:

- The **Dung Beetle Breeding Program** is now in full swing with North Dandalup Primary School with students learning about the benefits of Dung Beetles in the classroom and applying these learnings out in the field. This includes constructing their own Dung Beetle traps, feeding the beetles, looking at their life cycle and watching how they behave in their patch. Serpentine Primary School has expressed their interest in also participating in this project which is currently in the planning phase.
- The **Water Hyacinth Project** has commenced with Landcare SJ installing two booms to help hold back the Water Hyacinth in the Serpentine River. There is now a total of four booms to be strategically positioned.
- The **Bilya Wetlands Project** Scope of Works complete for consideration as part of the Site Management Plan for the peel main Drain (PMD). This project aims to increase the effect and add value to the REI PMD Offline Water Treatment project and also act as a long-term (10yrs+) demonstration site to enable research into trial methods of riparian restoration.
- **Bindjareb Noongar Water Perspectives Plan** – The PHCC is working on a partnership project driven by the Department of Water and Environmental Regulations and the Bindjareb Noongar Elders, Waterways Assessment Program – Pilot Project to design, implement and evaluate an Aboriginal Waterways Assessment Program for Bindjareb country.
 - The Bindjareb Noongar Waterways Assessment Program will provide a tool for Indigenous water planning and management in the Bindjareb Boodja.
 - The PHCC is supporting the delivery of Noongar engagement through technical support, consultation, meetings, onsite visits and storytelling. (see attached site visit and photos)
 - Bronte Grant, Environmental Officer Aquatic Science Branch of DWER is leading the project with support from PHCC through the Alcoa Foundation-funded ‘Connecting Corridors and Communities: Restoring the Serpentine River’ project.
- **River Health Assessments** draft contract drawn and awaiting finalisation from Murdoch University.
- PHCC will provide funds to DBCA to purchase two additional monitoring cameras to observe dolphins at ‘stranding hotspots’ in the Serpentine River. DBCA will collaborate with the Mandurah Volunteer Dolphin Rescue Group to help prevent stranding deaths.
- Field work (surveys) have been completed for the River Action Plan. Staff and volunteers from PHCC (catchment wide), Urbaqua and Alcoa employees assessed the vegetation, aquatic habitat, water quality and geomorphology within each reach of the river downstream from Lowlands. Urbaqua is now analysing the data for a draft plan to be completed by the end of June.
- PHCC is supporting the City of Mandurah through assisting their Frasers Landing’s Community Development team in restoration of degraded sites on the Serpentine River. This includes the use of biodegradable tree guards to eliminate plastics and discussing ways to enhance soil productivity to increase survival rates of seedlings.

Media:

- Edition 3 of the Connecting Corridors and Communities, Restoring the Serpentine River Newsletter has been successfully distributed to 150 targeted stakeholders and community members.
- River Action Plan article will be published in the July edition of Bushland News that is distributed to just over 1800 email subscribers (see 1FTE Science Advisor report below).
- Dung Beetle Program and River Health Assessment articles in PHCC Wattle & Quoll (Edition 2) e-newsletter that is distributed to 284 email subscribers.
- 107.3 Heritage FM radio broadcast discussing River Care projects (scheduled for June 29th – see Events below).

Managed by Jo Garvey supported by Jesse Rowley

- **Fish Friendly Farms:** Jo Garvey and Andrew Matthews (OzFish Unlimited) continuing to identify potential sites to install instream fish habitat modules in the Murray and Serpentine Rivers and work with landholders.
 - Project proposed (TBC) to support a research study being undertaken by Alan Lymbery from Murdoch University on their 'Mussels in dams', project to measure mussel filtration rate, and provide information needed to tell farmers how many mussels they would require in their dam to sustain healthy populations for refuges/safe havens for threatened species.
- **Stock enhancement of black bream:** John Tonkin College (JTC) under guidance from Murdoch University's Alan Cottingham, are continuing to grow algae and rotifers as the food source for larval black bream. In May, 50 to 100 adult Black Bream were collected from the Peel-Harvey Estuary by Murdoch University scientists to be used for brood stock. The stock will then be conditioned for the next three months before being induced for spawn. JTC students will then care for the resultant bream larvae.
- **Harvey River Health Assessments** been completed and are awaiting results from Murdoch University. The final report will be completed by the end of June.
- Through the **Harvey River Demonstration Reach** project;
 - Urbaqua and HRRT met recently to discuss the draft Concept Plan with a revised copy due to be finalised by the end of June. The development of the social values survey has been cancelled and will instead use a previous survey developed as part of another project.
 - HRRT and Greening Australia are working together to revegetate public land in Lake Clifton. Site preparation has been completed. An event was held on the 17th of May where 120 students from Bunbury Catholic College planted 2000 rushes along a drainage line through the property

Media and Communications

- An article on the Stock Enhancement of Black Bream in the Murray River project has been published in Volume 5.1 of the Peel magazine (see 1FTE Science report below)

Royalties for Regions: 1FTE Science Advisor**May 2018 – Oct 2021 \$345,000**

- Managed by Steve Fisher
- Attended the following meetings:
 - Meeting of the Shire of Murray Council on 24 April as a member of PHCC's deputation recommending that the development application for commencement of the Point Grey Marina works not be approved.
 - Completed a survey with Ingrid van Putten (CSIRO) and Clara Obergon-LaFuente (Murdoch University) organised by the Marine Stewardship Council and WA Fishing Industry Council on 8 May to investigate the socio-economic aspects of the MSC Certification of the Peel-Harvey Estuarine Fishery.
 - Friends of Lake McLarty Meeting on 21 May: presented a summary of the activities planned for the Saving Lake McLarty Phase 1 project.
 - City of Mandurah (Joanne Dunn and John Harris) on 22 May as part of the consultation process for the South East Dawesville Master Plan, especially considering PHCC's future plans for the Peel Waterways Institute and the John Tonkin Marine Education Centre.
 - Peel Bright Minds: Steering Group on 2 May, 17 May and 7 June and as a volunteer at the SJ Food and Farm Alliance Food and Farm Fest on 5 May and Volunteers Celebration on 23 May. PBM is now auspiced by The Makers. . The Coordinator (Charlie Jones) is leaving PBM to travel in August 2019, so I was also member of the panel to recruit her replacement with interviews held

on 14 June. The panel has made its recommendation to the Steering Group and an announcement will be made soon.

