JOY IN WATER

ATLANSTORMWATER.COM | ISSUE # 15

FEATURED

Selecting Floating Wetlands Plants for Local Ecosystems

FEATURED

Beneath the Surface: How Floating Treatment Wetlands Work

AUSTRALIAN WATERWAYS

Kakadu Wetlands

Atlan STORMWATER

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Atlan STORMWATER

ATLANSTORMWATER.COM

Welcome

A WORD FROM OUR CEO

ANDY HORNBUCKLE
CEO

We work every day in our urban catchments to capture pollution at the source. Our mission is to prevent the conveyance of stormwater pollution to some of our most important and beloved waterways – and in this issue, we explore our wetland environments and the development of our Floating Treatment Wetlands (FTW) technology.

Wetlands are the beating heart of our marine and riverine environments. According to international data published by the Ramsar Convention on Wetlands, they provide 40% of the world's plant and animal species an environment in which to live or breed.

Wetlands provide 40% of the world's plant and animal species an environment in which to live or breed.

These environments are powerhouses of water treatment, flood mitigation, and biodiversity – traits that we mirror in our products through biomimetics and sustainable engineering.

Our Floating Treatment Wetlands are a device fit for the world's waterways, with projects underway globally. Adaptable, flexible, and customisable to meet the growing demands of our global communities – they improve water quality, create habitat, enhance community aesthetics and lift land value.

Across our world's growing urban communities, protecting our riparian environments with stormwater treatment infrastructure is vital. Retrofitting and reintroducing these environments is a vital component of sustainable development and Water Sensitive Urban Design – and FTWs offer an abundance of these opportunities with their capability for deployment on top of existing retention basins and stormwater ponds.

In the pages of this magazine, you can find out everything you need to know about adapting FTWs to your local environmental objectives – covering a range of topics including plant selection, water quality objectives, and modular design principles. We investigate the ways we have deployed these innovative technologies across international projects and showcase the aesthetic they bring to our urban spaces.

Clean waterways are a right, not a privilege. Together, we can sustain our wetland environments for future generations – and protect Joy in Water experiences for our family and friends.

AtlanTrap: Previewing our Latest Research & Development

Check out the previews of our latest development in primary treatment technology with AtlanTrap! Building on the technology and SQIDEP-verified performance of the StormSack, this product update features a sleek, blue-framed aesthetic while providing the same leading performance and treatment capabilities. We look forward to releasing the updated line across all markets in 2026!

Atlan Learning Catchment: Stormwater Resources & CPD Library

Sign up today to join the Atlan Catchment, our free CPD library available to our network of clients, stormwater peers, and industry professionals. Explore our webinars and learning resources to learn about the latest in stormwater innovation - and access complimentary CPD certificates!

Our back catalogue of webinars showcases a wide range of topics, including Floating Treatment Wetlands technology, Stormwater Harvesting and Detention, and the ways we can manage plastic pollution in our urban catchments.

SCAN QR

PRELIMINARY DESIGNS AT YOUR FINGERTIPS

Launching Our New Zealand Filter Calculator

Our free online stormwater calculator provides fast turnaround on filtration designs and early-stage planning for our New Zealand clients. Featuring configurations for AtlanFilter, FlowFilter, and FlowGuard, explore our go-to tool for instant preliminary sizing, drawings, and technical specs today!

SCAN QR

AUSTRALASIA EPD® INTERNATIONAL EPD SYSTEM

EPD INTERNATIONAL EPD SYSTEM

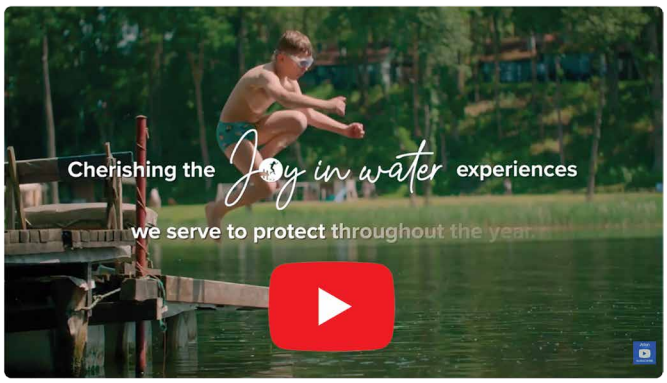
ECO PLATFORM EPD VERIFIED

AtlanFlow: In-Stock Australia Wide

AtlanFlow HDPE SN8 pipe is our locally manufactured, high-performance stormwater conveyance and drainage solution for industrial, commercial, residential and civil applications.

Bundled for safety and efficiency, and prefitted with seals, our 100 to 1050 DN pipe range ensures cost-effective freight and seamless installation. Keeping your project on track, AtlanFlow enhances project timelines with easy logistics and handling - and is in stock Australia-wide.

AtlanFlow is part of our EPD-certified range, providing insight into the sustainability of our HDPE pipe from manufacturing through to carbon emissions, energy use, and resource recovery potential.



2025 Highlights: Check Out Our Video!

SCAN QR

Atlan was the Greatest King of Atlantis and was also known as the Protector of the Oceans. 2025 was a milestone year in our mission to serve our communities and ensure Joy in Water for future generations. We extend our gratitude to our international stormwater family, teammates, industry peers, and project partners for their collaboration across the globe.

Check out our highlights from across the year! Together, we advanced our shared goals: protecting waterways, preventing flooding, supporting sustainability, and stopping pollution at the source in our urban catchments.

Capturing Trash with Chattahoochee Riverkeeper: Cooper Creek Update

Thanks to Chattahoochee Riverkeeper for the latest vision from our Floating Wetlands trash trap – the first of its kind in the United States!

This installation has collected approximately 288 pounds (130 kilos) of gross pollutants since its deployment in June, 2025. The FTW is coming out of its first North American winter, and we look forward to providing more updates across the summer season.

Spanning Cooper Creek in a forty-two module V-shaped installation, this dual purpose FTW & GPT funnels trash into collection points to capture pollutants, including plastic and litter. We believe clean waterways are a right, not a privilege!

CASE STUDY

Selecting Floating Wetlands Plants for Local Ecosystems

Despite only covering approximately 6 per cent of the Earth's surface, 40 per cent of all plant and animal species live or breed in wetlands. Wetlands ecosystems are riparian biodiversity hotspots that provide flood mitigation, water filtration and habitat for flora and fauna.

Biomimetics is the application of biological designs to solve engineering problems by utilising nature-based systems and sustainable alternatives. A guiding principle of Floating Treatment Wetlands, these systems mirror the ecological functions of natural floating islands and wetland ecosystems.

Urbanisation is directly linked with declining wetland areas. Floating Treatment Wetlands allow these environments to be retrofitted in our growing cities, helping to reintroduce wetlands in our urban environment and expanding the solutions available to engineers, developers, and councils.

The design of FTWs incorporates planter baskets and growing media, which allows vegetation to flourish.

The roots of these systems are submerged in the water column, extending and forming dense networks of microbial communities that help break down stormwater pollution.

A key advantage of these modular systems is their flexibility, allowing tailored planting schemes with local plant varieties. Planting facilitates design opportunities with community and professional consultation. Consequently, plants can be selected for a wide variety of reasons, including stormwater treatment capability, community aesthetics, biodiversity and the development of native habitat.

Native Plants & Biodiversity

The use of native plants takes Floating Treatment Wetlands beyond stormwater treatment applications, offering enhanced ecological benefits and increased biodiversity. Not only are native plants naturally adapted to factors like climate, seasonal changes, and flood patterns, but they also provide habitat for local birds, bees, insects, frogs, turtles, invertebrates, shrimp, fish and other various wetland life.

Plants are also selected for physical properties such as root structure, root density, resilience, and the ability to withstand pressures from local weather patterns and foraging animals.

"Floating Treatment Wetlands achieve significant biodiversity improvements, creating habitat and an important food source for the lifecycle of many invertebrates."
Steve Haughton
Managing Director, Habitat Creations.

