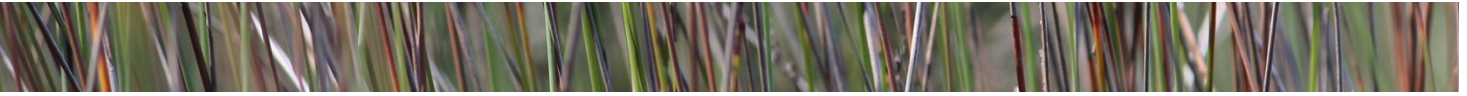


Wamberal Community Business Plan

Submitted by: Wamberal Lagoon Conservation Society
May 2016



BACKGROUND AND INTRODUCTION



The objective of the Wamberal Lagoon Conservation Society (WLCS) is the conservation of the Wamberal Lagoon Nature Reserve in terms of Section 49(3) of the National Parks and Wildlife Act. WLCS is governed by its own Constitution.

The WLCS mandate objective is broad in its scope with reference to the terms of Section 49(3). WLCS activities are driven by the extent of volunteer support available and Gosford City Council (GCC) assistance. Much of the group's recent focus has been directed to the Wamberal Lagoon Bushcare site immediately south of the Lagoon outlet.

The WLCS Committee has this year elected to prepare a WLCS Community Business Plan to better construct its future agenda and priorities. It is hoped that GCC and National Parks and Wildlife Service (NP&WS) will be key stakeholders and partners in the business plan.

To this end, the WLCS places a high value on the Gosford Lagoons Coastal Zone Management Plan (CZMP), 2015 and shares its objectives and priorities.

As part of its 2015 report, the CZMP outlines a number of Management Actions that will require significant new sources of funding. Many of the remaining Management Actions require in-kind involvement from existing staff and the community.

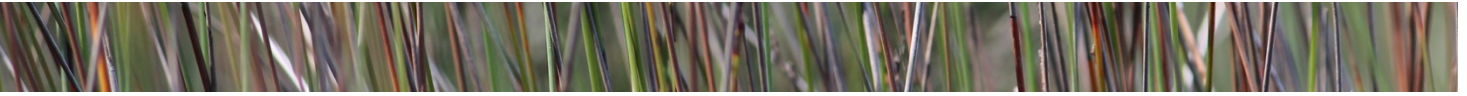
WLCS estimates the monetary value of the WLCS community commitment to GCC and NP&WS is approximately \$13,000 - \$15,000 per annum based on a contract rate per volunteer per hour of \$45 over 10 Bushcare gardening sessions per annum. These amounts are inclusive of volunteer seed propagation, watering and weed removal time allocated outside of Bushcare gardening sessions. ***In this regard WLCS fulfills its commitment to in-kind involvement from the community.***

None of the coastal lagoons on the Central Coast between Sydney and Newcastle remain in a natural state, but Wamberal Lagoon has perhaps the best preserved lagoon and sand dune/beach system despite having a catchment largely modified by settlement. The Wamberal Lagoon, the adjoining nature reserve and the sand dune systems are fragile and remain in a very delicate state of balance.

This report sets out what the WLCS sees as priorities for assisting and co-operating with GCC and NP&WS in the improved conservation and management of the Wamberal Lagoon Nature Reserve and adjacent areas. Where appropriate, the WLCS offers its views on actions to be taken that will help GCC, NP&WS and WLCS to meet the CZMP objectives.



EXECUTIVE SUMMARY AND PRIORITIES



1. ***The Wamberal Lagoon hosts a rich population of bird life. It is unique in that it is both a Black Swan breeding lagoon as well as serving as a resting lake and passageway for other migratory birds.*** This places a high conservation and educational value on the lagoon. These birds will continue to come to nest and feed in the Wamberal lagoon, but will start leaving or avoid the site if it is progressively challenged by contaminated storm water or water from building sites which destroy the important food sources in the lagoon. We urge a high level recognition of the risk currently being placed on the Wamberal lagoon and its proximal environment.
2. ***Storm water and development pollution of the lagoon, as correctly identified in the CZMP, has a devastating impact on the lagoon.*** WLCS seeks to elevate the urgency in; (i) costing of the installation and maintenance of storm water traps as identified in the GCC sponsored studies and (ii) the early implementation of this agenda which has been delayed for many years. GCC advises that the Lake Macquarie region has set a very high and successful standard of storm water management and GCC has offered to speak with, or meet with them to gain up to date costing and technical guidance in this area. Ergys Alliu has also offered assistance to obtain similar information from the Environmental Levy Leader at Kuringai Council.

