



Revitalising Geographe Waterways

Report to the Community 2017

2017 was a highly successful year for the Revitalising Geographe Waterways program with farmers, government agencies, scientists, catchment groups and the broader community working together to improve water quality of Geographe waterways.

A major focus in 2017 was turning science into action. Four years of seawater inflow trials and sediment removal in the Vasse estuary channel greatly improved water quality conditions over the summer period.

Opening the Toby Inlet sandbar, as a recommendation of modelling investigations, not only improved water quality, but has also increased fish diversity and the overall health of the Inlet.

The community and collaboration focus of the program continued in 2017 with the community actively involved in the establishment of management objectives and implementation actions for key waterways, playing their part in Revitalising Geographe Waterways.

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VASSE
taskFORCE

Foreword – Hon Dr Sally Talbot MLC

Vasse Taskforce Chair

When I was appointed as Chair of the Vasse Taskforce last year, I was curious to see whether such a diverse range of agencies and organisations could deliver practical results that would help us do a better job of managing Geographe Waterways.

I have been impressed by the range of experience and professional skills the Taskforce members bring to the table every time we meet. Most members live and work in the region and, collectively, have many decades of knowledge about the complexity of our local ecosystems.

Even more importantly, I have found that every single member of the Taskforce is committed to the principle that we get the best environmental outcomes for our waterways when agencies and organisations work collaboratively.

The primary activity at Taskforce meetings is information sharing, enabling members to work in partnership with each other and ensuring that the community is included in our planning and decision making.

This annual Report to the Community highlights work done over the past 12 months to improve the health of our waterways, and is part of our commitment to keep the community informed.

Our dedicated website launched this year also furthers this commitment by providing continuous updates on activities underway as well as information about community forums and workshops. We have much to be proud of, and I thank all those whose work is driving this collaborative approach to environmental management.



From left to right: Jason Gick (Shire of Capel) Greg Simpson (City of Busselton) Steve Ewings (South West Catchments Council) Heather Percy (Department of Primary Industries and Regional Development) Coralie Tarbotton (City of Busselton) Bob Hagan (Department of Biodiversity, Conservation and Attractions) Bev Thurlow (Department of Water and Environmental Regulation) Will Hosken (GeoCatch) Kath Lynch (Department of Water and Environmental Regulation) Suzanne Brown (Water Corporation) Dr Sally Talbot MLC (Vasse Taskforce Chair) Robin Belford (Busselton Water) Helen Shervington (Busselton Water) Adam Maskew (Department of Water and Environmental Regulation) Mike Schramm (Department of Planning, Lands and Heritage)

Revitalising Geographe Waterways is a four year \$15 million initiative to improve water quality, waterway health and management of Geographe Waterways. It is overseen by the Vasse Taskforce, an interagency committee with members from government agencies, catchment groups and water service providers. The project is funded through the State Government and Taskforce partner contributions.

Key action areas in 2017

This report highlights some of the achievements of the Revitalising Geographe Waterways program in 2017 under the three action areas of Reducing Nutrients, Collaboration and Science to Action.

Reducing Rural Nutrients

Reducing nutrients entering waterways and wetlands is critical to improving water quality to reduce algal blooms and fish kills. In 2017, 50 Geographe farmers teamed up with GeoCatch, the Department of Primary Industries and Regional Development and Western Dairy to participate in projects to reduce nutrient loss off farms.

This work included improved fertiliser and dairy effluent management, protecting riparian vegetation and utilising soil amendments to prevent nutrient leaching.

Learning from others was a major focus of 2017. An interstate forum of speakers at the Nutrient Summit in Mandurah brought together farmers, scientists and managers brought from interstate to share their experience in nutrient management.

Follow-up visits to Queensland and New Zealand with project partners and farmers provided an opportunity to experience learnings first hand and incorporate the successes from other areas into our programs.

Highlights

- 26 farmers participated in GeoCatch's soil testing project on 3642 ha of grazing land
- 31 farmers attended fertiliser management workshops
- 59 ha of riparian (streamside) vegetation protected through stock exclusion fencing
- 1.6 ha riparian revegetation established
- 10 dairy effluent upgrade plans developed
- 2 soil amendment trials established in an agricultural drain and turf farm
- 10 farmers attended a Waterways Revegetation workshop



Reducing Urban Nutrients

Run-off from urban areas is also a significant contributor of nutrients to our waterways. GeoCatch's Bay OK project has encouraged gardeners to adopt low nutrient, waterwise gardening principles through the establishment of demonstration gardens and creation of new Bay OK gardening resources.

Workshops with popular gardening gurus attracted nearly 200 community members, inspiring them to create Bay OK gardens at home.