Habitat Creations was formed in 2007 as an indigenous Australian plant nursery based in Melbourne and Gippsland. Today, they have several nurseries, expanded planting teams, and have developed specialised services in the environmental landscaping, conservation and land management field. Plant selections from Habitat Creations have been used in Atlan's Floating Treatment Wetlands from Victoria to Tasmania.

"Underneath the FTW, habitat and food source are created in the root structure of the plants for a wide range of aquatic invertebrates, which include insect larvae and nymphs. Once invertebrates have moved in, frogs, shrimp, birds, and other vertebrates also start to call the FTW home, as there is a continuous food source and shelter."

Planting FTWs is a nature-inspired process driven by care for our waterways and the local flora and fauna that populate them. A defining strength of these systems is their ability to integrate with our urban environments, providing opportunities for reintroducing habitat and native species. This supports the preservation of our wetland ecosystems for future generations.

Plant Selections: Growing Wetland Environments

We dive into some of our feature plant selections from across our Floating Treatment Wetland installations in Australia and the USA!

Healesville Sanctuary (Victoria, Australia)

- Common Spike-rush
- Spotted Knotweed
- Tall Sedge
- Swamp Club-rush
- Woolly Waterlily
- Hollow Rush
- Swamp Stonecrop
- Purple Loosestrife

Sorrell (Tasmania, Australia)

- Flat-leaf Sedge
- Knobby Club-rush
- Green Rush
- Pale Rush
- Upright Water-milfoil
- Slender Knotweed
- Purple Loosestrife
- Blady Grass

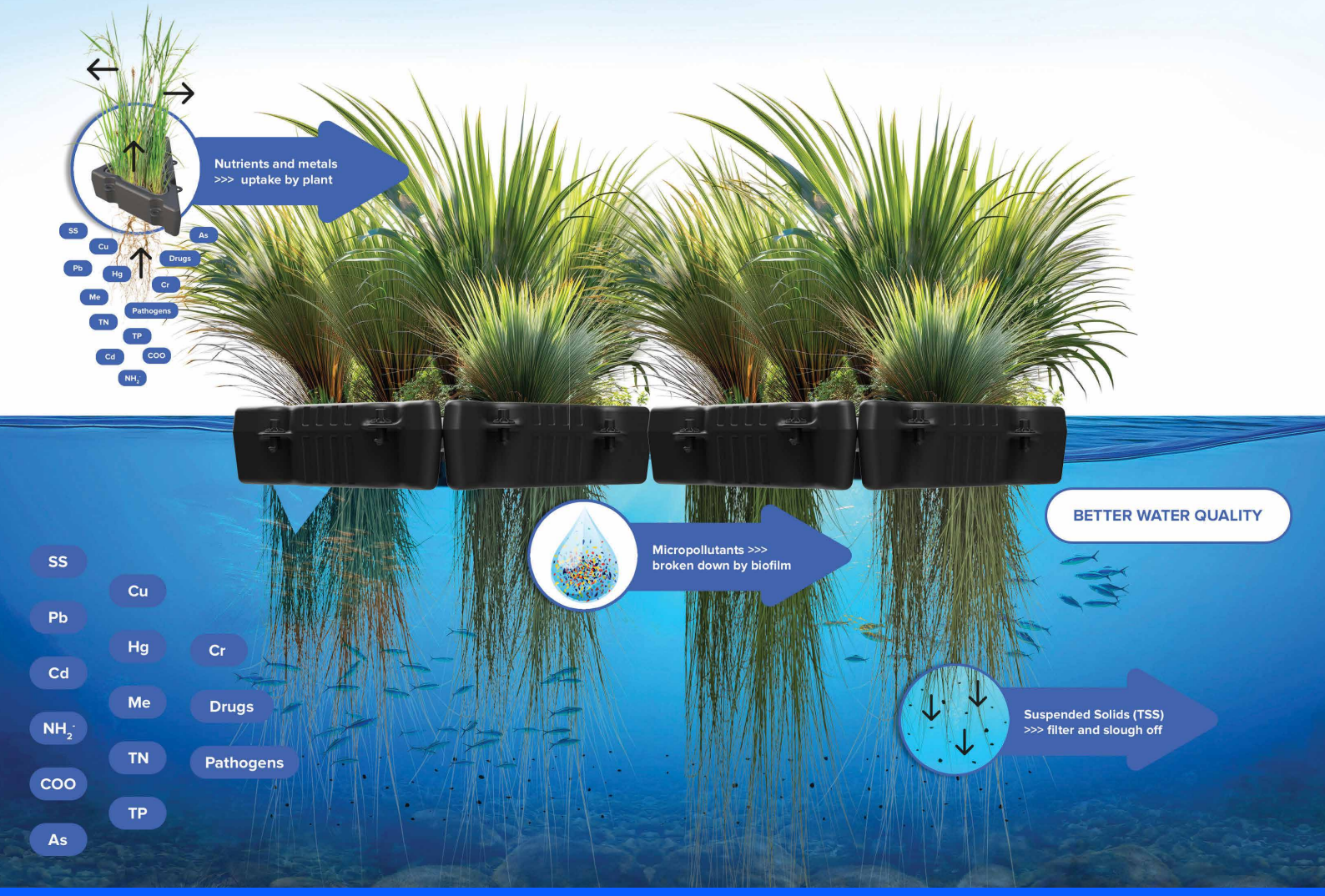
Village of Pinecrest (Miami, USA)

- Bulrush
- Blue Iris
- Golden Rod
- Celosia
- African Marigold
- Lisanthus

Cooper Creek (Georgia, USA)

- Lizard's Tail
- Meadowbeauty
- Muck Sunflower
- Joe-pye-weed
- Ironweed
- Cardinal Flower
- Great Blue Lobelia
- Smooth Beggars Tick

Beneath the Surface: How Do Floating Treatment Wetlands Work?



Combining natural biological processes with performance engineered stormwater design, Floating Treatment Wetlands (FTWs) supercharge pollution removal with wetland vegetation and their submerged root systems.

To create these environments, Atlan's modular floating structures are placed to replicate natural floating islands. Each module contains planting baskets and growth media, allowing wetland species to be located in a stable position in the water column on rivers, lakes, estuaries, sediment basins and stormwater ponds.

The dense root masses of FTWs use three main removal pathways to treat nutrients – nutrients settling out in sediment, nutrient uptake by plants, and microbiological processes. Floating Wetlands enhance each of these three removal pathways.

Wetland plants live in what is known as the macrophyte zone, where aquatic plants grow in water environments with their stems, leaves, and flowers extending above the water's surface.

Integrating water treatment with green infrastructure, wetland plants in these systems are primarily selected for physical characteristics such as environmental resilience, root density, and root structure. They may also be picked for aesthetics and local biodiversity objectives.

As these root systems grow in a submerged environment, they support the creation of microbial biofilms which facilitate stormwater treatment.

Suspended particles in the water accumulate in the root network beneath the FTW, and as water flows past, sediment and bound pollutants settle or attach to the biofilm and root surfaces.

The floating nature of the wetland structure also encourages strong plant growth by providing optimal growing conditions.

Biofilm: Nature-based Stormwater Treatment

Biofilm supercharges the treatment of incoming stormwater flows. When sediment in the water passes through the root mass, it is captured by the biofilm and accumulates.

As it gets heavier, the sediment falls off and settles to the bottom of the water body.

In traditional wetlands, plants take root in the soil on the foreshore. By floating on the water's surface, Floating Wetlands provide larger surface area for biofilm growth – this matrix of biofilm and plant roots increases sedimentation and water treatment capability. This reduces land take by up to 60% compared to conventional alternatives.

A key function of Floating Treatment Wetlands is their ability for retrofit on existing sediment basins and stormwater ponds.

Due to the high volumes of submerged root mass, Floating Wetlands provide greater removal of TSS (Total Suspended Solids) than a constructed wetland relying on gravity and attenuation times alone.

The microorganisms in the biofilm are responsible for a range of biochemical processes, helping to drive nitrification and phosphorylation of nutrients. Resulting nitrogen is either absorbed by the plants or released into the atmosphere.