The CZMP also encourages inclusion of Storm water Quality Improvement Devices (SQIDs) in all currently sanctioned and future private development activities around the lagoon. The WLCS strongly supports the implementation and strict monitoring of the whole storm water agenda.

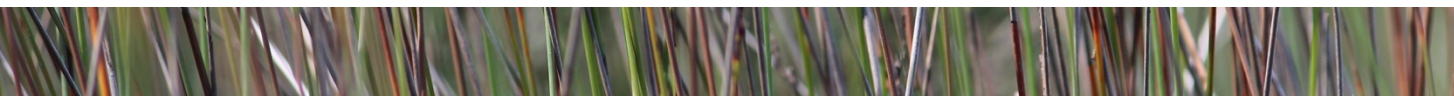
3. ***Sand dunes and rehabilitation care. As with all coastal dunes, the Wamberal dunes are very fragile formations.*** The current focus of the Bush Care group, under the guidance of Ergys Alliu is directed towards rehabilitation of the Pioneer Zone, Stabiliser Zone and Climax Zone of the dune areas in front of the Wamberal Surf Club and in between the club and the lagoon/lagoon outlet area. The dunes in this area have four man-made 'cut-throughs' to the beach, three pathways and one Wamberal Surf Club roadway beach access. The dunes also support two surfer lookout platforms. Exacerbating the stress being placed on the dunes, tall and well established Banksias in the core Stabiliser Zones are being deviously cut down to provide unimpeded views to some residents. Ongoing support of the Bush Care group activities by GCC and NP&WS is a high priority.

4. **Remembrance Drive foreshore** – Beautification of Remembrance Drive, drainage concerns, lantana thickets and dune management of the Stabiliser-Climax transition zone closer to the lagoon outlet is something the WLCS seeks great support for by GCC and NP&WS. Part of this area supports the Tuckeroo and Paperbark populations. Recent placement of the sandstone rocks along the foreshore, installation of the new shelter and new signage by NP&WS are appreciated. The log barriers close to the entrance of the dune are in very poor condition. The logs are not a suitable material for such barriers.
5. **WLCS/GCC/NP&WS co-ordination and co-operation.** WLCS seeks a better understanding of the demarcation between the NP&WS and GCC boundaries on the southern foreshore of the lagoon and how this is managed between NP&WS and GCC. Active co-operation and co-ordination between GCC, NP&WS and WLCS is strongly encouraged. All three parties are, in essence, funding parties and shareholders in the Wamberal Lagoon Nature Reserve.

WLCS also seeks to include the Wamberal Surf Club as a participating party as they are beneficiaries of many of the outcomes.

The WLCS believes that GCC underestimates the value of Wamberal Lagoon and Nature Reserve both on its assets register and its environmental register. There is a risk that the conservation dividends are also undervalued.

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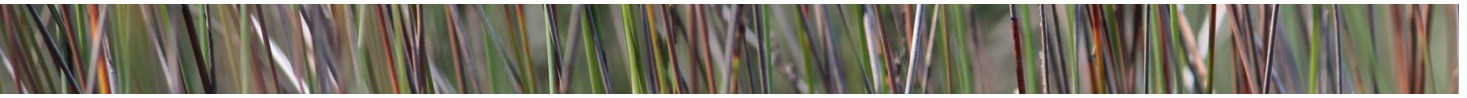
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1. WAMBERAL LAGOON AND BIRD LIFE - A DELICATE BALANCE



Wamberal Lagoon is a pristine water feature. It is unique in that it is a Black Swan breeding lagoon as well as serving as a resting lake and passageway for migratory birds. The lagoon also hosts a population of ducks, cormorants, swamp hens, egrets and herons. Sea eagles, spoon bills and tawny frogmouths are also listed. This places a high conservation and educational value on the lagoon. Unlike many other coastal lagoons, Wamberal Lagoon is exceptionally rich in bird life.

Wamberal lagoon, as with all coastal lagoons, remains in a delicate state of balance. This balance is constantly challenged. The risk we face is that the cumulative challenges will reach a point of no return. The WLCS is reluctant to allow this irreversible position to ever occur. We know GCC and NP&WS share this concern.

The birds will continue to come to nest and feed in the Wamberal lagoon, but will start leaving or avoid the site if it is progressively destroyed by contaminated storm water or water from building and development sites.



Figure 1: While the frontal lagoon is popular for many of the birds, the Black Swans prefer the quieter waters further north.

The pollution and dissolved salts, in their various forms, destroy the important microscopic floating plants and animals on the floor of the lagoon and which serve as critical food sources in the lagoon. Very often the progressive deterioration is not recognized by casual observation. It is then too late.