Highlights

- 4 home gardening workshops with nearly 200 participants
- 3 Bay OK demonstration gardens established
- Bay OK Garden Guide for new gardens developed
- Online Bay OK garden resources developed for the GeoCatch website
- Installation of rain gardens in the new City of Busselton administration building
- The South West Catchment Council's Home River Ocean project reached 270,000 people through the 'Save the Crabs' television campaign
- Soil amendment trial at the new Vasse Sporting Complex to reduce phosphorous runoff
- Encouraging land owners to move from septic tanks to deep sewerage.



Collaboration

The benefits of government, industry, researchers and the community working together have been strongly demonstrated in 2017 with the continued successful delivery of the Revitalising Geopraphe Waterways program.

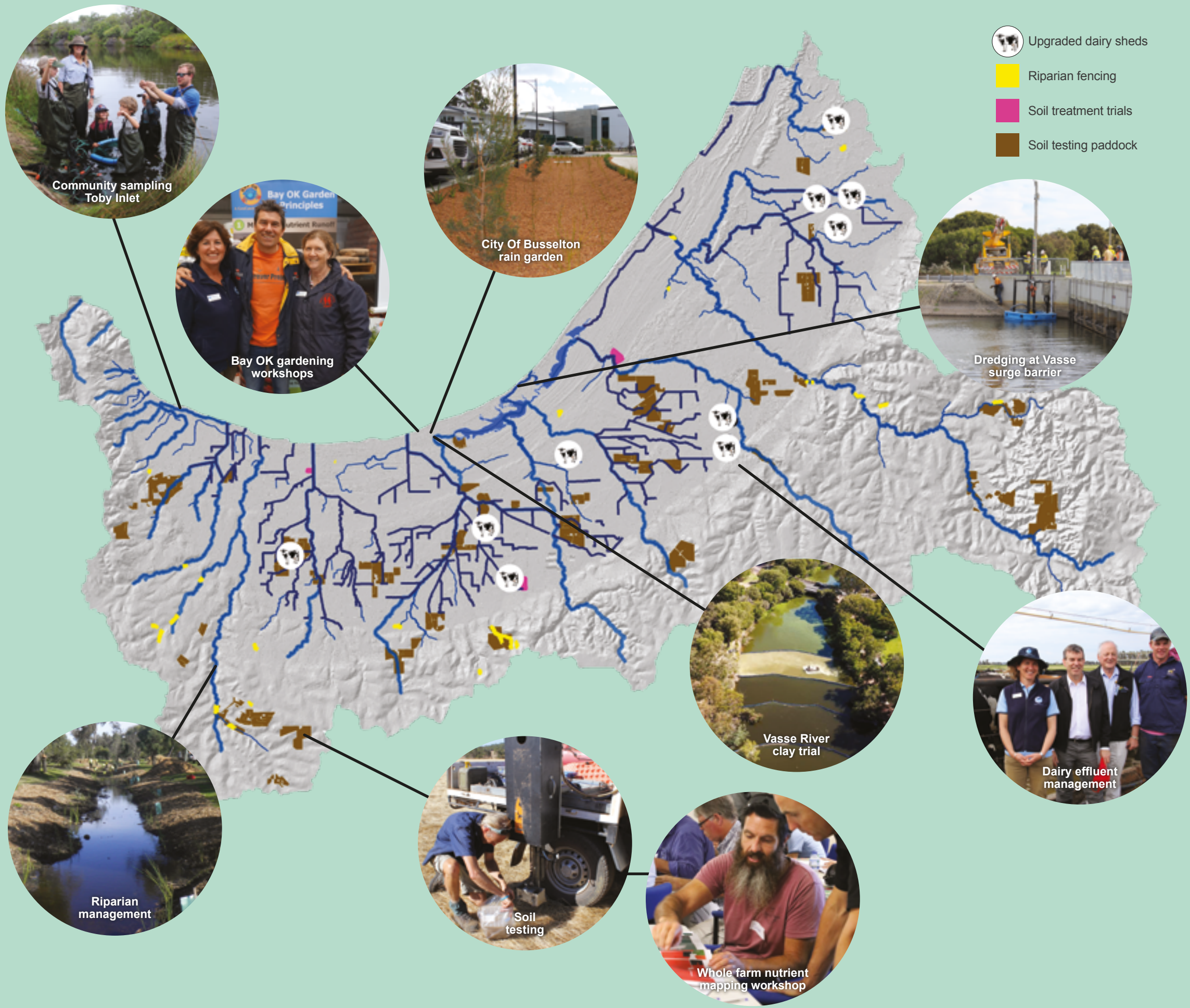
This collaborative approach has been particularly beneficial to the sustainable agriculture project, where industry and farmers have worked alongside project managers towards a shared vision of improved water quality and productivity.

