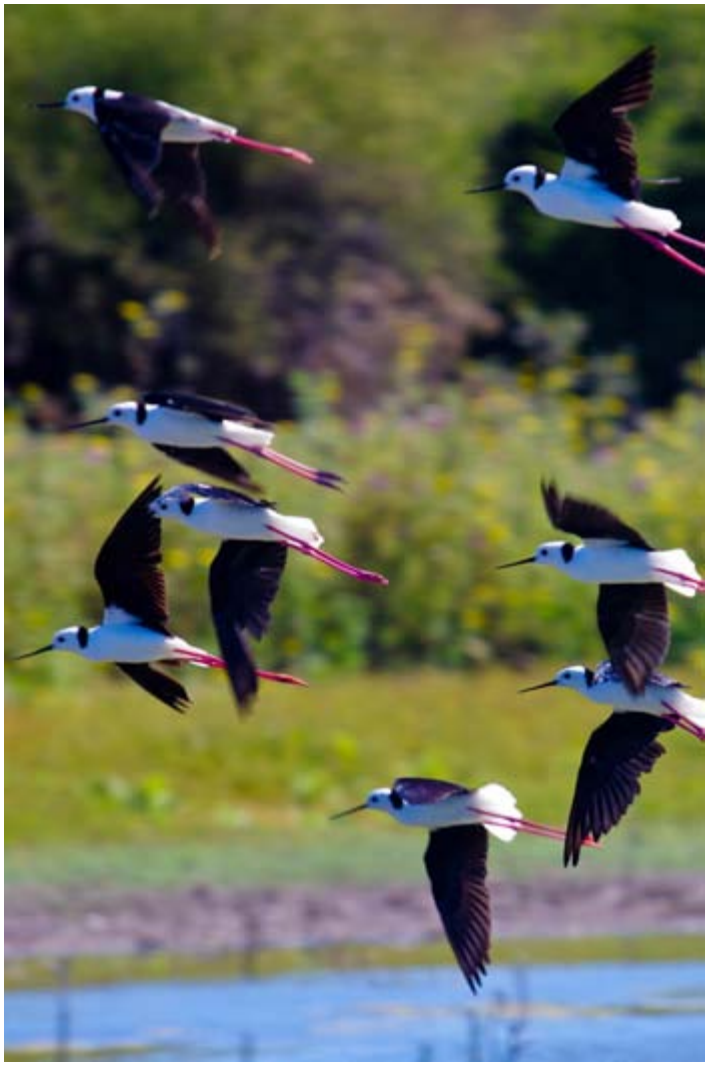
Living with the Wetlands©

Wetlands of the West



Stilts

Photography Bob Winters

Living with the Wetlands

Foreword

New wetlands developed as part of Melbourne's new housing developments play an important role in helping protect water quality in Victoria's creeks, rivers and ultimately Port Phillip Bay.

Healthy water systems including Port Phillip Bay also depend on wetlands which act as filters of sediment and nutrients collected from the landscape during run-off after a storm.

Housing developments by UDIA (VIC) members over the past two decades have made substantial contributions to the environment through the creation of parks, wetlands and lakes enhancing habitat for wildlife.

With a typical wetland costing up to $5 million it is estimated that the development industry currently invests tens of millions dollars annually in wetland development and maintenance.

Importantly once wetlands are created they are added to the net gain of Victoria's and Melbourne's ability to protect the quality of water in our streams which ultimately enter Port Phillip Bay.

Today all broad acre developments feature significant wetlands and water conservation programmes built into their planning and open space areas which have also become one of the most promoted elements of projects.

The increased awareness and concern of the community generally in relation to the importance of creating and maintaining sustainable environments for the next generation including the quality of the environment, flora and fauna has created an ongoing and driving consumer demand for housing developments with green credentials.

'Living with the Wetlands' is an ongoing initiative of the UDIA, its members, partners and sponsors to promote the importance, protection and environmental contributions of wetlands within our own and the broader community.