Removing nutrients is a key benefit of Floating Wetlands assets, which can prevent algae blooms and the growth of invasive species that flourish in high nutrient conditions.

FTWs are often installed in combination with primary treatment assets (Gross Pollutant Traps) to minimise the amount of litter, debris, and sediment entering the waterbody from nearby catchments. This reduces the impacts of high pollutant loads on wetland environments, reduces impacts on plant growth, and lowers maintenance requirements.

A key function of Floating Treatment Wetlands is their ability for retrofit on existing sediment basins and stormwater ponds. Stormwater ponds and basins were historically designed for flood control, not water quality. FTWs provide a low-impact approach to improving water quality, providing habitat, and creating flourishing wetland environments – protecting Joy in Water for future generations.

PROJECT SPOTLIGHT

Floating Treatment Wetlands for Miami Canal Ecosystems

Located eleven miles from downtown Miami, the Village of Pinecrest, Miami-Dade County, South Florida, is renowned for its highly livable community.

The village's tree-lined streets, natural urban spaces, and vibrant residential areas are supported by the area's progressive sustainable development and environmental initiatives.

The location of our latest Floating Treatment Wetlands pilot program, Pinecrest, is exploring the benefits of using modular wetland technology to address invasive weed species, improve water quality outcomes, and beautify local community spaces.

With a network of local urban waterways leading into Miami's Biscayne Bay, stormwater management and pollution reduction are key outcomes for protecting the area's canal ecosystems and receiving watershed.

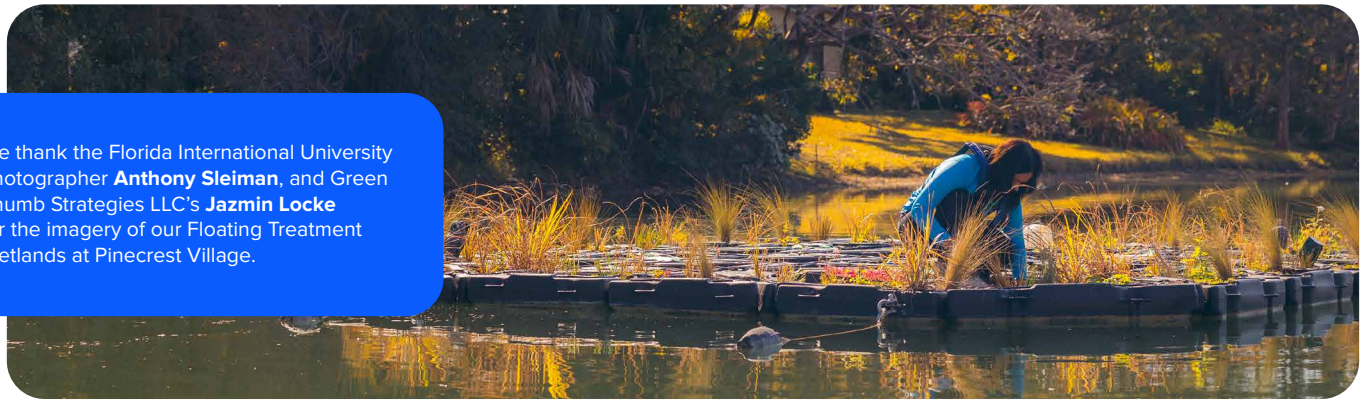
This pilot program aims to tackle water pollution and invasive aquatic plants in local canals – with a key target being hydrilla, a fast-growing pest species that crowds canal ecosystems, competes with native vegetation, and releases foul odours.

Mitigating the impacts of stormwater pollution is vital for maintaining water quality in Miami's coastal region and protecting Joy in Water for future generations.

These Floating Treatment Wetlands will remove nutrients and various stormwater pollutants, helping alleviate downstream issues such as eutrophication and associated algal blooms.

This project represents Atlan's first Floating Treatment Wetlands (FTW) pilot installation in the region, providing a scalable, modular solution to rehabilitate residential canal networks and support broader Biscayne Bay restoration objectives.

This installation serves multiple purposes, improving water quality by reducing nutrient loads and sediment, and supporting the growth of wetland plants and flowers, which will provide canal coverage and reduce the ability of Hydrilla to occupy the water column.



We thank the Florida International University photographer **Anthony Sleiman**, and Green Thumb Strategies LLC's **Jazmin Locke** for the imagery of our Floating Treatment Wetlands at Pinecrest Village.

Supporting Cleaner Waterways: Three Floating Treatment Wetlands Islands

Atlan Stormwater's FTW assets in Pinecrest have been configured in three Floating Flower islands consisting of 68 modules each. Deployed in 6x6 square configurations with recessed corners, each island provides approximately 110 square feet (34 square metres) of footprint, with a combined coverage of 330 square feet (100 square metres).

The FTW was installed by Phytoflora, an initiative of Green Thumb Strategies LLC, a South Florida based environmental practice. Two of the islands were funded by the Village of Pinecrest through its Stormwater Fund and are implemented as an official Pinecrest initiative focused on improving local canal water quality.

All three islands are monitored in partnership with Florida International University through a grant from the United States Department of Agriculture, which also supported installation of the third island. The research and field implementation are led by Dr. Jazmin Locke Rodriguez, who serves as Lead Scientist and Project Manager for the program.

This two-year pilot evaluates plant growth, nutrient removal through harvest-based biomass extraction and changes in water quality over time, generating field scale data to inform future municipal adoption and regional scaling.

Contending with water depths of 20 feet (6.1 metres), a bridled anchoring system was used to accommodate tidal fluctuations and hurricane-zone requirements for resilience to high wind conditions. This also avoided the use of shoreline for anchorage, which will help preserve visual amenity and minimize environmental disruption.

FTWs are ideal for pilot programs, allowing for reconfiguration, relocation, and the addition of modules to expand asset footprint. The design of the modular platforms enables easy access for maintenance crews, reduces labour requirements, and allows efficient weeding and replanting with removable planter boxes.

As plants in these Floating Treatment Wetlands grow, their roots extend into the water column, creating a complex network of plant roots and biofilm. These provide natural pathways for stormwater treatment, enhancing nutrient cycling through nitrification and phosphorylation, and capturing sediment.

Floating Treatment Wetlands are a nature-based solution to reduce herbicide spraying requirements as a primary management approach. These existing management strategies in Pinecrest's canals carry long-term ecological concerns and recurring operational costs.

Bulls Rush, Blue Iris, and Golden Rod were included in the native plant selections to provide stormwater treatment capabilities. Meanwhile, on the internal planting beds of the FTWs, a range of harvestable flowers will be grown, including Celosia, African Marigold, and Lisanthus.

Beautifying the local community, this mix of wetland vegetation and flowers will improve site aesthetics. A fully traversable system, the ability to walk on the FTW will allow ease of access during routine maintenance, and for the harvesting and replanting of flowers.

As municipalities increasingly prioritise resilient, low-impact stormwater and waterway treatment solutions, Floating Treatment Wetlands offer a proven pathway to combine infrastructure performance with environmental restoration and the development of green stormwater assets.

For Pinecrest, this ongoing pilot project is about developing outcomes for the future — and demonstrating how engineered nature-based stormwater assets can replace legacy herbicide practices, restore urban waterways, create healthy local environments, and renew community spaces.

Together, we can develop stormwater solutions that integrate water treatment technology in our urban landscape – protecting Joy in Water for future generations. We believe clean waterways are a right, not a privilege.

PROJECT SPOTLIGHT

Floating Treatment Wetlands: Supporting Platypus Rehabilitation at Healesville Sanctuary

Set in the foothills of the Yarra Ranges, Healesville Sanctuary is one of Australia's leading places for native wildlife conservation, recognised for its commitment to fostering community stewardship for our native species with its tranquil tracks, learning activities, and hands-off animal experiences.

The Sanctuary is one of only a few locations in the world to successfully breed captive Platypus species. In 2025, stage one of the Australian Platypus Conservation Centre opened at the Sanctuary. These innovative, modern facilities feature a series of tiered ponds with burrowing banks, creek structures, and crystal-clear water.