The risk to the lagoon is well documented in studies commissioned by GCC and NP&WS over many years.

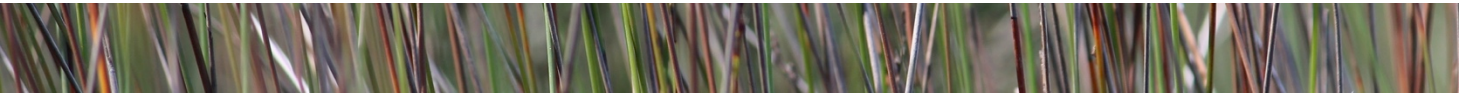
We urge a high level of recognition of:

- a) The very unique asset value of the Wamberal Lagoon,
- b) The conservation value of the lagoon, and
- c) The delicate balance between the lagoon and the health of the surrounding reserve;



Figure 2: New, and high quality, educational signage on bird life and the lagoon environment installed by NP&WS.

2. STORM WATER: POLLUTION, DRAINAGE AND EROSION



2.1 Storm water and development pollution of the lagoon, as correctly identified in the CZMP, have a devastating impact on the bird and plant life of the Wamberal Lagoon.

While this has long been recognised by GCC and NP&WS by way of earlier sponsored studies, there have been no recent cost estimates for the installation and maintenance of storm water traps. The implementation of this very key agenda has been postponed for many years. GCC advises that the perennial funding difficulties are due, in part, to the separation of accounting classifications for these two linked services. Installation in the financial accounts is a one off capital cost item while maintenance needs to be budgeted under annual repair and maintenance.

A consequence of the above is that the Wamberal Lagoon remains highly exposed. The current CZMP contains actions carried forward from 1995 and are as follows:

- a) Tumby Road roundabout in Nature Reserve: Nutrient filter and scour restoration.
- b) End of Tall Timbers Road: Nutrient filter.
- c) Forresters Creek: Nutrient filter and sediment trap.
- d) Remembrance Drive: sediment traps and nutrient filter.
- e) Ocean View Drive: redesign of drainage outlets is required to provide nutrient and pollution traps.
- f) Loxton Avenue: Sediment control at cemetery.
- g) Winston Street: nutrient filter on drain off Winston Street.

During the course of recent discussions between WLCS and GCC, GCC advised that the Lake Macquarie region has set a very high and successful standard of storm water management and has offered to confer with them, to gain up to date costing and technical guidance in this area.

Ergys Alliu has also offered assistance to gain up to date costing guidance from the Environmental Levy Leader at Kuringai Council.

2.2 The CZMP also encourages inclusion of Storm water Quality Improvement Devices (SQIDs) in private development activities.

The planned Forrester's Beach development at the Putt Putt site introduces a further high risk to the lagoon if the storm water SQIDs are not strictly policed.

The identification of Wairakei Park as a potential site for a memorial skate-park has been refused by the NP&WS. Another location in the existing carpark next to the Wamberal Surf Life Saving Club is now being proposed. This may have an impact on the adjacent Bushcare site if the park goes ahead.

2.3 Drainage and Erosion

Poor drainage not only introduces pollutants into the lagoon, it causes significant erosion of the sand dunes. The photograph below shows the drainage channel leading into the lake from the showers at the Wamberal Surf Club. The southern bank (facing) has been eroded back by an estimated 1 to 2 metres over recent years due the combined effect of drainage and the lagoon waters moving into the drainage channel.

The Bushcare Group has consistently worked to rehabilitate the southern bank to arrest this erosion. By necessity, this work is ongoing,

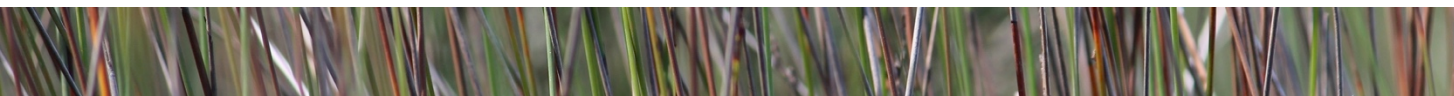


Figure 3: Open drain into Lagoon located near showers.

The WLCS urgently requests GCC and NP&WS to:

- a) Implement this critical storm water agenda as soon as possible, and
- b) Provision for the necessary capital account and repairs and maintenance account funding needs.