Tony De Domenico
Executive Director
UDIA (VIC)

Urban Development Institute of Australia – Victoria

The UDIA is the peak body representing all segments of the development industry. A highly respected organisation, the Institute has been representing property development in Victoria for over 30 years.

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Table of Contents

Moorhens

Design, Communications and Concept: Ron Smith, Corporate Media Communications.
Bob Winters, Wild Life Photos and Living with the Wetlands Projects.

Living with the Wetlands Victoria

Alamanda

Sneydes Road, Point Cook

Developed by Villawood Properties

Size in hectares: 130.1 Ha

Number of lots: 1530

Open space area: 6.55Ha

Foliage covers *Before 0 After* 450 No. trees

Wetlands area: 6Ha

Cost of wetland development: $3.5 million

The Southern Wetlands captures storm water drainage for a 62 Hectare residential catchment. It is located within a linked set of reserves in the southwest and southeast of the Alamanda development.

The southeast reserve flanks a depression on adjacent land while the southeast reserve flanks an ephemeral wetland to the south of the site.

There are 3 separate wetland cells, with 2 in the southwest corner and 1 in the southeast, linked by a pipeline.

The wetland performs a stormwater quality improvement function as well as acting as a minor retarding basin.

The total number of open water, marsh, ephemeral, riparian, and dryland plants throughout the wetlands exceeds 125,000.

Alamanda

Sneydes Road, Point Cook

The wetland has been designed to achieve water quality improvements for the storm water as it moves through the system. The Alamanda Southern Wetlands comfortably exceed best practice water quality treatment standards, providing further surety in regard to catchment runoff protection for the receiving ephemeral wetland and the future overflow into the broader catchment.

The system has been planted with a diverse range of indigenous species, both in the wetland macrophyte areas and the terrestrial buffer zones. Additionally, all vegetation in the areas surrounding the wetlands are planted extensively with indigenous species, including trees, shrubs, ground covers and tussocks. A pedestrian and cycle path system extends throughout the linked wetlands, providing pedestrian access to the whole area.

Rory Costelloe
Executive Director
Villawood Properties

Villawood Properties, 6 Riverside Quay, Southbank, 3006.
www.alamandapointcook.com.au
Alamanda

Living with the Wetlands Victoria

The Boardwalk

Boardwalk Boulevard, Point Cook

Developed by VicUrban (succeeded by Places Victoria)

Size in Hectares 175

Number of Lots: 1578 plus two school sites

Open Space 29 ha of parkland and open space, including 13 ha of wetlands with boardwalks

Foliage Cover Before minimal (farmland)

Cost of development works for Skeleton Creek and the wetland development approximately $1.8 million at the time of development - approximately 10 years ago.

The Boardwalk at Point Cook is a thriving community beautifully positioned with Skeleton Creek as its northern boundary. Extensive wetland reserves, flora and fauna provide a natural parkland setting. This, along with bike and walking paths and pocket parks, creates picturesque surrounds for the enjoyment of Boardwalk and neighbouring residents.

The Boardwalk is situated with convenient access to the Princes Freeway and offers a range of facilities within easy reach such as the community centre, child care facility, football oval, Boardwalk Primary School and the award-winning Point Cook Town Centre.

Boardwalk has sold out and is home to approximately 5000 residents.

The Boardwalk

Boardwalk Boulevard, Point Cook

Completed in 2007, the wetland reserves within The Boardwalk are highly diverse systems, containing a number of regionally significant species. The presence of this diversity is due to a number of contributing factors including design of the wetlands, the area's remnant seed bank and planted species.

Contractor Australian Ecosystems endeavoured to replicate a number of threatened Ecological Vegetation Classes which included Lignum Swamp and Plains Grassy Wetland. The wetland also contains large areas of Wet Verge Sedgeland, Aquatic Herbland and Aquatic Sedgeland.

The wetland provides storm water treatment, increases the natural amenity of the area and provides habitat.