Supporting the recovery of injured and ill Platypus, the rehabilitation area consists of climate-controlled environments and dedicated research hub fitted with monitoring equipment to support healthier outcomes for the Sanctuary's temporary and permanent residents. This includes Millsom, a platypus that has been in Healesville's care for over twenty years.

Threats to wild Platypus include loss of habitat, predation by dogs, and a wide range of human-related environmental issues, such as entanglement in plastics, elastic bands, and urban litter. Injuries stemming from stormwater pollution include restriction of their ability to swim and forage, which in some cases can even be fatal.

We believe clean waterways are a right, not a privilege. Stopping the conveyance of stormwater pollution in our urban catchments reduces its conveyance to downstream waterways, lakes, and seas – protecting our native wildlife and fostering community values to provide clean coastlines and rivers.

Native Wetlands Plants: Biomimicry of Natural Ecosystems

Healesville Sanctuary's Platypus Rehabilitation areas are designed to closely replicate the variable environments of natural rivers and creeks with flowing water and embankments that mirror their real-life counterparts. These ensure platypuses regain physical fitness during recovery and stay acclimated to their natural habitat.

An Atlan Stormwater Floating Treatment Wetlands has been installed as an environmental feature of these areas – a modular network of platforms that mimic natural wetland ecology. Sitting on the water's surface, these floating islands contain plant baskets to allow the establishment of wetland vegetation.

A nature-based asset that provides functional aesthetics, the FTWs have been planted with a native selection that includes Woolly Waterlily, Hollow Rush, Swamp Stonecrop, and Purple Loosestrife. A mix of perennial rushes, sedges, and groundcover species was used to create unique structures, enhancing biodiversity, attracting insects, and improving aesthetics.

The diet of platypuses includes a bevy of aquatic macroinvertebrates, such as insect larvae, freshwater crustaceans, and worms. Healthy wetlands provide an active ecosystem that creates microhabitats for these food sources – such as insects, dragonflies, and their hatchlings.

Easy to maintain, the Floating Wetlands units can be reconfigured, relocated and replanted. This allows them to be rotated through different environments and areas of the centre, and wetland plants to be replanted to suit seasonality and the ongoing needs of the monotremes.

Preserving Joy in Water with Nature-Based Solutions

Integrating our Floating Treatment Wetlands in the Australian Platypus Conservation Centre demonstrates the ways stormwater treatment technologies can be implemented beyond traditional infrastructure – beautifying space, creating habitat, and providing platforms for the growth of local flora.

These technologies utilise principles of biomimicry to recreate natural wetland ecosystems, improving water quality with natural biochemical processes. As our cities grow and urbanisation increases, being able to adapt nature-based engineering to provide sustainable outcomes is imperative for the health of our local flora and fauna.

The installation at Healesville Sanctuary displays how Floating Treatment Wetlands can support native wildlife and improve ecological outcomes.

As the roots of these plants submerge into the water column, they serve dual purposes - improving water quality in the rehabilitation ponds and providing the benefits of the habitat they create. This allows the platypus to engage with the Floating Wetlands and the roots beneath, playing, foraging, and gathering nesting material.

Together, we can protect Joy in Water for future generations, for our family, friends, and Australia's native species.

PROJECT SPOTLIGHT

Floating Treatment Wetlands: Green Assets for Coastal & Estuarine Protection

Established in 1821, Sorell is one of Tasmania's oldest towns and fastest growing communities. Located 25 kilometres from Hobart, the surrounds of Sorell Municipality are known for its coastal communities and pristine white sands of the Southern Beaches.

This 23-kilometre stretch of coastline from Lewisham to Dunalley contains some of Tasmania's most acclaimed small beaches – with the local community and its visitors using the scenic waterfront for a range of activities including swimming, walking, surfing and kayaking.

The focus of the $50 million Coastal and Estuarine Risk Mitigation Program (CERMP), funded by the Australian Government's National Emergency Management Agency, was to support projects that reduce the impact of disasters on coastal communities. This project aims to safeguard dune and marine environments along the Southern Beaches from the impacts of stormwater pollution and erosion.

The goals of this initiative are to reduce stormwater pollutants entering these local environments, improve management strategies through the upgrade of twenty-two outfalls in the area, and develop strategic Water Sensitive Urban Design (WSUD) assets to facilitate environmental resilience and sustainability.

Reflecting our mission as Zero Pollution Ambassadors to capture stormwater pollution, our provision of high-performance stormwater assets to this important community program is essential to protecting Joy in Water experiences for future generations.

Floating Wetlands: Treating Stormwater & Providing Habitat

Carlton Beach is one of the focus areas for the CERMP and the site for the deployment of an Atlan Stormwater Floating Treatment Wetlands (FTW).

Developed in collaboration with Sorell council and Flussig Engineers, this green stormwater asset aims to reduce pollutants conveyed by stormwater runoff to nearby coastal environments from surrounding hillsides and road networks.

In an 8.1 by 24.3 metre configuration, the 486-module Floating Treatment Wetlands installation covers approximately 200 square metres.

Recently built, a sediment basin situated a block behind Carlton Beach was ideally suited for deploying the FTW system. By deploying floating modules on top of the basin's water body, environmental benefits will be maximised, while reducing site disruption, land use, construction footprint, and cost – particularly compared to conventional constructed wetland alternatives.

Locally designed, manufactured and supplied by Atlan Stormwater, our Floating Treatment Wetlands are vegetated assets that allow wetland plants to grow on the water's surface. As these plants grow, their roots suspend in the water column, treating incoming stormwater flows for target pollutants including phosphorus, nitrogen and total suspended solids.

Key program outcomes for the FTW asset include improving water quality, reducing nutrient loading, and protecting local outfalls from issues such as algal blooms. These support the CERMP's larger goals with an innovative green asset that enhances site aesthetics and creates habitat for local flora and fauna.

Installation and commissioning were completed in just two days. The speed of this assembly and planting demonstrates the benefits of modular FTW designs, which are lightweight, durable and easy to manoeuvre on-site.

This innovative stormwater solution balances sustainable principles, best practice stormwater management, and high-performance pollution removal. Crucially, the Floating Treatment Wetlands also provides a sense of community engagement – a prominent green asset that gives the local community direct insight into stormwater treatment outcomes.

Atlan Stormwater supports the CERMP initiatives, and the Carlton Beach wetlands project showcases our belief that clean waterways are a right, not a privilege. Working together with project stakeholders, we will protect Joy in Water for future generations and help secure better outcomes for the area's waterways, estuaries and beaches.

PRODUCT SPOTLIGHT

Spillceptor & Flowceptor: Now SQIDEP Verified!

We are excited to share our latest product highlight for 2026! Our environmentally compliant Separators, Spillceptor and Flowceptor, have now joined our SQIDEP-verified range.

Ensuring Joy in Water for future generations with high-performance, data-driven stormwater solutions, Atlan Stormwater offers the largest range of SQIDEP-verified devices on the market. Spillceptor and Flowceptor join our existing SQIDEP verified devices, which include Atlan BaffleBox, StormSack, Vortceptor, AtlanBasin, FlowFilter, FlowGuard and the half and full-height AtlanFilter.

The Stormwater Quality Improvement Device Evaluation Protocol (SQIDEP) is Stormwater Australia's industry-leading framework for the independent verification of stormwater device performance. By providing a robust methodology for third-party assessment, SQIDEP sets important standards for verifying the pollution removal capabilities of stormwater devices.

Supporting developers, councils, and engineers during asset selection, SQIDEP saves time and provides peace of mind. Choosing SQIDEP-verified devices ensures that our stormwater network is developed to effectively protect our pristine waterways and meet the needs of our growing communities.

Spillceptor & Flowceptor

Spillceptor and Flowceptor are compliant with environmental performance requirements for oily water separators, achieving stormwater discharge quality of less than 5 mg/L of hydrocarbon content.