Working collectively with partners has also been valued in the delivery of the science projects. A survey of community members, scientists and managers on the Vasse Wonnerup wetlands collaboration showed that 99 per cent of participants felt the group was “extremely valuable” to “valuable” in improving the communication and enabling input into the future management of the Vasse Wonnerup wetlands.

Highlights

- GeoCatch celebrated 20 years of working in the Geopraphe catchment
- Draft management objectives for the Vasse Wonnerup wetlands, Toby Inlet and Lower Vasse River developed with community collaboration groups and online surveys
- Statistical survey of the broader Geopraphe community provided a baseline of values and opinions against which we can measure our performance
- Over 150 community members attended Revitalising Geopraphe Waterways project and science updates, showing ongoing interest in the management of Geopraphe waterways
- Over 40 farmers attended workshops on improving fertiliser and riparian management
- Over 10,000 people reached through GeoCatch social media updates
- Revitalising Geopraphe Waterways website developed and launched
- Monthly newspaper and website articles published to keep the community informed

Key Actions and on-ground works in 2017



Science to Action

Using science to inform management decisions and practices has continued as a key focus of the Revitalising Geopraphe Waterways program.

2017 was a big year for scientists from the departments of Water and Environmental Regulation, Biodiversity, Conservation and Attractions and Murdoch University, with major studies carried out in the Vasse Wonnerup wetlands, Toby Inlet and Lower Vasse River.

Studies included seasonal monitoring of waterbirds, fish, invertebrates and aquatic plants, assessing the

effectiveness of seawater inflows to improve water quality and the effectiveness of phosphorus binding clays and an oxygenation plant to improve water quality and reduce the risk of fish kills.

As a direct consequence of science investigations, the Water Corporation removed sediment build up in front of the Vasse surge barrier and the City of Busselton opened the Toby Inlet sand-bar over summer, resulting in substantial improvements to water quality (see water quality comparison images below).



Aerial photo of algal bloom/poor water quality upstream (left) of Vasse surge barrier in March 2016



Aerial photo showing much improved water quality upstream of Vasse surge barrier (front view) in March 2018



Water quality monitoring



Lower Vasse River water treatment trials



“Keep Watch” Seagrass monitoring in Geopraphe Bay

Highlights

- Improved water quality in the Vasse estuary channel by manipulating seawater inflows
- Successful trial of an oxygenation plant in the Vasse estuary improving conditions for fish
- Improved understanding of the relationships between seasonal water regime (water quality and water depth) on the ecology of the wetlands
- Monitoring the recovery of Black Bream in the Vasse Wonnerup wetlands after a major fish kill in 2013

- 2017 annual macrophyte monitoring to map aquatic plants in the Vasse Wonnerup wetlands
- Fish movement study to assess how and when fish move through the fish gate in the Vasse surge barrier to support management actions
- Removal of sediment at the Vasse surge barrier as a result of sediment investigations to determine sediment volume and composition and options for removal
- Development of a Vasse Wonnerup hydrodynamic estuary model to explore different management actions to improve water quality

- Monthly bird monitoring on the Vasse Wonnerup wetlands to gather baseline data
- Fish and aquatic invertebrate survey of the Toby Inlet providing baseline information of what lives in the Inlet
- Upscaling water treatment trials in the Lower Vasse River to assess the effectiveness of a phosphorous binding clay to reduce algal blooms
- Water lily investigations in the Lower Vasse River to assess their impacts on water quality and ecology

- Continued fortnightly water quality monitoring across the catchment and Vasse Wonnerup wetlands to monitor changes in water quality over time
- Annual “Keep Watch” monitoring in Geopraphe Bay to track seagrass health over time



School involvement in fish movement study in the Vasse Estuary



Rural drainage soil amendment trial



River health sampling



Where to next

2018 will be another fast-paced year for the Revitalising Geopraphe Waterways program, with many of the science investigations coming to an end in time to guide the development of draft management plans for the Vasse Wonnerup wetlands, Lower Vasse River and Toby Inlet.

The draft plans will be released for public comment at the end of 2018 and will complement regional planning documents including the draft Leeuwin-Naturaliste Sub-regional Planning Strategy that supports efforts in this program to improve water quality.

On-ground works to reduce nutrients entering Geopraphe waterways will continue, with a major upgrade to the lower section of the Vasse Diversion Drain and upgrades to high risk dairy effluent systems planned for 2018.

The Vasse Taskforce are looking to the future of the Revitalising Geopraphe Waterways program and will be developing an investment plan and governance framework to continue its success.

We will continue to inform and involve the community through on-ground works, workshops and regular communication avenues. We look forward to working with our project partners and the community in 2018 to continue to revitalise Geopraphe's waterways.



Photo: Mark Oliver