These diverse habitats are utilised by a range of fauna species including Growling Grass Frogs, Painted Burrowing Frogs, Tiger Snakes, Black Falcon and a diversity of water birds.

VicUrban (succeeded by Places Victoria)
www.places.vic.gov.au
The Boardwalk

Living with the Wetlands Victoria

Featherbrook

Featherbrook - Sneydes Road, Point Cook

Size in hectares 112.44 Ha

Number of lots 1055

Open space area 29.6 Ha

Foliage covers *before* *After* 330 No. trees

Wetlands area 3.2 Ha

Cost of wetland development $2.8 million

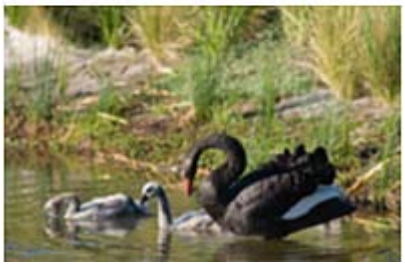
Featherbrook Wetlands

The wetland system has a contributing catchment of over 490 hectares and treats stormwater through two large linked wetland systems. Both sites consist of open water bodies, densely planted wetland margins of varying depths, as well as passive and active recreational public open space with play facilities. A shared path network runs through the both sites providing connections to the broader shared path network and surrounding areas.

Treated stormwater from the northern wetland flows into the southern wetland via a constructed waterway whilst an additional stormwater source is received via a constructed waterway from the west. The waterways were designed to be recognisable as a natural stream and improve valuable fauna habitat and provide further water quality treatment. Traditionally the majority of wetlands are offline, however the Featherbrook wetland system is an online system that integrates water quality measures with floodplain management attributes.

Featherbrook

Featherbrook, Sneydes Road, Point Cook



The Featherbrook wetlands exceed the requirements of the Urban Stormwater Best Practice Environmental Guidelines, with a fundamental role to protect our waterways and Port Phillip Bay. The stormwater from the surrounding catchments and estates enter the wetlands and undergo a natural treatment process through the use of sedimentation ponds, aquatic and terrestrial planting (which exceed 144,000 in number) and a 72 hour extended detention time.

Wetland margin planting and terrestrial planting are a key feature to the natural treatment of the pollutants and are essential in establishing healthy water ecology. Indigenous and native species of local provenance were selected on their effectiveness to filter/absorb dissolved pollutants and fine sediment particles, regulate algal blooms, reduce soil erosion to wetland batters, slow over-land flows entering the wetlands, and provide essential habitat for local fauna including food, shelter and breeding habitat for a variety of bird and aquatic fauna species.

Doug Vallance
General Manager
Central Equity

Central Equity Land Corporation, 32 Power Street Southbank, 3006
www.centralequityland.com.au
Featherbrook

Living with the Wetlands Victoria

Sanctuary Lakes Resort

Point Cook Road, Point Cook

Developed by Links Living Limited

Size in Hectares: 410

Number of Lots: 2700

Open Space - 50%

Foliage Cover Before 0 After 10,000 trees planted.

Cost of Lake and Wetland Development $20 million

Sanctuary Lakes Resort is located in the Point Cook area of Melbourne, approximately 20km from the CBD. The development is located on the former site of the Cheetham Salt Works where a large scale industrial production of salt supplied Melbourne and Victoria for nearly 100 years.

This facility was closed in the late 1980s by the Cheetham Company leaving the site significantly altered from its natural state and making redevelopment options limited.

As a result, the development of Sanctuary Lakes had to address a number of environmental and engineering challenges.

The water management regimes of the salt works caused them to become an important habitat for a wide variety of birds, including rare migratory birds. As part of the development agreement for Sanctuary Lakes Resort, 405ha of wetlands was gifted to the State Government as a nature sanctuary called Cheetham Wetlands which is managed by Parks Victoria. This has ensured its long term protection.