These enhanced gravity separators treat incoming stormwater by allowing light liquids to rise to the surface for capture while denser clean water passes through the device. Equipped with coalescer units to enhance hydrocarbon capture, these enable smaller oil particles that escape initial separation to agglomerate into larger globules, increasing hydrocarbon removal efficiency.

Spillceptor is designed for high-risk sites, with an Automatic Closure Device (ACD) and full retention capabilities that ensure hydrocarbon capture under all flow and spill conditions. These devices meet regulatory requirements for high-risk hydrocarbon management on sites such as service stations, transport hubs, transformer yards, and refuelling areas.

Flowceptor's design is based on similar separation principles but is configured for low-to-medium risk applications, a versatile hydrocarbon treatment option for sites such as car parks, industrial hardstand, and transport depots. These typically have larger catchments with varied risk profiles.

Available in inline and offline configurations, Flowceptor can bypass excess flows to meet hydraulic specifications in high-volume conditions – without compromising pollution retention performance.

SQIDEP: Supporting Best Practice Stormwater Outcomes

SQIDEP provides a robust framework for assessing, reporting, and evaluating device performance. Every day, these tools are used to explore the best-practice solutions available in the market to meet the growing requirements for Water Sensitive Urban Design (WSUD) in our urban communities.

Our design team is available Australia-wide with a range of services, including MUSIC modelling, engineering calculations, project drawings, and preliminary product recommendations. We work to stop pollution at the source - our urban catchments; collaborating daily with project stakeholders to find solutions that overcome their stormwater challenges.

Through the development of our SQIDEP range and confidence in our devices' performance, we reflect our Joy in Water philosophy, and our belief that clean waterways are a right, not a privilege. Rigorous testing ensures our solutions perform as intended, protecting riverine and marine environments for future generations.

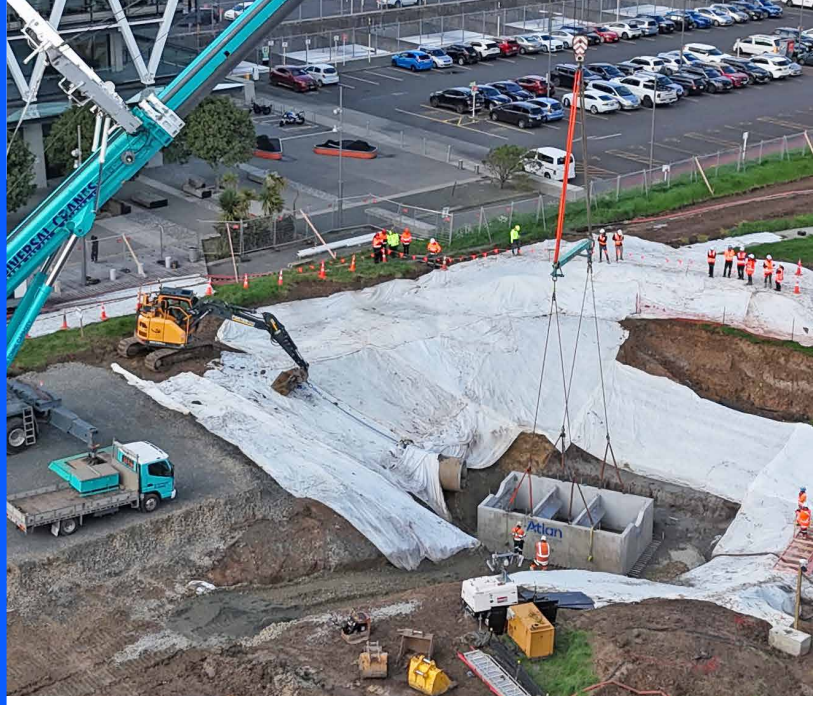
SQIDEP Test Treatment Efficiencies*

POLLUTANT	EFFICIENCY
Gross Pollutants (GP)	99%
Total Suspended Solids (TSS)	74%
Total Phosphorus (TP)	18%
Total Nitrogen (TN)	18%

*Contact us to confirm approval performance for the project LGA.

PROJECT SPOTLIGHT

Hayman Park: Managing Urban Stormwater for Wetland Rehabilitation



Located in South Auckland, Hayman Park is Manukau City's primary parkland, an area undergoing transformation as comprehensive city-wide redevelopment strategies aim to position the city centre as an economic and creative hub.

Hayman Park is a sprawling green space featuring extensive wetlands, which play a vital role in connecting the local community to the natural environment. Regenerative efforts are now focused on restoring these wetland ecosystems with the renewal program reshaping and extending an existing stormwater pond to assist wetland rehabilitation.

Wetland environments provide natural flood mitigation, improved water quality, and local habitat. However, the parkland receives stormwater runoff from surrounding urban catchments. Stormwater treatment is vital to prevent the conveyance of associated urban pollution from inundating downstream wetland areas, which would undermine restoration efforts.

Supporting the redevelopment of Manakau, its stormwater infrastructure is being upgraded to help foster local growth and sustainable development – delivering generational infrastructure to protect Joy in Water for future generations.

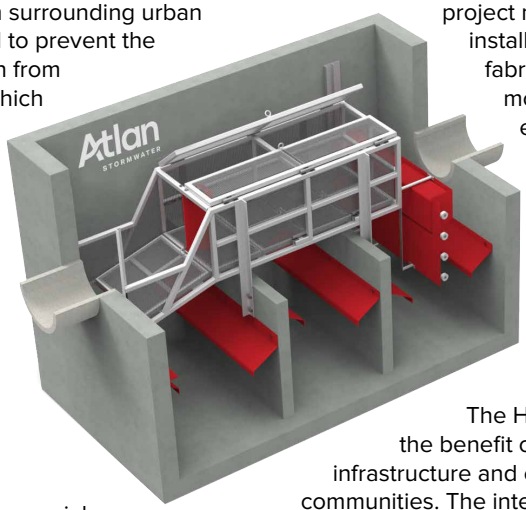
Atlan BaffleBox: High Flow Rate Stormwater Treatment

Primary stormwater treatment assets are a crucial part of Hayman Park's transformation, and an Atlan BaffleBox will treat incoming stormwater flows to capture pollutant loads at the source. This primary treatment asset will enhance the site's environmental resilience and align with best-practice Water Sensitive Urban Design (WSUD).

The Atlan BaffleBox's internal baffle configuration uses a combination of chambers and a screen to settle sediment and capture floatable pollutants. Acting as a first line of defence, this performance-engineered Gross Pollutant Trap infrastructure will capture plastics, debris, suspended solids and nutrients, effectively mitigating their impacts on the park's wetlands.

Verified through SQIDEP (Stormwater Quality Improvement Device Evaluation Protocol), Stormwater Australia's leading framework for evaluating stormwater device performance, the BaffleBox features pollution removal efficiencies of 73% Total Suspended Solids, 59% Total Phosphorus, 39% Total Nitrogen, 99% Gross Pollutants, and 66% microplastics.

Designed for large catchment flow rates, the site's BaffleBox measures 6 metres by 3.6 metres. This high-capacity size will ensure optimal operation during routine rainfall and larger storm events, accommodating peak flow rates of 3,540 litres per second, and water quality flow rates of 700 litres per second.