3. REHABILITATION AND BUSHCARE



Commentary by Ergys Alliu – GCC appointed Contractor to Bushcare Group:

The Wamberal Lagoon Bushcare group was established more than 11 years ago. It is a strong group with more than 15 members and monthly sessions that regularly attract 6 or more volunteers.

The group meets in the car park area of Wiles Avenue, Wamberal Beach, and works in the dune areas from the surf club to the lagoon. The current focus of the Bush Care group, under the guidance of Ergys Alliu is directed towards rehabilitation of the Pioneer (frontal) Zone, Stabiliser (middle) Zone and Climax (rear) Zone of the dune areas in front of the Wamberal Surf Club and in between the club and the lagoon/lagoon outlet area.

Flora surveys indicate that the entire site has been disturbed and is slowly regenerating. On the northern side of the lagoon the plant communities present include the regionally significant Coastal Sand Fore-dune Scrub (E50a) and Coastal Sand Banksia Scrub (E50b), and the regeneration occurring at the Bushcare site is characteristic of these communities.

The native vegetation onsite is in good health and regenerating well, with the exception of some die back in some of the Acacia sophorae. The group supplements this regeneration with replanting activities throughout the site using material supplied from Council's plant nursery as well as material that is collected at the site and grown by some of the Bushcare group members. When the plant material permits, the group uses the long-stem planting technique for these site plantings. Future site plantings aim to increase the shrub and tree canopy at the site, using predominantly Acacia sophorae, Banksia integrifolia and Leptospermum laevigatum as well as a mixture of other species that are collected from the site.

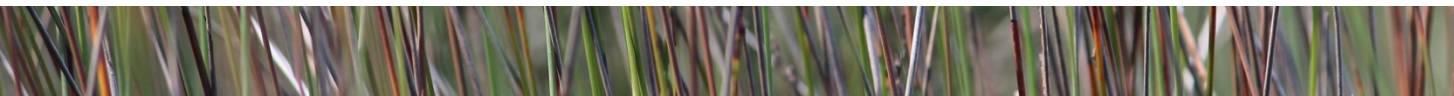
The site contains a storm drain outlet, which feeds into the nearby lagoon. This outlet is located in Zone 4. Historically this area was prone to erosion issues. The Bushcare group has focused planting activities in the area in recent years and the area has now been stabilised.

Council has contributed funding over recent financial years through the Bushcare budget for bush regeneration activities at this site. These funds have been used to engage bush regeneration contractors to carry out work targeting problematic weed species and/or working in parts of the site that are difficult for the Bushcare volunteers to access.

General Overview and Objectives for the Group:

- a) *Rehabilitate and restore the natural vegetation at the site allowing natural regeneration to occur where possible, with enhancement plantings to assist in the re-vegetation and establishment of the representative plant communities, and where the historical site disturbance prevents regeneration from occurring.*
- b) *Carry out seed collection of native species on the site. Propagate these within the group, and with the assistance of the Gosford Council Nursery, for future group re-vegetation activities. Also translocate suitable species within the site, where they are not naturally regenerating, to increase the speed and range of their establishment within the site.*
- c) *Develop a flora species list for the site. This is to include native and exotic species. This list will be included as an appendix in the 2016/17 Site Strategy.*
- d) *Identify where additional supplemental planting will assist with re-vegetation and submit lists of plants required to Bushcare Officer/s for consideration.*
- e) *Maintain accurate records of the group activities and works undertaken through the Monthly Bushcare Site Reports. Complete other corporate requirements, including risk assessments, as directed by Bushcare Officer/s.*
- f) *Develop a revised Bushcare Site Strategy for 2016/17 and submit to Bushcare Officer/s during August 2016.*
- g) *Set up photographic monitoring points within the site to track the progress of the group's activities and send copies of site photographs to Bushcare Officer.*
- h) *Identify ways to promote the activities of the group and to increase the group membership numbers. Submit promotional ideas to Bushcare Officers for consideration.*
- i) *Identify site issues, including erosion, and develop strategies to overcome these issues. Submit lists of issues and possible solutions to Bushcare Officers for consideration.*
- j) *Glyphosate: Only the Site Supervisor and any Bushcare Volunteers who have completed the Bushcare Chemical Use' workshop may use Glyphosate to treat woody weeds and vine weeds within the Bushcare Site. Treatment methods only include direct application. The SUPERVISOR ONLY may carry out spot spraying with Glyphosate to target annual and grass weeds or seedlings of woody weeds within all areas of the Bushcare site. The Glyphosate being used must be a formulation that has been registered for use in and around waterways and the chemical use must be recorded on the MBSR.*
- k) *Eradicate weeds by hand and remove garbage and dispose of both.*

4. DUNE CARE



The dunes in this area have four 'cut-throughs' to the beach. These are three surf access pathways and one Wamberal Surf Club roadway beach access. In addition to opening up four man made breaks in the Wamberal dunes, the dunes are further stressed by supporting two surface lookout structures.