Sanctuary Lakes Resort

Point Cook Road, Point Cook

Living with Nature was a key underlying design criteria for Sanctuary Lakes Resort which features a man made salt water lake, twice the size of Melbourne's internationally recognised land mark, the site of the Melbourne Grand Prix - Albert Park Lake.

This large expanse of water combined with the network of wetlands throughout the Greg Norman designed golf course has seen a major return of bird life to Sanctuary Lakes and the development.

Apart from the important role the lake plays in being a final filter of much storm water before it runs into Port Phillip Bay, it has a major role in providing Sanctuary Lakes and the wider community with important social interaction with nature and we hope will gain a wider appreciation of the environment we all share.

Stephen Head
Managing Director
Links Living Limited

Links Living Limited
www.sanctuarylakes.com.au
Sanctuary Lakes Resort

Living with the Wetlands Victoria

Saltwater Coast

Corner of City Bay Drive and Saltwater Promenade, Point Cook

Size in hectares 205Ha

Number of lots 2500

Open space area 50 Ha

Foliage covers Before 113 trees After 2689 trees

Wetlands area 6 Ha

Cost of wetland development $4 million

Saltwater Coast's Entrance Wetlands and Lifestyle Centre

The 6 hectares of wetlands within Saltwater Coast have been developed to generate environmental, aesthetic and recreational benefits for the Saltwater Coast development and the adjoining Cheetham Wetlands, Coastal Park and Port Phillip Bay.

In order to protect Saltwater Coast's unique surrounds, the storm water that is captured from each home in the 205 hectare development streams through to the wetlands and undergoes treatment to purify the water and remove debris.

Recreation is a key feature in the design of Saltwater Coast. As such, the nature trails, boardwalks and timber landings provide a place for residents to meet, walk, picnic and enjoy Saltwater Coast's scenic environment.

The Saltwater Coast wetlands draw inspiration from the local flora and fauna. These indigenous plantings reflect the strong local character of the Saltwater Coast community.

Grassland plantings include a variety of indigenous species whilst succulents such as Rounded Noon flower also used to add colour and character to the ground plane.

Saltwater Coast

Corner of City Bay Drive and Saltwater Promenade, Point Cook

The wonderful natural habitat at Saltwater Coast has resonated strongly with homebuyers who enjoy being in touch with nature, whilst still having the luxury of being located close to Port Philip Bay and the city.

The Saltwater Coast wetlands project and compliment the adjoining Point Cook Coastal Park and Cheetham Wetlands, while also providing the community at Saltwater Coast with a picturesque environment to live in.

Evian Delfabbro
Executive General Manager, Developments NSW and Victoria

FKP – Level 5, 99 Macquarie Street Sydney 2000
Website: www.fkp.com.au
Saltwater Coast
www.saltwatercoast.com.au

Living with the wetlands

How the Wetlands Work
by Bob Winters

Azola

We all love relaxing by a body of water watching the ripples on the surface, the darting dragonflies and the exotic birdlife searching for food.

Wetlands are shallow areas covered by water for some, most or all of the year. They can be freshwater brackish or covered by shallow sea. Land locked wetlands are fed by rain or ground water.

Even our urban wetlands have some of the most productive natural systems being home to an amazing variety of animals and plants.

Flooding

Throughout the year water along with some nutrients pours in after each rain. The plant life and bacteria will use these nutrients to grow. These plants and bacteria then become food for an astonishing web of creatures. After a heavy rain wetlands will overflow, but the water will have been cleaned by nature's wetland cleaners.

Our wetlands are a chance for plants and bacteria to clean the water before it enters rivers and the sea reducing the chance of pollution. Wetlands hold large amounts of water that often reduces the impact of flooding after very heavy rain.

Spotted marsh frog

It is common for wetlands in Australia to dry out. Birds are able to leave. Many types of frogs hide in the soil or under rocks and logs. Many insects and other small creatures leave their eggs in the dried up mud or attached to plants. Often plants whither, but they may have roots, tubers and underground stems waiting for the next big wet.