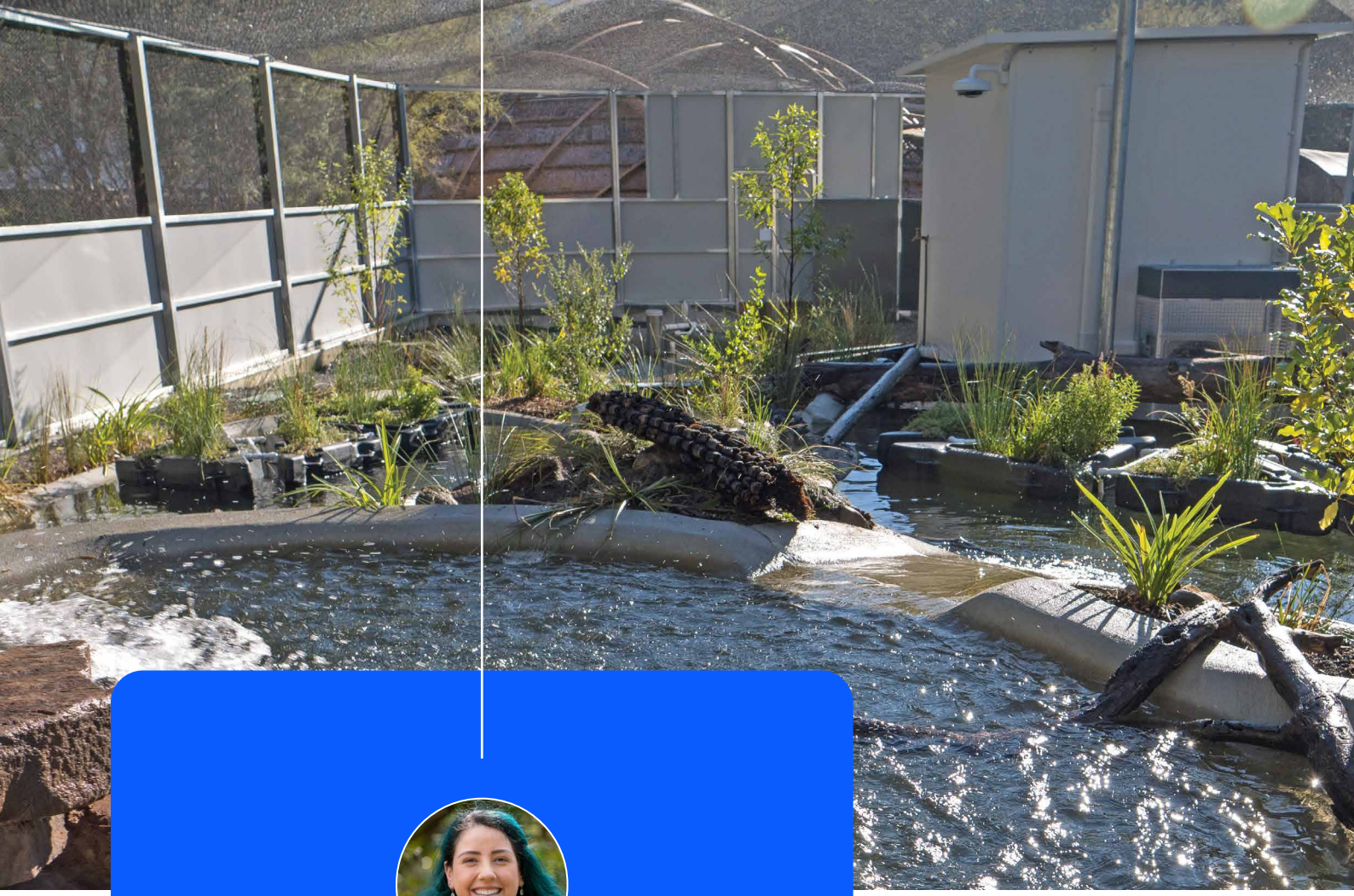
Atlan Stormwater supported the careful planning and project management for this prestigious installation throughout its design, fabrication, and logistics phases. The modular design of the BaffleBox enabled direct installation upon delivery, enhancing project timelines and schedules.

On-site handling utilized New Zealand's largest wheel crane, capable of lifting to 450 tonnes, which enabled the unit to be positioned safely and efficiently.

The Hayman Park project demonstrates the benefit of combining stormwater infrastructure and ecological restoration for local communities. The integration of best-practice primary stormwater treatment provides a firm foundation for wetland rehabilitation, supporting the redevelopment of downstream ecosystems and improved water quality.

During the transformation and modernisation of urban areas, protecting sensitive waterways and wetlands requires investment in robust, scalable solutions. With locally developed water quality and quantity solutions to meet the requirements of urban planning and growing communities, Atlan Stormwater delivers stormwater infrastructure for the future.

Developing these systems is critical for ensuring Joy in Water for future generations – for you with your family and friends. We believe clean waterways are a right, not a privilege.



Wetland Environments for Platypus: Q&A with Platypus Keeper Angelica Anguilar

PLATYPUS REHABILITATION CENTRE, HEALESVILLE SANCTUARY

We dive into the installation of our Floating Treatment Wetlands at Healesville Sanctuary with Platypus Keeper Angelica Anguilar, whose daily work involves supporting the rehabilitation of sick and injured platypus and caring for the welfare of the park's long-term monotreme residents.

Integrated into a series of simulated ponds and riverbanks that replicate creek environments in the Australian Platypus Conservation Centre, our FTW modules have been installed as environmental features in the centre's tiered rehabilitation areas and freshwater shrimp tank.

Using planter baskets within the modules to mimic natural floating wetland environments, they have been populated with native species, including Woolly Waterlily, Hollow Rush, Swamp Stonecrop, and Purple Loosestrife.

The submerged root zones of these systems not only enhance water quality – they provide additional areas for platypus to explore and play, and create habitats for macroinvertebrates, which act as a natural food source for the pond's residents.

How have the Platypuses taken to the Floating Wetlands?

The platypuses have taken really well to the Floating Wetlands. They have explored on top it and around it without making too much of a mess or destroying any of the plants.

We were a bit worried about the roots, but we actually found that our female Yami used some of those roots for nesting material.

They have all been happy with the Floating Wetlands as another space for them to explore.

What is the importance of wetland environments & habitat for Platypus species?

These wetlands are important because they are full of plants that encourage wild water bugs, dragonflies and other invertebrates to be around the habitat. We have seen plenty of dragonflies and they are breeding which means they will have their larvae in the water and that's what the platypus will eat.

How does the ability of systems like Floating Wetlands to mimic natural environments facilitate the wellbeing of your wildlife?

This system encourages macro invertebrates because of the plant life and that is a much more natural diet for the platypus.

Have you found any key benefits to this approach to incorporating wetlands vegetation in this habitat?

For dietary reasons, the wetlands have been helpful. It has been encouraging those natural invertebrates. It's good for the water as well. It's great to have those extra plants to maintain our water quality.

The Floating Wetlands helps to keep the soil in one spot, so that makes things easier for cleaning too.

How can the Floating Wetlands be reconfigured to meet changing pond requirements?

We have different ponds that are different sizes and the Floating Wetlands are quite adaptable. We can change the shape for the platypus to explore and give them more variety. The flexibility is great. We can also rotate the Floating Wetlands into a space without the platypus to give them time to rest and recover and rotate in new plant species depending on the season.

Are the systems easy to maintain for the Sanctuary team?

I feel like we haven't needed to do anything with them. The one thing we did was cut the roots slightly so the platypuses wouldn't become tangled. Although we've found the platypuses like to rip up the roots and have fun with them.

How does stormwater and urban pollution impact Platypus in the wild?

What we find when we get a platypus in from the wild, is they are entangled in loopy litter like elastic bands, plastic rings and scrunchies. They often have severe injuries and can't swim well.

Rubbish is often pushed into the drainwater and that is a huge risk to the survival of this species. If you see loopy litter on the ground the best way to help is to seize it, snip it, bin it.

SCAN QR

Visit Healesville Sanctuary website

PRODUCT SPOTLIGHT

Vortceptor: First Line of Defence for Cleaner Wetlands

Gross Pollutant Traps provide primary stormwater treatment, acting as a first line of defence to remove pollution from incoming stormwater flows. Capturing bulky pollutants, they reduce the conveyance of stormwater pollution, including litter, cigarette butts, plastic bottles, foliage and sediment.

Locally manufactured by Atlan Stormwater, Vortceptor is our flagship SQIDEP-verified GPT, featuring a 100-year design life and single-piece fibreglass design. The SQIDEP verified pollution removal rates for the Vortceptor are 93% Total Suspended Solids (TSS), 86% Total Phosphorus (TP), 49% Total Nitrogen (TN), and 100% Gross Pollutants.