- Chris Gillies and Fiona Valesini (The Nature Conservancy), Alan Cottingham (Murdoch University), Suellen Jerrard (Alcoa), Jesse Rowley (PHCC) and I cruised on the estuary with Rosa Garcia (President, Alcoa Foundation) on 24 May to discuss a project proposed by TNC to extend their Alcoa Foundation-funded Revitalising the Peel-Harvey Estuary through nature-based solutions.
- Hon Diane Evers (Greens MLC for Southwest) and Suzanne and Stewart Godden (Mandurah Environment and Heritage Group) on 30 May together with Caroline Knight, Jane O'Malley to provide a briefing on the history and current state of play regarding the Point Grey Development.
- ARC Linkage Project Workshop 13 June: Met with some of the research team and Partner Organisation representatives (City of Mandurah, Shire of Murray) and DPIRD from the 'Balancing societal and environmental health in a changing environment' project to discuss the planning and climate scenarios modelled by DWER to predict future nutrient export from catchment to the estuary. The project will be completed in the next few months.
- Harry and Joseph Nannup and George Walley met with the Waterways and Science Team on 12 June to share information about the Wetlands and People (Ramsar) project and the River Care projects (Peel-Harvey Estuary Grants & Restoring the Serpentine River). The purpose of the meeting was for PHCC to introduce new members of the team; describe our priorities and proposed actions and activities to our local Noongar elders and community leaders and to listen to their ideas and perspectives on what we are planning over the next four years. The Serpentine River project and the Lake Clifton component of the Ramsar project were of particular interest to Harry and George.
- Wrote the following short articles :
 - Breaming with Opportunities (published in the Peel Magazine Winter Edition 2019, see p26 https://www.peel.wa.gov.au/wp-content/uploads/2019/06/Peel-Issue-5.1-19_LR-FINAL.pdf) describing the Peel-Harvey Estuary Grants-funded *Stock enhancement of black bream in the Murray River*.
 - Rescuing the Serpentine River [accepted for publication in the Bushland News July 2019 produced by Urban Nature (DBCA)] describing the development of the River Action Plan for the Serpentine River as part of the Alcoa Foundation-funded Connecting Corridors and Communities: Restoring the Serpentine River.
- Negotiated support (in kind and cash, shown in parentheses) for the following proposals submitted by various community groups to the State NRM Program Community Stewardship Grants Program:
 - 'Community action towards a revitalised and vibrant Harvey River catchment' (HRRT, \$104,684)
 - 'Communities and Land Managers Conserving Shorebirds' (BirdLife Australia (WA) \$31,200)
 - 'Dolphin Watch Training and Dolphin Fin Guide' (Estuary Guardians, \$10,000)
 - '3R's for Lake Clifton Project - Maintenance, Weeding, In-fill Re-vegetation, Extension project for Lake Clifton-Herron Landcare Group' (\$7,000)
- Other:
 - Presented 'Watery Science: Not just for Nerds' to the Science Department (approx. 15 teachers and support staff) at Santa Maria College, Attadale. This 1 hour presentation also included a 20 minutes version of the Ramsar 101 Master Class.
 - Provided content for and reviewed 'Case Study document' regarding Point Grey development
 - Reviewed Draft Site Management Plan for the Peel main Drain Project.

- **State NRM: Saving :Lake McLarty Phase 1:**
\$350,859

March 2019 – June 2021

Led by Steve Fisher

- Presented to the Friends of lake McLarty (FoLM) meeting on 21 May (see above)
- Reviewed a technical report describing Acid Sulfate Soils investigations at Lake McLarty in 2018/2019 authored by Mia D'Allessio (University of WA) and commissioned by DBCA (Peter Muirden). Currently negotiating for this report to be summarised and published as a concise summary of the findings and recommendations for consideration by FoLM and Lake McLarty TAG to guide future actions.

1. Events (PHCC sponsor or presenting)

- Previous event (15 April to 20 June):
 - 15 April Fairy Tern Management Workshop (Conservation Council of WA)
 - 5 May Food and Farm Fest (SJ Food and Farm Alliance)
 - 15 May Clean-up Peel Waterways Wrap up
 - 8 June Lake Clifton Seedling Giveaway
- Upcoming events:
 - 29 June Heritage FM 107.3 radio broadcast showcasing River Care projects (Steve Fisher, Jo Garvey with Frances Smit)
 - 18 July S.H.A.R.E in the Shed: 'River Rescue – Bringing New Life to Our Estuary'
 - 28 July National Tree Day Frasers Landing, Coodanup (PHCC supporting)

2. Work Health and Safety

- No incidents or near-misses to report
- Staff to undertake renewal of Senior First Aid course at the end of July or mid-August (staff given the opportunity to select either date).
- Ergonomic assessment of PHCC staff workstations on 19 June