In a healthy wetland with an intricate web of water creatures, mosquitoes should never become a problem as they have so many hungry predators to eat them.

Mudeye

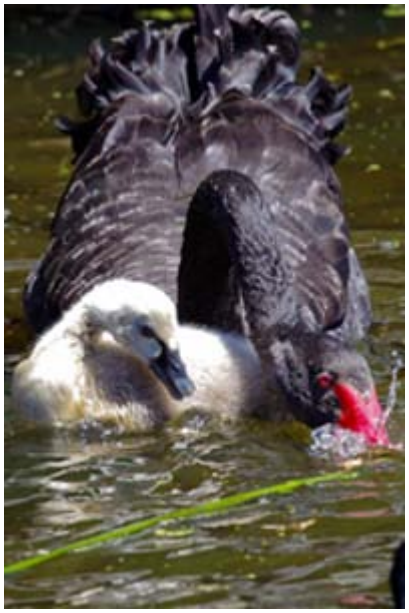
How to Observe Your Wetlands

Wetland plants

The first thing about wetlands is to see how there are many different ways the plants can grow. But some places like deep lakes or fast moving water may have no plants at all. Very shallow wetlands can at time have so many plants it is difficult to see the water. Some plants float on the surface and other under the water. These only grow in still waters. Most other wetland plants have roots growing in the bottom of the wetland. Many of the larger plants stand tall with their leaves protruding out of the water.

Spoonbill

The biggest wetland animals in Victoria will be birds and maybe some large fish secretly hiding so you would never know it was there. Some of these birds like dusks, swans and coots swim. Herons, egrets, ibis and stilts have long legs for wading through the water. Terns and swamp harriers sweep and glide over the wetlands.



Swans

During the twilight hours you may be lucky enough to see our only freshwater mammals, the platypus and rakali. The rakali with its white tipped tail is a brave and fearsome hunter enjoying shellfish and yabbies as its main food.

Mosquito

Below the surface of the wetland lurks a jungle of tiny exotic and alien creatures. The majority of big ones you can see are hunting the smaller ones you can't see. Their appearance are often more fascinating than our imaginations can create.

The bottom of the food chain eats plants or the bacteria floating in the water and in the muddy bottom. From there the big creatures eat the smaller creatures.

How to Protect Your Wetland

Stilts

Wetlands are precious resources that also protect rivers and the sea. If you see any pollution in a wetland, report it to local authorities immediately. A quick response can reduce the impact of pollution. Report to the EPA the registration number of any cars or trucks dumping rubbish around or in wetlands.

Most wetland pollution is caused by the actions of the public. Most people are surprised to find out that the majority of the pollution that gets into our wetlands comes from our home and street wetland drains.

These are the things you can do and just important encourage and expect others to do:

- Always dispose of paints and other chemicals using the recommendations of your council and never put chemicals or even wash paint brushes over a drain.
- Pick up the droppings when taking your dog for a walk.
- Always place your rubbish in a bin where it can't escape and become litter.
- Have a backyard pond or bog for frogs. In your pond or bog grow the local wetland plants which can be purchased from your closest indigenous nursery.
- Never release fish into a river or wetland.
- If your car leaks oil, get it fixed.
- Avoid washing or sweeping leaves, grass and dirt down the storm water gutters and drains.
- Avoid feeding wetland birds.
- If think your sewerage might be leaking into your stormwater drain contact a plumber.
- Reduce the amount of fertiliser and pest spray used in your garden.
- Join a friends group and help them to improve your local wetlands.

Wetlands Projects for Children

Children should only visit wetlands with a responsible adult. Some adults might like to share their childhood experience by taking children fishing or yabbying.

Unfortunately we must not collect tadpoles. Frogs and their tadpoles are under severe threat so leaving where they are is important.

Possibly their biggest threat is introduced frog fungal disease.

Releasing frogs could further spread these diseases.