GPTs, such as Vortceptor and the Atlan BaffleBox, provide engineered solutions for high-volume flow conditions. These systems manage incoming pollutant loads prior to environments such as wetlands and waterways. Offering both operational and ecological advantages, their use in these applications helps projects to meet environmental requirements and best practice Water Sensitive Urban Design (WSUD) objectives.

Managing Stormwater Pollution in Wetlands Catchments

Stormwater management is critical to protecting natural and constructed wetland environments. Excessive pollutant loads containing sediment, plastics, and urban contaminants negatively impact these sensitive ecosystems, compromising the health of vegetation, local wildlife, and reducing their ability to treat stormwater.

Plants in wetlands are vulnerable to smothering by sediments, contamination by hydrocarbons, and inundation with plastics. These issues also threaten local wildlife habitat, leading to loss of biodiversity and impacting both aquatic and terrestrial species.

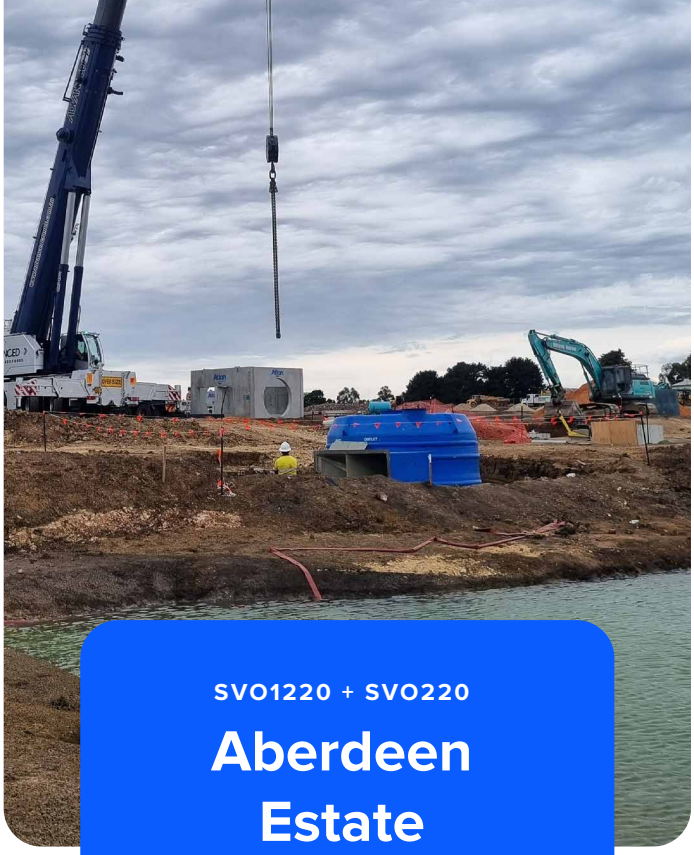
The accumulation of sediment in wetlands reduces water depth and hydraulic capacity, leading to the eventual loss of treatment function. Unchecked pollutant loads can ultimately destroy wetland environments. By intercepting coarse and fine sediments early, GPT pretreatment extends the lifespan of wetlands. It also greatly reduces operational expenditure and maintenance.

A key benefit of these systems is the containment of pollutants in one location, which greatly simplifies routine maintenance across the treatment train. By confining pollution in easy-to-maintain devices, it stops the spread of these urban contaminants across wetland environments, which are typically difficult and costly to access with equipment, machinery and vacuum trucks.

These benefits not only improve the financial viability of maintaining stormwater infrastructure, but they also minimise disruption to wetland ecosystems.

Many regulatory guidelines now require robust treatment train solutions, where multiple systems are integrated in sequence to achieve target pollutant reductions. Ensuring downstream wetlands can continue to operate to engineering specifications, GPTs such as Vortceptor ensure compliant water quality outcomes.

By integrating Gross Pollutant Traps to enhance wetland performance, we can develop a stormwater network that protects our riparian environments, preserving our vital wetlands and protecting Joy in Water for future generations.



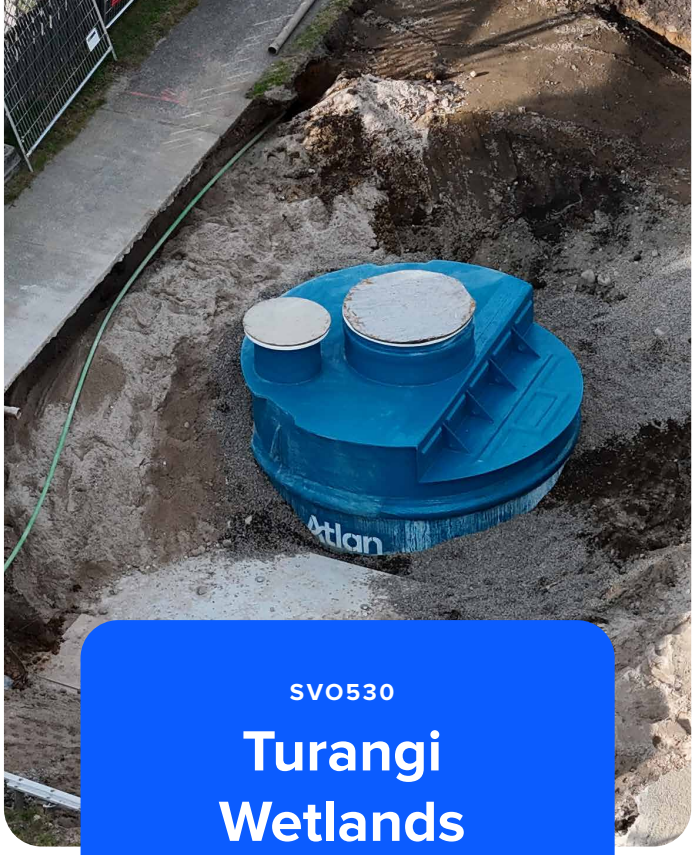
SVO1220 + SVO220

Aberdeen Estate Wetlands

Aberdeen Estate is a new residential development on the outskirts of Victoria in the City of Ballarat Council area. Nestled on the southern side of the Great Dividing Range, it features forty-four hectares of residential subdivision. The family-friendly, vibrant design of the estate integrates natural elements and parklands with modern living. Bordered by rolling landscapes and five acres of wetlands, the site combines sustainable engineering with pristine surroundings.

At the heart of Aberdeen Estate, water quality management plays a central role. Designs incorporate gross pollutant trap (GPT) systems to capture urban pollution from stormwater runoff, preventing its conveyance downstream, and significantly reducing pollutant loads entering the wetland, sediment basin, and drainage network.

CASE STUDY



SVO530

Turangi Wetlands

Stormwater management strategies across Turangi and its surrounding areas are imperative for protecting local ecosystems. By integrating stormwater assets in the Turangi community, pollution can be captured, preventing its conveyance downstream to rivers, creeks, and wetlands.

A retrofit of a Vortceptor Gross Pollutant Trap (GPT) will bolster stormwater management infrastructure for Turangi and treat stormwater from the town's catchments prior to discharge into the waterways and wetlands of nearby Kohineke Recreation Reserve.

CASE STUDY

Nature-Based Performance: Benefits of Floating Treatment Wetlands

Atlan Stormwater is a pioneer in the development, design and manufacture of Floating Treatment Wetlands technology.

Our latest modular FTWs are available for global markets and supported by comprehensive research. We take a deep dive into key benefits of these innovative systems, showcasing our ongoing field testing and published scientific papers with research partners which include University of Sunshine Coast and Dr Darren Drapper.

Case Study of Floating Treatment Wetlands and Urban Lake Water Quality, Downstream of Wallum Wetlands in Southeast Queensland, Australia

Reference: Water Practice & Technology [Submitted for publication]

Floating treatment wetlands (FTWs) are a unique blend of STM (Stormwater Treatment Measure) with WSUD (Water Sensitive Urban Design), in that it utilises the physical, chemical, and biological processes typical of CWs (Constructed Wetlands) and biofiltration, within a manufactured matrix, with the goal to improve efficiency in comparison with traditional CWs.