One of the structures now acts as a short cut access to the beach. The dune destruction is evidenced in the photo below.



Figure 4: Dune destruction below the Surfer Lookout – Wamberal Beach

The dune cut-throughs are man-made structures as opposed to natural dune 'blow-out' structures. Dune blow-out structures typically occur when the protective cover of vegetation is broken open and salt-laden winds from the ocean get inside the protective cover and sand blast their way through. In doing so, they open up wind tunnels. Such structures can ultimately destroy the dunes.

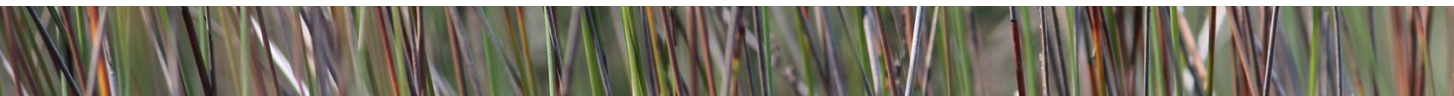
The tall growing and well established Banksias in the core Stabiliser Zones are being cut down to provide unimpeded views to some residents.



Figure 5: Recently felled mature Banksia on pathway adjacent to toilet blocks.

Ongoing support of the Bush Care group activities by GCC and NP&WS is a high priority. We also regard the Wamberal Surf Lifesaving Club (WSLC) as key stakeholders in this regard and very much look to them to bestow a sense of dune ownership and dune care to their members.

5. REMEMBRANCE DRIVE



5.1 Remembrance Drive foreshore supports precious Tuckeroo and Paperbark populations typical of the rear Climax zone of dune systems. High quality educational signage placed by NP&WS and the sandstone rocks installed by GCC have been good additions to the beautification of the foreshore drive. The foreshore area is widely used by locals and visitors as well serving as serving an alternate access to Wamberal Beach.

Areas of concern to WLCS are:

a) **The poor state of log barriers.** These are unsuitable structures as the photo below demonstrates.



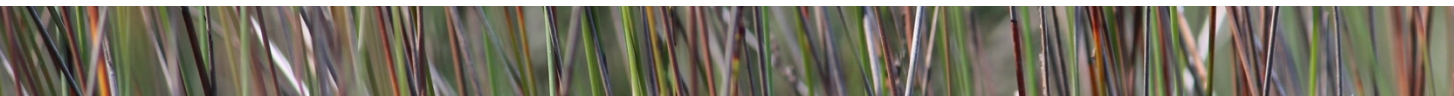
Figure 6: The poor state of log barriers – Lagoon foreshore.

- b) **Suitable public seating** has not been made available. Visitors and the local community who enjoy this area often raise the lack of good seating. Perhaps this can be considered further.
- c) The sign for dog owners is both clear and well positioned as per the photo below. **Dog rules are not policed** with one of our resident members counting up to 16 dogs swimming in the lagoon during the summer period. This has been reported separately.



Figure 7: Dogs Prohibited - clear signage and well positioned

6. GCC, NP&WS, WLCS AND COMMUNITY AS STAKEHOLDERS



Active co-operation and co-ordination between GCC, NP&WS and WLCS is strongly encouraged.

All three parties are, in essence, funding parties and shareholders in the Wamberal Lagoon Nature Reserve and adjacent areas.

WLCS also seeks to include the Wamberal Surf Club as a participating party as they are beneficiaries of many of the outcomes.

WLCS seeks better understanding of the demarcation between the NP&WS and GCC boundaries on the southern foreshore of the lagoon and how this is managed between NP&WS and GCC.

If we're serious about preserving this beautiful and precious wetland and dune area we need to educate the community on how important it is to be wary of how simple household substances can be carried via storm water and have an adverse effect on the lagoon. GCC already has some wonderful composting and worm farm programs in place but we may have to increase this education to include advertising or newspaper lift-outs on the potential damage caused by the overuse of fertilisers i.e. blue-green algae, or worse still, chemicals, especially in the areas directly around the lagoon's edge where the immediate effects can be catastrophic. This is such a magnificent eco system and its balance can be upset quite quickly by unnatural influences. The real dangers to this fragile system are humans in the catchment and if we can help them understand how they can do their bit to protect and care for the site it will be here to enjoy for generations to come.