Family activities that can be done with parental supervision

Downpipe to wetland

Put on your walking shoes, a hat and sunscreen. Go outside and look at the guttering on your roof and downpipes. The downpipes take the rain from your roof, but where does it go? Water can only travel downhill. Go outside and see the street gutter and find entry pit where water from the street can be washed into the stormwater drain

Sunrise

Decide how far you are prepared to walk and if a backup plan might be needed where one parent rings the other to get them. Now start walking downhill to see where your closest wetland is.

On the way talk about anything that can be washed into the drain that can cause pollution in a wetland. This includes litter, dog droppings, leaves and grass clippings in the gutter and oil on the road.

Home cleanup

Leaves, grass clippings and litter can get washed down the drain and end up in the local wetland. Too many dead leaves and grass clippings will rot and pollute the wetlands. Litter can hang around for years until it catches on animals or they eat it.

As a family pick up litter around the home and in front of your home and place in the bin. Sweep leaves and grass clippings from gutters, paths and driveways and place in the compost bin. Give kids a lesson on how to use brooms safely. Have a competition who can sweep the largest area of driveway in 60 seconds.

Make a small pond or bog

A pond needs to be 10 cm deep or a bog which is a few centimetres if very young children play in the garden. It can be a large ceramic pot or a large ceramic bowl or any kind of large shallow container.

Visit your closest indigenous nursery and buy a few water plants and some native grasses for around the outside. A small amount of gravelly potting mix is also needed.

Dig a hole for the container. Place some of the potting mix in the bottom and remove the water plants from their containers and plant. Fill the container with water. It does not matter if the pot looks bare. The plants will grow quickly and fill the container.

Plant the native grasses around the outside of the pond. The grasses will allow frogs and small lizards to hide away.

Pond in a bowl

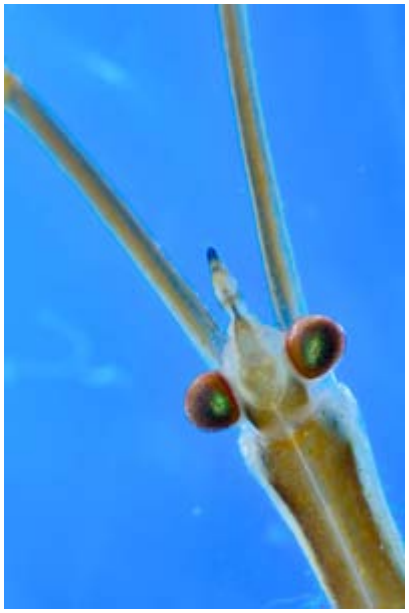
Who’s that calling?

Pobblebonk frog

What animals are calling around your home at night? The animal’s calls change depending on your location, the seasons, recent rainfall and temperature. Listen to each call at night and ask if you think it might be a croaking, bonking, creaking or tocking frog, a chirping cricket, a noisy cicada, a hooting owl, a squeaking insect bat or a growling possum.

Attractive lights

Many insects that start their lives in wetlands fly around as adults looking for new homes to lay their eggs. Some of these are attracted to lights. After a warm evening look at the windows and any outdoor lights for any insects that have landed overnight.



Developing Victoria Sustainably

EnviroDevelopment is a ground-breaking environmental assessment scheme designed to inspire and increase sustainable development throughout Victoria.

Introduced in recognition of consumer demand and the urgent need to hasten the uptake of sustainable development, the Urban Development Institute of Australia (UDIA) has designed a programme which recognises high achievement across a wide range of projects, in six key areas of sustainability: Water, Energy, Ecosystems, Community, Materials, and Waste.

Villawood Properties, Peet, Simonds and Stockland are recipients of EnviroDevelopment certification.

For more information on EnviroDevelopment and a copy of the standards, please contact Ricki Hersburgh, Manager Sustainability, UDIA (Vic) on (03) 9832 9600 or go to link below.

Go to: EnviroDevelopment Website