CWs have multiple benefits, but the most significant disadvantage is the requirement for a large surface area to achieve pollutant removal targets (Zhao et al. 2012). FTWs offer additional benefits compared with CWs, requiring less land and having low capital and maintenance costs, and are, as such, regarded as an enhanced product.

As development pressures increase and land availability for traditional treatment measures declines, FTWs provide an innovative alternative that balances water quality improvements with ecological and aesthetic benefits. Their ability to support diverse macrophyte communities, facilitate microbial biofilm activity, and enhance sedimentation processes further underscores their potential as a sustainable and scalable solution.

Microplastic Pollution in a Stormwater Floating Treatment Wetland: Detection of tyre particles in sediment

Reference: Environmental Science & Technology, 2023, 57 (34), 12829-12837; https://doi.org/10.1021/acs. est.3c03949

A higher abundance of MPs was found in the sediment at the inlet of the constructed wetland compared to the outlet, indicating a potential role of wetlands in removing MPs from stormwater. These findings suggest that both constructed wetlands and microlitter capture devices can mitigate the transport of MPs from stormwater to the receiving waterways.

The MP quality of road runoff can be improved through the installation of end-of-line stormwater treatment systems. A constructed wetland also retained MPs from stormwater in the wetland's sediment, thus reducing the discharge of MPs to the downstream aquatic environment.

TOP 5 BENEFITS

FLOATING TREATMENT WETLANDS

1. High-efficiency stormwater pollution removal

- Filtration and sedimentation via root matrices
- Biofilm-mediated processes (adsorption, microbial transformation)
- Plant uptake and sequestration

2. High treatment performance per unit area

FTWs can deliver greater pollutant removal per unit area than traditional constructed wetlands. This is a critical design advantage in urban environments where land is constrained.

3. Reduced land take and retrofit capability

FTWs do not require additional earthworks or land acquisition, and can be retrofitted into existing stormwater ponds and basins, allowing the development of treatment assets on top of existing infrastructure.

4. Cost-effectiveness versus conventional systems

Our studies show FTWs can deliver lower capital costs than constructed wetlands. These provide faster commissioning and functionality - and are operational from early development phases. Easy to maintain.

5. Emerging contaminant and particulate capture (e.g. microplastics)

FTWs can trap microplastics (e.g. tyre particles) in sediments, helping to capture and retain these pollutants.

Australian Waterways

Kakadu Wetlands

A jewel within Australia's tropical Northern Territory, the Kakadu National Park Wetlands are one of Australia's biodiversity hotspots. An ecologically rich and culturally significant destination, its expansive floodplains, tidal estuaries, billabongs, mangroves and monsoon forests are shaped by seasonal cycles.

With rainfall transforming Kakadu during monsoon periods, these constant phases and varied weather patterns result in diverse landscapes and extraordinary biodiversity. The scale and integrity of these wetlands ensure Kakadu wetlands importance as a national asset, and its global significance as a world-heritage listed site for its outstanding natural and cultural values.[1]

Kakadu wetlands are also recognised as a Wetland of International Importance (Ramsar Convention on Wetlands) and meet all relevant listing criteria, which include the uniqueness of its ecology, botany, zoology, limnology and hydrology.

Supporting a diverse range of flora and fauna, Kakadu sees up to two million waterbirds visiting its floodplains each year[2] – these include large concentrations of magpie geese and wandering whistling-duck.

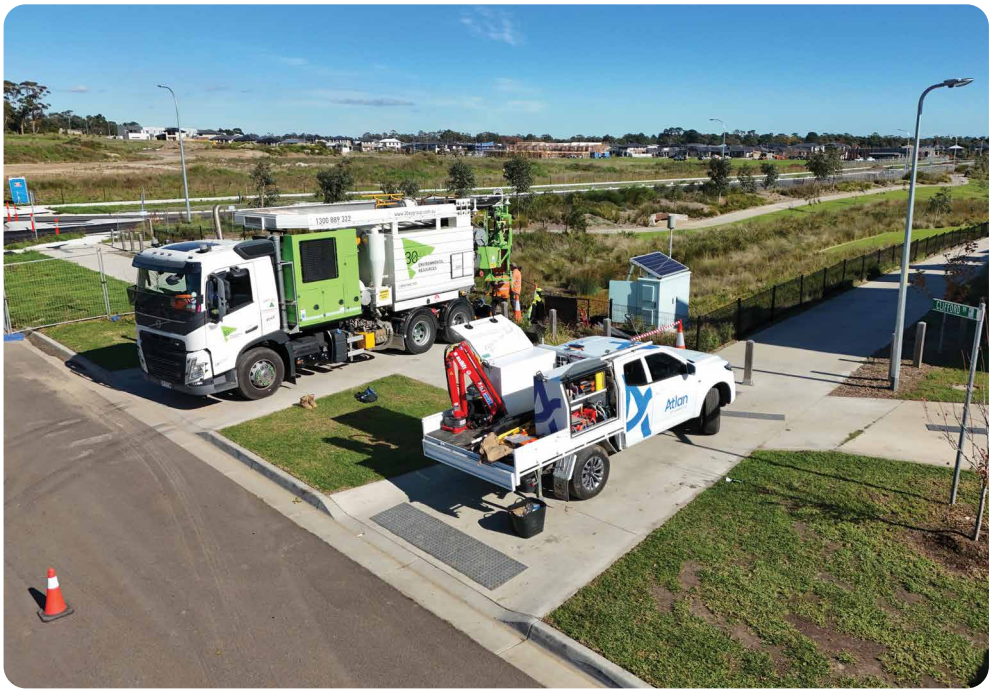
The Kakadu wetlands are a complex, interconnected system of converging riparian environments. Each of these niches supports a different array of wildlife. Containing approximately 20% of the total number of fish species found in Australian freshwaters, fish species inhabiting the wetlands include the iconic Barramundi, tarpon, mullet, catfish, saratoga and mangrove jack.[3]

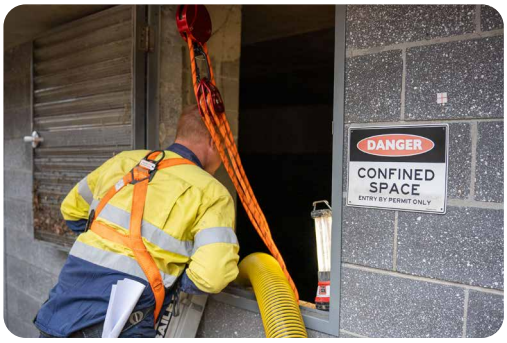
These wetland environments support threatened species and provide critical wildlife habitat for native wildlife across their lifecycles, with events such as fish spawning, bird migration, nesting and breeding. Kakadu National Park provides vital breeding areas for a wide range of species, including crocodiles, turtles, frogs, wallabies, bandicoots and sharks.

Kakadu and its wetlands are major contributors to Australia's nature-based tourism industry, with visitors drawn to iconic locations including Yellow Water (Ngurrungurrudjba) Billabong, Mamukala Wetland, and Bubba Wetland.[4] These areas provide experiences filled with dense wildlife populations, dramatic seasonal landscapes and immersive ecological tours - fostering community awareness for wetland conservation and our Indigenous cultural heritage.

Safeguarding the Kakadu wetlands is an investment in our local ecology, tourism and iconic culture. We believe clean waterways are a right, not a privilege. Together, we can protect Joy in Water for future generations – and preserve pristine riparian environments like the Kakadu wetlands.

[1] https://whc.unesco.org/en/list/147
[2] https://www.dcceew.gov.au/water/wetlands/australian-ramsar-wetlands/kakadu-national-park
[3] https://kakadu.gov.au/discover/nature/animals/
[4] https://www.gtansw.org.au/wp-content/uploads/2021/06/12_GTABulletinIssueHSCSpecial_KakaduWetlands.pdf





Atlan STORMWATER MAINTENANCE

KEEPING YOUR SYSTEMS FLOWING

Safeguard your business with regulatory compliance, maximise your device's lifecycle, and ensure your stormwater system issues are assessed before costly problems arise.

Scan for more information

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